

UNIVERSIDAD COMPLUTENSE DE MADRID
FACULTAD DE CIENCIAS ECONÓMICAS Y EMPRESARIALES
DEPARTAMENTO DE ORGANIZACIÓN DE EMPRESAS



TESIS DOCTORAL

EL DILEMA DE LA REVITALIZACIÓN CORPORATIVA: LA
INFLUENCIA DEL CONSTRUCTO "JOB" EN LA TEORÍA DE
ASIGNACIÓN DE RECURSOS EN BANCA COMERCIAL
(THE CORPORATE RENEWAL DILEMMA : UNDERSTANDING THE
INFLUENCE OF THE JOB CONSTRUCT ON THE RESOURCE ALLOCATION
PROCESS IN THE RETAIL BANKING INDUSTRY)

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RESUMEN

Una de las patologías más frecuentes de las empresas modernas es conocida por el término *Estancamiento*. Más del 90% de las empresas lo sufrirán a lo largo de su ciclo de vida (Olson & Van Bever 2008). Esta patología consiste en una ralentización de la tasa de crecimiento orgánico, que quedará por debajo del umbral de crecimiento sostenible unida a la imposibilidad de retornar a altas tasas de crecimiento. Esta patología sucede en todas las empresas de todos los ámbitos y países. Sin embargo a pesar de haber sido objeto de estudio por parte de la comunidad científica aún nos encontramos lejos de la solución. Las investigaciones previas muestran que este es un problema complejo y cuyas implicaciones exceden el ámbito de un único campo de investigación. Por ejemplo, en la literatura de diseño organizacional existe evidencia de que mecanismos como la *Inercia* o las *Rigideces Organizativas* juegan un papel relevante en la generación del *Estancamiento*. En la literatura de cambio tecnológico se muestran evidencias similares con las *Discontinuidades* o el fenómeno de exceder las expectativas de los clientes. La literatura de marketing estratégico también muestra evidencias que la unen con este problema. Sin embargo, a pesar de la extensa literatura, cada una con sus propias conclusiones, no hay evidencias de estudios que muestren una solución clara al problema del *Estancamiento*.

Esta tesis analiza este problema usando una metodología estructurada en dos partes. En la primera parte se utiliza una metodología que controla específicamente las variables causales y cuya unidad de análisis es el constructo "Job", que ha sido identificado previamente en la literatura a nivel inductivo. El constructo "Job" incluye información relacionada con la industria, el diseño organizacional, el cliente y el producto. En la segunda parte se testea la influencia de la *Hipótesis Espejo* en la generación de *Estancamiento*. Posteriormente se procede a introducir el constructo "Job" y se observa si su efecto anula la influencia de la *Hipótesis Espejo* devolviendo a la empresa a tasas de crecimiento superiores a su crecimiento sostenible.

La primera parte del estudio se elaboró con una metodología llamada *Multi Método* que combina datos cualitativos y cuantitativos (Tashakkori and Teddlie, 2003). Este método además controla específicamente la tipología de las variables, poniendo especial atención las que son exógenas y endógenas, inductivas y deductivas y particularmente las que son causales en relación a las que son descriptivas. En total se obtuvieron 62 variables deductivas (provenientes del cuerpo teórico) y 34 variables inductivas (que emergen a lo largo de la investigación). El estudio de campo se realizó en la industria de la banca minorista en España. La base de datos final recogió 106.452 registros. Esta riqueza de los datos permitió obtener varios constructos "Job" y compararlos en un estudio clínico. Los resultados de dicho estudio muestran que la estructura primaria descrita en la literatura se confirma y se amplía con nuevas estructuras que son completamente nuevas e inéditas en la literatura. La segunda parte del estudio se elaboró con una metodología llamada *Método Mixto* (Dillman, 2006; Edmondson and McManus, 2007) y sus datos provinieron de una encuesta también realizada en la industria de la banca. La encuesta obtuvo 306 registros, lo cual indica una tasa de respuesta excepcionalmente alta en esta industria. La encuesta sirvió para: 1) *Triangular* los resultados de la primera parte del estudio y de esta forma replicar los resultados del *Multi Método*; 2) Aislar la influencia de la *Hipótesis Espejo* en el proceso de *Estagnación* y; 3) Aislar la influencia del constructo "Job" en la teoría de asignación de recursos y cuál es el mecanismo por el que es capaz de generar nuevas iniciativas de alto crecimiento.

En las conclusiones de esta tesis se explican las razones que causan que la *Hipótesis Espejo* actúe como inhibidor de las nuevas iniciativas de alto margen (actúa eliminando el *Impetus*). Además se concluye que mecanismos como la *Inercia* o las *Rigideces Organizativas* no son causas sino síntomas generados por la *Hipótesis Espejo*. Una conclusión adicional es que el constructo "Necesidad", actualmente predominante en marketing estratégico, no contiene la información necesaria para anular el efecto de la *Hipótesis Espejo* ya que ésta además actúa con diferente intensidad en cada área funcional de la empresa. La tesis concluye con un experimento clínico en el que se reemplaza el constructo "Necesidad" por el constructo "Job". Los resultados evidencian cómo la información contenida en el constructo "Job" es capaz de neutralizar la *Hipótesis Espejo* a través de la reasignación de recursos a las nuevas iniciativas de alto margen (actúa devolviendo el *Impetus* a las nuevas iniciativas del alto margen). Estas evidencias permiten concluir que el constructo "Job" es capaz de recuperar una empresa que se encuentra con un problema de *Estancamiento* devolviéndola a tasas de crecimiento sostenibles.

ABSTRACT

Over their lifetime, more than 90% of the firms in the world will inevitably suffer from a process called *Stagnation*, where they will experience a substantial and abrupt growth slowdown from which they will never recover, hence never experiencing sustainable growth again (Olson & Van Bever 2008). This happens irrespective of how effective their management is, in which country they are located or the industry where they operate. Management scholars have been researching this problem for a long time, but the formula to prevent this from happening or to regain new net growth remains elusive. Previous research suggests that this challenge is very complex and that its implications remain outside of the scope of a single field of study. For instance, at the organizational level mechanisms such as *Inertia*, *Competency Traps* or *Corporate Rigidities* have been identified. At the technological level the role of *Discontinuities*, *Technological Change* and *Overshooting* have also been clearly delineated. At the *Marketing* level the limitations of consumer information and the foundational blocks of consumer research have also been identified. Despite this extensive literature results are not improving, it appears that even combining all these factors it's still not enough to prevent *Stagnation*.

This thesis tackles this challenge in a different way and using a two-step methodology. First it uses a new methodology that specifically controls for causality while it isolates and understands the anatomy of a new corporate "cell" that has been defined previously at the inductive level in the literature and that predicts consumer behavior with a substantially higher level of accuracy. This "cell", named the *Job Construct* contains multilevel information that affects the industry, the firm's *Organizational Design*, the *Consumer* and the *Product*. Second we test the influence of the *Mirroring Hypothesis* as the causal variable that generates *Competency Traps*, *Inertia* and *Corporate Rigidities*. We then subsequently introduce the *Job Construct* in the research to clinically control for its influence and in particular for knowing if this new "cell" is capable of overcoming the influence on the *Mirroring Hypothesis* resulting in the re-engagement of the firm in new net growth.

Two research methodologies were used. First a *Qualitative – Quantitative Sequential Multi-Method Model* (Tashakkori and Teddlie, 2003) was used to isolate and understand the anatomy of the *Job Construct*. This model was designed emphasizing the control of exogenous and endogenous variables, inductive and deductive variables and causal and attribute-based variables. This model is based on *Qualitizing* data and replacing most of the qualitative steps performed in any given ethnographic study with quantitative methods. A total of 62 *Deductive* codes were obtained from four literature reviews and were consistently tested in the research. In addition 34 *Inductive* codes emerged from the research being most of them completely new to the extant literatures examined. Twelve datasets collected from the *Spanish Retail Banking* industry were used to first confirm the existence and then isolate and examine in detail the anatomy of the *Job Construct* in three *Circumstances*. The richness of the study (in total 106,452 codes were elicited) allowed to clinically compare the different *Job Constructs* that were obtained and comprehend in details their inner workings. Three of their branches – that had been *Inductively* described in the extant literature – were confirmed but also two more branches were also identified. An additional two were observed but not subsequently tested because of the limitations of the *Unit of Analysis*. The second research methodology used in this research was a *Mixed Method* (Dillman, 2006; Edmondson and McManus, 2007). The total survey response was 306 registers, this large sample survey analysis was used to: 1) Understand the influence of the *Mirroring Hypothesis* in the process of *Stagnation* of firms; 2) Capture the influence of the *Job Construct* on the *Resource Allocation Process* and how it reignites new net growth and 3) *Triangulate* the findings on the *Job Construct* that had been obtained using the *Multi-Method Model*.

This study shows that the *Mirroring Hypothesis* is what's causing that new *High-Margin* initiatives fail to gain *Impetus*. It shows that *Inertia*, *Competency Traps* and *Organizational Rigidities* are lagging effects of the *Mirroring Hypothesis*. Another finding is that the *Needs Construct* doesn't contain the information necessary to overcome the *Mirroring Hypothesis* and that the *Mirroring Hypothesis* doesn't block uniformly the firm but that its influence is different in each *Functional Unit*. The study concludes that the *Job Construct* contains the information necessary to overcome the *Mirroring Hypothesis'* rigidities and provide again *Impetus* to new *High-Margin* initiatives. Lastly this study shows that the *Job Construct* strength can recover a firm that's suffering from *Stagnation*, re-engaging it in new net-growth.

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“Look, why don’t you just add another empirical chapter to your MSC and we’ll give you the doctorate”, that’s what I was told at the university where I first started my doctoral studies (I transferred to Universidad Complutense after the MSC). It was a tentative offer but by choosing the road less travelled I felt that I was doing the right thing. The reason is that I wanted to tackle a research problem that required such a tremendous amount of work that I would have never done it after the doctorate. Not even in a number of research papers. However this decision came at a cost. It took five years to complete this research, and believe me, sometimes the road less travelled is so less travelled that there isn’t even a road in the first place, you have to build the road as you walk by. Although at a tremendous personal cost I believe that decision has paid off. This research is real, it’s so real that it exists; it’s so real that is now being implemented in a bank.

However I didn’t take the road less travelled alone. This research would have been literally impossible without the help of so many people, which have both helped and assisted me in so many ways that I just don’t even know how to thank them.

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Above all I dedicate this thesis to my mother, Mercedes Sampere Vilet, who over the years and facing an unusually large number of adversities has supported me. Mum, despite the disappointments and I know there have been just way too many, any future success I might have it's because of you. Because only you know all the challenges that we have gone through. Thank you for not giving up.

Finally, this is a message for you, the reader. Please keep in mind that this thesis came from the bottom of my heart and from my deep belief that science was invented to help improve people's lives, liberties and help them pursue their happiness. If you are reading this please remember that wherever we are, even if we are long gone, that we expect you to use science to do the same.

Chapter 1: Introduction

1.1 The Phenomenon Described and Motivation

“All phones have sensitive areas. Just avoid holding it that way”¹. That’s the answer Steve Jobs gave to the complaints received on the iPhone 4 reception problems. A surprising answer taking into account that grasping the phone by the lower left-hand corner is the way most of the consumers usually hold their phones. It is even more surprising that, after this noticeable defect; the iPhone 4 became again a blockbuster new release for Apple topping 1.7 million units sold in the first month after its release². However this is not the first time in history a company launches a blockbuster product knowing beforehand that it will be a commercial success. Quotes like Henry Ford’s “If I’d asked my customers what they wanted, they’d have said a faster horse”³ seem to defy both conventional wisdom and the literatures on *Innovation, Technological Change and Marketing* when it comes to predicting the success of a new product or *Business Model*. Mr. Jobs and Mr. Ford, same as several others – still rather rare – *captains of the industry* seem to have a well-honed instinct that helps them predict when a new initiative is going to be a commercial success⁴. This phenomenon – having a group of individuals who are capable of predicting with a reasonable degree of error – what’s going to happen next is nonetheless as common in the science of management as in any other scientific field. In almost all scientific fields, no matter how permeable to empirical research or how littered are they with carefully described phenomena, there a variety of ways to categorize phenomena and a substantial number of theories that were elaborated way before they could be disproved⁵. Some of these theories are still waiting for the development of both the appropriate methodologies and the right technological means that are capable to start untangling these formidable challenges.

This research seeks to address three related questions. First, are *Interdependent Business Models* disabling the capability of the firm to launch new ventures that do not share an identical organizational architecture? Second, is there a *Construct* that appears in specific circumstances that bridges the gap

¹ New Yahoo.com (http://news.yahoo.com/s/ytech_gadg/ytech_gadg_tc2844) accessed June 25th, 2010.

² <http://www.reuters.com/article/idUSTRE65O6FE20100628> accessed June 28th, 2010.

³ <http://quotes.nobosh.com/henry-ford-quotes/quotations/> accessed January 10th, 2010.

⁴ While honing this instinct these practitioners have also made very significant mistakes, for example the Ford Pinto or the Apple Lisa or Newton.

⁵ Or that have not been disproved just yet.

between a well-honed intuition and the predictability of the success of a new product or venture? Third, is this *Construct* (if it exists) powerful enough to neutralize the incumbent's rigidity in front of a threat?

The first question is oriented towards dealing with an underlying assumption that is largely present in the innovation literature, specifically in the line of research that deals with the incumbent's rigidities in front of a threat or when they try to pursue an initiative that doesn't represent an improvement in their current *Business Model*. Many powerful explanations have been researched to answer why the incumbent didn't respond. Most of them will be reviewed in this research. However the hypothesis that are going to be unfolded from this question deal more with controlling for the *Business Model* architecture (we are specifically looking for whether if they are *Interdependent* or *Modular* in nature) than trying to establish an additional empirical statement of why the incumbent didn't react ex-post.

The second question, the heart of this research, uses a new methodology and a large database⁶ to uncover a piece of theory building that is at the intersection of the *Technological Change* and the *Marketing* literatures and that not only explains – but also predicts – when and why a new product or *Business Model* is going to be successful.

The third question tries to unite both previous questions in the sense of understanding how this new piece of information, when introduced into the firm's decision-making mechanisms, can provide the means and resources that are strong enough to increase the firm's resiliency therefore making it incapable of overcoming the rigidities previously described.

Overall this research deals with the firm's sustainability. The reason is that the capability of launching new products or *Business Models* is critical to prevent any firm from stagnation (Olson & Van Bever 2008) and, same as it happens with cost-reduction initiatives (Bower, 1986), the revenue-enhancing initiatives need to have a chance of success that lies within reason. Surprisingly enough, when it comes to revenue-enhancing initiatives, failure rates are today remarkably high (Gage, 2012), a characteristic that even the previously mentioned *captains of the industry* seem to be incapable to escape from (both Mr. Jobs and Mr. Ford had a quite remarkable track record of failures especially at the beginning of their careers) (Davis et al. 1998). However these leaders (George 2003) found a way to *feel* what was right or

⁶ The technology and the database used in this dissertation have only been available to researchers recently. As an example; it's not uncommon for retail banks to have hundreds of fields of information per customer. In Spain there is one bank that has over 350,000 fields of information per customer. The fields of information of the rest rank in the thousands.

wrong when it comes to new product success, and they both had the chance to put their *gut* into practice way before they were able to express thoroughly what they had in their minds. What had they learned? What did they visualize exactly? What was the source of their well-honed confidence? Is there a way to achieve the same level of foresight without incurring in the tremendous and extremely costly mistakes they had both made? This research builds on the efforts of previous scholars from a variety of fields to develop a methodology that explains and predicts what these two leaders – and many others – have done. A methodology much more oriented to operationalize and replicate these successes than to explain how they happened in the first place.

This dissertation tries to link two previously unconnected literatures that are on their way to converge on a very specific *Unit of Analysis*. These are the *Technological Change* and the *Marketing* literatures⁷. In the Innovation field these two literatures have been eventually labeled the *Technology Push* and the *Demand Pull* respectively (Fabrizio & Thomas 2012). Both literatures are examined to understand how they have evolved respectively in trying to explain and predict when a new product or *Business Model* will be successful. We then draw on the *Organizational Design* and *Entrepreneurship* (Aldrich, 2012) literatures to look at the implications of the introduction of the *Normative*⁸ based *Job Construct*. Each of these literatures has evolved independently and within its very own paradigms. On many occasions there are previous research efforts that try to solve the very same question within the realm of each literature. These overlaps not only help providing insight into the methodology of obtaining the *Job Construct* but are also instrumental for understanding how firms will behave once this construct is introduced. It is hoped this evidence provides solid ground for prescribing some recommendations to both regulators and practitioners.

⁷ These literatures are extensive and have many subfields. Specifically we focus on *Needs*-based research and *Segmentation* in the *Marketing* literature and in the subfield of *Innovation* in how technological evolution impacts the firm in the *Technological Change* literature.

⁸ Appendix A introduces the distinction between *Descriptive* and *Normative*.

Technological Change and Marketing

Launching new products and *Business Models* within the firm is instrumental for the firm's sustainable growth (Schoenmakers & Duysters 2010; Olson & Van Bever 2008). Both literatures deal extensively with that problem either directly or indirectly, when they treat the research results as lagging variables.

In the *Technological Change* literature, the standard internal selection process whose outcome will eventually decide if the firm pursues a new initiative usually starts with explaining the idea to the management team (Burgelman, 1991). It's quite frequent that these ideas will come from existing knowledge bundled in a way that is financially attractive to the firm (Pfeffer and Salancik, 1978; Schoenmakers and Duysters, 2010). Only when this new invention has been *packaged* into a tangible outcome (Lafley and Charan, 2008) it will be introduced into the market using a somewhat formal process (Cooper 1990; Cooper 2008; Cooper 2001). However these new product and *Business Model* introductions will most likely fail⁹ (Gourville, 2006a). For instance, one of the most frequent reasons of failure is that they require too much *Psychological Effort* from consumers (Gourville, 2005) whose brains just can't assimilate fast enough the new knowledge that is embedded in the new technology (Simon 2001). Practitioners on the other hand usually analyze new product failure from the supply side point of view. They often encapsulate these failures and the *Psychological Effort* they entail with expressions such as: "being too early in the market" or "a radical way to deliver a product or service the consumer didn't understand" (Kim & Lee 2011; Lieberman & Montgomery 1998). Academics view this response as the firm's failure to talk to consumers in a way they can be understood (Verganti, 2009) or as a consequence of the firm's reluctance to become consumer centric (Gulati, 2010). Consultants on the other hand associate this high failure rate to a lack of consumer understanding that couldn't be prevented until just recently because there wasn't a good-enough tool that would capture that information (Ulwick, 2003a). Other consulting firms associate this error to the current *rules of the game*¹⁰.

⁹ On average about 75% of consumer packaged goods and retail products fail to earn \$7.5 million during their first year (Schneider & Hall 2011).

¹⁰ The process that goes from idea conception is summarized in order to get to know if the new product or service is successful in a way that overlooks the myriad problems and challenges the firm will have to face to pursue this initiative. We have done so because we wanted to provide a clear introduction that highlighted the area where this thesis is focused and because *Intraorganizational Ecology* (Burgelman, 1991) is not the *Unit of Analysis* of this thesis.

Instead of starting from within the firm the *Marketing* Literature has focused very frequently on one *Construct* and one categorization scheme as the fundamental building block from where to develop a comprehensive theory¹¹. The *Construct* is the *Need* (Bayus, 2005; Slater and Narver, 1998; Ulwick and Bettencourt, 2007) and the categorization scheme is *Segmentation* (Claycamp and Massy, 1968)¹². Hence, for example, the *Marketing* field would explain the success of the iPhone 4 this way; It's a product that was adequately targeted to a large segment of the population that shared a common latent but yet undiscovered *Need* (Narver et al., 2004; Zhou et al., 2005). Another possible explanation would be having the product adequately targeted to different *Needs* that in aggregate represent a large number of *Segments*. Either way, although this reasoning is quite useful in terms of its *Explanatory* power it suffers from a variety of anomalies. For instance it doesn't explain why companies that define the targets this way don't get the same results¹³. In other words, this explanation is *Descriptive* but not *Prescriptive*¹⁴. In the *Prescriptive* realm sometimes it works and sometimes it doesn't. The demonstration that firms are in desperate need for this *best practice* to work is shown in the empirical observation that separating consumers into actionable groups has remained a best practice (Collins, 2001) in the firm when it comes to determining what to do to gain foothold in a market (Carpenter and Nakamoto, 1989; McNamara et al., 2003; Rangan and Bartus, 1995).

At the external level of the firm the intersection of the *Technological Change* and *Innovation* literatures has been very effective in producing research that explains new product or venture success. One of the main contributions are the *Trajectories of Improvement* (Dosi, 1982). Although initially these trajectories were depicted for technological improvements (Basalla, 1988) we now have them in the literature describing both consumers *Psychological Efforts'* improvements (Adner and Levinthal, 2001; DeSarbo et al., 2006) and firm's *Business Model* improvements (Christensen 1997c; Christensen & Raynor 2003a). When it comes to *Customer Trajectories*, research in market characteristics suggests that there are a variety of consumers that interact with the firm but that only the ones located in a trajectory where the firm has a product targeted for them will react accordingly (Tellis et al., 2006). Firms will then select

¹¹ The *Marketing* literature is very extensive when dealing with this problem. However a large part of this subfield in the literature uses both the *Need* and/or the *Segmentation* as fundamental building blocks.

¹² Although in many research papers the authors use the term *Segmentation Theory*, in this thesis we are treating *Segmentation* as what it really is, that is, a way to group consumers based on a specific set of *Attributes*. Appendix A elaborates more on this.

¹³ Assuming they implement this approach appropriately.

¹⁴ In *Marketing* this failure is still considered a "lack of consumer understanding" and when it comes to launching new business models it still ranks higher than being dysfunctional when funding new ventures (Christensen & Raynor 2003b).

which customers they'll try to acquire by developing a trajectory in a particular industry where they see fit to be located (Dosi, 1984; Dosi et al., 2008). The likely overlap between the firm's trajectories originates competition. So for firms to optimize their resources they must not only determine the customer trajectories they want to serve but also where their competitor's will be (Teece, 2008). Customer trajectories are influenced by external factors such as the socio-political one, the degree of *Modularization*, the customers' evolution over time and the producers likely unexpected movements and strategic shifts; such as discontinuing a product, changing its features, etc. (Tripsas, 2008). Firm's trajectories are also influenced by external factors (Prahalad and Hamel, 1994) and by the movements of its competitors, specifically it seems *Disruptive* movements undertaken by both competitors and new entrants have a remarkably high commercial success (Christensen & Raynor 2003a) because they focus on just one problem of the least-demanding *Customer Trajectory*¹⁵ and then design a specific business model (Fjeldstad & Andersen 2003; Baldwin & Clark 2000) specifically adapted to that particular situation. The *Customer Trajectory* requirements portion of that has been *inductively* documented and named as a *Job* (Christensen et al. 2005; Christensen et al. 2007; Anthony & Sinfield 2007). In the *Disruptive Innovation* literature a *Job* is a *Construct* that is not targeted to a specific customer only but to the *Circumstance* where it finds the problem it tries to solve. For example, in the "Hiring a Milkshake" case (Christensen & Raynor 2003a; Christensen 1999; Christensen, Grossman, et al. 2008; Johnson 2010) the authors explain how instead of describing the customers, segmenting them, figuring out their most fundamental need and developing a set of recommendations tailored to increase the maximum-likelihood of purchase they asked to the customers what was the fundamental "problem they were trying to solve" and came up with two answers: 1) "don't want to be hungry until noon" and; 2) "don't want to be a bad father". It turns out these two jobs happened at different times during the day. The first one happened in the morning and the second one in the afternoon. The authors elaborated a set of recommendations for modifying the product's functionalities to accommodate for these two different problems that were happening throughout the day. Sales skyrocketed. It is noticeable that the *Marketing* literature can explain the success of the recommendations but couldn't have obtained them *ex-ante*. Unfortunately this process of coming up with the *Job Construct* is still highly tacit (Nonaka and Takeuchi, 1995) and the inductively obtained *Job Construct* has not been proven empirically or even

¹⁵ A *Disruptive Innovation* can also be focused on non-consumers.

been isolated to be observed and understood in detail. We need to understand not only its anatomy but also the mechanisms that elicit its presence. In the case of Apple Corporation, since the return of Mr. Jobs, every one of its products seems to address one and only one *Job*, which we hypothesize, is the source of the company's success.¹⁶

Organizational Design and Entrepreneurship

The *Organizational Design* literature has identified several mechanisms that prevent incumbents from reacting to a competitor's threat. These mechanisms happen at two levels: internal and external. Sometimes simultaneously (Sandström et al. 2009; Gilbert 2006; Mitchell 1989). At the internal level the two mechanisms most widely accepted are the *Competency Traps* (Barnett & Hansen 1996; March & Simon 1958) and the *Organizational Rigidities* (Leonard-Barton, 1995). These two mechanisms explain why it is so hard for an established firm to change direction. There are a variety of reasons for that. They range from the way the firm captures and processes information (Keiningham et al., 2006) to the inherent characteristics of its processes (Barnett & Carroll 1995) and the difficulty that lies in trying to modify a process that has been honed for a very specific circumstance (Siggelkow and Levinthal, 2003). At the external level the most accepted reason that might prevent an incumbent from responding is *Cannibalization* (Nelson & Winter 1982; Nelson & Winter 1977; Gilbert & Newbery 1982; Gilbert & Newbery 1984a; Gilbert & Newbery 1984b; Reinganum 1984). Managers are very reluctant to *Cannibalize* one high-margin product because of its impact on both the firm's revenues and the share price (Pfeffer and Salancik, 1978). When it comes to understanding the variety of incumbent's responses to new products, services or *Business Models*, an additional third mechanism has been proposed (Debruyne et al., 2002; Derfus et al., 2008). This mechanism specifically controls for the situation where the incumbent finds itself (Lawrence and Lorsch, 1967). This theory states that the situation where the firm finds itself is *Contingent*¹⁷ on the environment (Arora and Nandkumar, 2012). Firms develop specific processes adapted to the environment they inhabit. One of the most widely accepted ways to

¹⁶ A clearer way to visualize this phenomenon comes from the empirical observation that in almost all firms there is one product (or family of products) that account for the lion's share of the corporation's revenue. These products seem to address a specific *Job*. However, in most of the cases this *Construct* is unknown to the corporation itself even if it resides in the corporation's mindset. In the case of Apple Computer or the Spanish Retail Banking industry almost all products in their portfolio account for a significant portion of their respective revenues. Still, in the case of retail banking, the very same product addresses the *Job* differently depending on the channel through which it's being brought to market.

¹⁷ *Contingent* in the sense that a specific action might work reasonably well in one specific moment in time while the very same action might be a deleterious thing to do in another. For example, if an established firm has improved so much a specific product that consumers are largely *Overserved*, continuing improving the product (an action they undertook in the past and that brought success) is likely to deliver marginal benefit -- at best (Euchner, 2011).

categorize these processes is the *Organic vs. Mechanistic* (Burns and Stalker, 1961). Large organizations tend to be *Mechanistic*, which means most of the processes they use on a day to day basis are clearly described and carefully followed. There is little room for surprises. New initiatives on the other hand tend to be *Organic*, they are highly variable and they are changing continuously (Dougherty, 1990; Droge et al., 2008). This theory states mechanistic firms have a hard time emulating or integrating *Organic* initiatives into their organizational processes. A factor that explains why only initiatives that can be integrated into a *Mechanistic* architecture are ultimately adopted. However some of the initiatives that haven't been adopted have the potential to be the cause of the incumbent's failure.

Despite these remarkable research efforts, the role of the organizational architecture of the firm and how it interacts with the different economic forces still yields too many anomalies that as of today remain largely unexplained (Bower & Gilbert 2005). That's why some scholars tend to analyze this research question using a much more actionable proxy¹⁸: where are the firm's resources invested. This line of research, the *Resource Allocation Theory*, has yielded very useful *Constructs* and *Models*, such as *Impetus*, that tags those initiatives that gain funding. An event that seems to be highly correlated with both explicit customer demands and internal buy-in (Bower, 1986). This way of classifying the initiatives that the firm ends up undertaking has proven very useful for understanding the *Contingent Circumstances* that surround the firm at a much more granular level. Hence, inside the firm there is not only a *Strategic Context*, inherent to the specific characteristics of the firm, but a *Structural Context* (Burgelman, 1983a, 1983c; Noda and Bower, 1996), that locates the firm into a *Value Network* (Christensen 1995) and provides the framework for understanding which initiatives should be pursued in front of a threat (Burgelman and Grove, 2007a). Although the *Resource Allocation Theory* has anomalies on its own, it has been very helpful when it comes to understanding the different outcomes of several strategic initiatives, such as launching new products or new *Business Models* (Noda and Bower, 1996; Oliver, 1997). Both inside and outside the firm (Burgelman and Sayles, 1986; Burgelman, 1983b, 2002). There is ample evidence¹⁹ that resources can be invested inside the firm in *cost reduction* initiatives

¹⁸ Even though when conducting *Empirical* research this data is much harder to obtain.

¹⁹ In Appendix A the way of building theory used in this thesis is explained. According to this model these *Constructs* are *Normative* in nature. Which means *Corporate Entrepreneurship* and *Corporate Venturing* are causal observations of the way an incumbent reacted successfully to a threat. However, if consultants and management practitioners alike try to use the same *Normative Construct* just because they are trying to replicate the success of a firm (Peters & Waterman 1982; Collins 2001) and they do that instead of understanding the *Circumstances* that drove that firm to use this strategic initiative in the first place, they will inadvertently increase the number of times these *Constructs* seem not to work. This phenomenon is even more striking when

(Bower, 1986), *Corporate Entrepreneurship* (Burgelman, 1983c) and *Corporate Venturing*²⁰ (Burgelman and Välikangas, 2005). Outside the firm, the most widely used process that consumes a substantial amount of resources is encapsulated in the *Entrepreneurial process*²¹ (Bhidé, 2000).

The very essence of *Entrepreneurship* represents an anomaly in the *Resource Allocation Theory*. Understanding *Entrepreneurship* as “Pursuing an opportunity disregarding the resources that either the entrepreneur directly or indirectly controls” (Stevenson and Jarillo, 1990) implies that the mechanisms described in the theory are not predicting accurately the end result. Regardless of who undertakes the entrepreneurial initiative, which can be either the entrepreneur or a firm (Carlsson et al., 2009). The entrepreneurial activity can still be undertaken from both inside or outside the firm. What controls for firm *Endogeneity* is the *Strategic Context Construct*, which outside the firm tends to be almost overtaken by the *Structural Context*. For the purposes of this thesis entrepreneurialism is considered as any of these four initiatives: 1) *New product Launch* (not an improvement on the current product portfolio but a green field launch) 2), *Corporate Entrepreneurship* initiatives, 3) *Corporate Venturing* Initiatives and; 4) *Entrepreneurs* that start a new firm. These four initiatives share a remarkable characteristic, they are the ones that have successfully gained traction²² relatively quickly and developed robust growth rates because of the construct *External Impetus* (Talke and Hultink, 2010). If there is no *External Impetus* they tend to never gain traction and be discontinued and subsequently closed after some time (Schillewaert et al., 2005).

Although these three initiatives are instrumental to the firm’s sustainability their success rate is remarkably low (Baron & Henry 2010). Additionally putting together any of these initiatives inside the firm is difficult and might put someone’s career inside the firm at stake (Smith et al. 2010). In commercial strategy, one of the most common strategic initiatives utilized to put together one of these initiatives is *Cross-Selling*; an instance where firms try to sell new non-related products to the customer every time they make a purchase (Stringefellow et al., 2004; Winer, 2001). However only in cases where

practitioners recognize they are aware of this but that they still have no other option than to keep launching these initiatives with meager results (Chakravorti, 2010).

²⁰ Both *Corporate Entrepreneurship* and *Corporate Venture* initiatives belong to the *Strategic Entrepreneurship* research field. *Strategic Entrepreneurship* and *Strategic Management* have both the same objective, which is to explain and predict how value is created for the firm. They mainly diverge in the *Unit of Analysis*, in *Strategic Entrepreneurship* research focuses on new firms while in *Strategic Entrepreneurship* that is not always the case (Hitt et al. 2011).

²¹ There is evidence that in over 40% of entrepreneurial activities the entrepreneur either obtained the idea from his previous employer or licensed an asset from his previous employer (Bhidé, 2000; Rivette and Kline, 2000).

²² For the purposes of clarity *gaining traction* at this stage means breaking even on a cash flow basis, without taking into account the total amount invested in the venture.

instead of *Cross-Selling* the firm practices *Forced* or *Bundled-Selling* this initiatives tend to succeed (Campa and Garcia Cobos, 2008).

Even if the problem of finding new corporate growth is resolved, organizations usually struggle finding the appropriate organizational architecture that doesn't neutralize it. During the life of the initiative, management will try in-sourcing or out-sourcing the initiative in order to find the best equilibrium between coordination, control and efficiency. Although the literature on *Organizational Design* is extensive in this area it's hard to find solid research that answers this question satisfactorily while controlling for *Interdependency* and *Modularity* in the *Organizational Design* (Hill, 1988). It seems most of the studies were developed in *Interdependent* firms, where this problem seems to be more frequent (Funk 2012; Pisano 2010). In this thesis we will try to uncover if a *Modular* organizational design disables venture initiatives and why.

Resolving the Phenomenon

The research in this thesis isolates and describes a new *Normative Construct* named the *Job Construct*. The presence of this *Construct*, understanding it, visualizing it and targeting it assures high growth²³ to the commercial initiative the firm decides to undertake. While the *Job* has been previously researched at the *Inductive* level (Christensen et al. 2010; Knight 2005) there is no predictable and reliable way to obtain it *ex-ante*. It can only be visualized using intuition (tacitly), as the *captains of the industry* educated themselves on doing. Additionally, even if the *Job Construct* would be somehow given to the firm, it is unclear how the nature of the *Interdependent* organizational architecture that most firms possess would react in front of this alien *Construct* (Ahuja et al., 2008). It might essentially act as a disabler or not. Or even more surprisingly it might be that the *Job Construct* is the one who neutralizes the firm's *Organizational Design*. The solutions to these unknowns are to be found in developing a way to obtain the *Job Construct ex-ante* (before the investment of any significant resource) and understanding how the *Mirroring Hypothesis* limitations of the *Interdependent* architectures react and therefore how to disable them in order for the firm to reduce significantly the failure rate of new entrepreneurial endeavors. As observable from the case of Apple, Ford and many others, companies

²³ In other words *External Validity*.

that have been successful at pursuing this initiative, albeit tacitly, have both reaped huge rewards at the economic level and ended up becoming the leading firms in their respective industries.

1.2 The Retail Banking Industry as a Research Area and the Methodological Approach

The Spanish Retail Banking Industry was selected for seven reasons. The first reason is the availability and richness of the data (Consoli, 2005). For (at least) more than twenty years the Spanish banks have been investing large sums of money in data building and storage. They have built large databases with hundreds of fields of information per client. They have also introduced into their databases all kinds of information about the channel, the product and what was the customer (or potential customer) acquiring or evaluating. When it comes to this thesis, these databases are extremely useful in the sense of capturing information about the customer and the firm that is rarely available in any other industry. They are also useful for setting up experiments with control groups and different variations of research data. Finally, in the hypothetical case that the banks where this thesis is done end up deciding to implement the results, the impact of this research will not only be quantifiable but also can be compared with the recent historical performance of the bank.

The second reason is having access to the banks and to the data (Dent-Brown & Wang 2006; Brown 1973). The researcher was lucky enough to be granted access to the databases of one of the five largest banks in Spain. Management was kind enough to not only help to understand the architecture of the databases but also to help the researcher understand the rationale that lies behind every decision implemented. Additionally, since this thesis is trying to make most of this knowledge explicit, a good starting point was to go capture it while in tacit form (in the heads of the bank's personnel), in that regard permission was granted access to interview several branch directors as well as several members of the executive team.

The third reason is symmetric interests. Both this thesis and the banks share the interest of untangling the high-growth process. Especially if the methodology can be consistently replicated.

Banks have only three ways of growing²⁴, the first is (branch) *Penetration*, which in banking means opening branches to capture and cover more portions of the territory. The Spanish banking industry has been particularly aggressive at pursuing this lever of growth (Marquis & Huang 2008), and it has brought to them in return both solid revenues and growth. However for the last fifteen years this strategy has been rendering less and less returns. Although this strategy has been by far the most successful for the Spanish banks it is now much more difficult to implement because of real estate prices and the excess of capacity of branches in Spain. Many banks still open branches occasionally, but the net increase in branches is now negative. And it doesn't look like is going to be anywhere near where it used to be when the territory was highly unoccupied. The second way of growing is through *Share of Wallet*. This strategy tries to capture the entire share of wallet of the customer. For example, if a customer has two accounts in two different banks, the share of wallet strategy would imply trying to capture the entire customer's capital until he has no reason to keep the other bank's account. Spanish banks haven't been successful at this particular strategy for two reasons: the first is the customer risk; having no other bank to service the client is more profitable but also much more risky for the bank because the entire customer's risk must be also financed within its balance²⁵. The second is the bank's specialization per product category. The most remarkable example of this initiative is ING Direct in Spain. This bank entered the industry offering a disruptive *Share of Wallet* strategy. They offered more revenue for the undistinguished part of capital that every customer keeps in their bank accounts as his personal savings and therefore had no plans of using. Of course, only the customers knew how much money from the total lump sum were savings. ING Direct, using a very effective communication campaign that helped customers understand that this undifferentiated amount that was now mixed with the rest of their money and that it was underperforming and could easily be put to use more profitably. Customers fled naturally to this new highly specialized competitor. As a result, ING Direct quickly gained a solid foothold market entry that helped the firm introduce subsequent and much more profitable products like the online broker. Although the ING case is just an example almost every institution in Spain is specialized in such a way as to have the best single handled kind of product. Which basically means it is natural that

²⁴ At the pure banking level. Non-banking services provided inside the branch also provide a variety of additional ways to grow.

²⁵ One of the reasons banks have been complacent and have even lobbied to maintain off-balance risk sheets comes from the different types of risk profiles regulatory institutions use to evaluate them. However, recent historical examples such as the sub-prime mortgages, teaches us that it is difficult to reduce total risk, even if it changes hands.

consumers hold more than one bank account²⁶. The third growth strategy is *Cross-Selling*. At the moment it's also the least profitable one if measured with an investment to-revenue ratio (Business Insights, 2008; King, 2010). The vision most bankers, not only in Spain but also in the world, most recurrently adhere to is having an organizational processes embedded in the system that makes *Cross-Selling* successful every time a customer enters into an office or interacts with the bank. Irrespective of the banking channel used. In all cases, either the employee or the technology will analyze what is the situation of the customer and which products the customer owns with the bank. With that information the system would immediately make suggestions of additional products that would happen to address exactly the current customer's problem. Therefore obtaining 100% accuracy rate between the number of suggestions and the number of products acquired by either new or existing customers²⁷ (Rigby and Ledingham, 2004).

The reason this thesis is structured as depicted in Appendix A, which is separating between the *Explanatory* power of a theory and its *Predictive* power is rooted in the *Inductive* evidence, provided in the extant literature, that there is a *Normative* based construct missing in the *Predictive* portion of the customer understanding literature that would dramatically increase the accuracy rate mentioned above. This is the previously mentioned *Job Construct*. This is a case where both the theoretical research approach and the industry architecture have not only minimal differences but also precisely the same kind of problem. We have an industry that is tremendously powerful in explaining customer behavior but not that good at predicting it, and we have a theory that is substantially well documented in terms of explaining customer behavior but that still has plenty of anomalies when it comes to predicting it. Solving one of these anomalies would not only propel the banking industry to the next level but also contribute significantly to the established firms in dealing with growth initiatives that, since they are based on predicting opportunities, have also a very high failure rate.

The fourth reason deals with the intra-industry similarity in banking. What explains the difference in performance in the Spanish banks is more related to differences inside the firm than intra-industry differences. Which means the very same problem this thesis is trying to shed some light upon is present

²⁶ Although slowly, banks pressure for profits are forcing them to try to "own" customers using the *Share-of-Wallet* strategy. As a result the average number of bank accounts per customer in Spain has been steadily dropping during the past decade. In 2004 there were 1.8 accounts per citizen (Ruiz 2007 p. 127).

²⁷ That's what banks are mainly trying to accomplish with their investments in CRM initiatives.

in almost all banking institutions in Spain (Kirk, 1994). It's an industry-related problem, at the experimental design level this makes external validity in other financial institutions closer to replicate, particularly in developed economies.

The fifth reason is that the banking industry is particularly helpful with its regulation. In Spain the regulatory institution, the Bank of Spain, has demonstrated a level of expertise and foresight unavailable in some other regulatory institutions. For instance, the Bank of Spain forced banks to develop a counter-cyclical provision for bad mortgages way before the financial crisis caused the financial system to implode. When it comes to leveling the playing field, the Bank of Spain has allowed a free market strategy for most of the competitors while imposing strict rules of compliance and reporting. These rules together with the licenses outstanding have caused competitors to commoditize their products very significantly, forcing them to implement very aggressive cost-reduction policies and process innovations, which were mainly based on technology. Banks have implemented these initiatives quite successfully and as a result have gained competencies in processes that have proven extremely useful when acquiring financial institutions abroad. The result of this regulatory framework is a heavily commoditized industry, with competitors grouped per type of activity (consumer finance, mortgages, etc.), with specific provisions of cash per type of activity and with specific compliance and reporting obligations. A caveat of these regulatory measures is the portion of the industry that has ended up in a grey area. For example, technological firms that do lending through their systems are not considered banks and therefore are not subject to the Bank of Spain tutelage. However they behave like banks, i.e. P2P lending companies, informal syndicate lenders, etc.

The sixth reason to select the banking industry is methodological. Selecting an industry provides industry effects and enables more direct comparison across firms. Also regulatory and country specific characteristics of the banking industry allows for large sample comparisons that are not always available in other industries. There are more than 100 banks in Spain and the market penetration is higher than 99%²⁸.

²⁸ Markets where almost all citizens have at least one bank account are usually denominated *Bancarized*. (in Spanish *Bancarizado*). The closest translation in English is *Bank Usage*. Although in English *Bank Usage* is not exactly the same, for the purposes of this dissertation we will assume that these two expressions are synonyms. Hence bank usage in a particular country happens when three conditions are met: 1) *Depth*: a determined percentage of deposits and loans per GDP; 2) *Coverage*: Reasonable access to the different distribution channels of the financial service firms per 100,000 inhabitants; and 3) *Intensity*: Frequency of banking transactions per number of citizens per year (Morales and Yáñez, 2006).

The seventh and last reason is the ability to develop both *Literal* and *Theoretical Replications* of the findings in other industries that have the same problem. These are industries that are either license-based, such as Telecom, or that depend on *Cross-Selling* to continue growing. This is a very long list that includes more than 50% of all industries that populate any given country; some examples are supermarkets, petrol companies, telecom, consumer goods, utilities, high-value manufacturing, apparel, etc.

Two research methodologies were used for this research. First a *Qualitative – Quantitative Sequential Multi-Method Model* (Tashakkori and Teddlie, 2003) was used to isolate and understand the anatomy of the *Job Construct*. This method was based on replacing all the qualitative steps in a given ethnographic study with quantitative methods, therefore not only its *Robustness* and *Interval Validity* was increased but also most of the criticisms related to qualitative research were accounted for. The research design including treating cases as a series of experiments, each case serving to confirm or disconfirm inferences from another (Yin 2003). Cases were divided in twelve datasets according to the following classification. Three instances were described: Online banking, buying a credit card at the branch and buying a credit card online. Two control variables were introduced to classify customers which were if customers were *Underserved* or *Overserved* and finally two types of customers were included in the research: *Savers* and *Spenders*. The method itself is based on *Qualitizing Data* and was particularly helpful for reaching a level of detail unprecedented in most qualitative studies. In particular it allows controlling for *Context* related variables. Coding the data obtained from the case studies took over nine months, the entire *Multi-Method Model* analysis took fifteen months. A total of sixty two *Deductive* codes were obtained from the literature review and were subsequently tested. A total of thirty four *Inductive* codes (most of them with no precedent in the literature) were elicited. The result is that 35% of the new *Inductive* codes that were finally processed quantitatively were completely new to the literature. Seven control codes were used to delimitate the relevant parameters of the study. A grand total of 106,452 codes were elicited in the twelve datasets. An unusual richness of data that is instrumental for understanding in depth the phenomenon.

The second research methodology used in this research was a *Mixed Method* (Dillman, 2006; Edmondson and McManus, 2007). It was based on using a large sample survey analysis to understand

both the influence of the *Mirroring Hypothesis* in the process of stagnation of firms and the influence of the *Job Construct* on the *Resource Allocation* process when it comes to reigniting new net growth. Additionally it was used to Triangulate (Jick, 1979) the findings on the *Job Construct* obtained through the *Multi-Method Model*. The total survey response was 306 registers, a remarkably high survey response. It was an internet based survey.

The order used in this research was the following: First the *Qualitative-Quantitative* research was done. The results were used to design the survey with exceptional detail and were instrumental for making the most out of the combination of these two research methodologies. This study was able to combine a detailed observation of a new entity with the *Rigor* and *Relevance* required in any large sample research design.

1.3 Contributions and Delimitations of the Research

Due to the nature of the *Job Construct*, this research contributes to the literature in a variety of research streams. The *Job Construct* has implications that extend well beyond a single line of research as it is measured against the *Industry*, the *Organizational Design* and the *Customer*. This thesis nonetheless focuses specifically on adding to the discussion in three main literatures: 1) The *Organizational Design's* limitations derived from the *Mirroring Hypothesis*; 2) The isolation and anatomy of the *Job Construct* and 3) How the *Job Construct* can overcome the *Mirroring Hypothesis's* limitations and re-ignite new net-growth.

The Organizational Design and the Mirroring Hypothesis

The *Organizational Design's* limitations are shown to be active at hampering new growth initiatives (O'Connor, 2008). The presence of the *Mirroring Hypothesis* adds causality to the *Organizational Design* constraints. This is a contribution to the *Organizational Design* literature where *Competency Traps* (William Barnett & Hansen 1996), *Inertia* (Hannan & Freeman 1984) and *Organizational Rigidities* (Leonard-Barton, 1992) have been clearly identified. These mechanisms that ultimately prevent the firm from both growing and reacting to change were studied as a leading phenomenon when in fact they

show a particular symptomatology but that doesn't mean that they cause the rigidity in the first place (Staw et al., 1981). The research presented in this thesis is able to show that what is causing these mechanisms to appear and be detected is the *Mirroring Hypothesis*, which permeates the firm with a particular structural and product *Interdependence*. Additionally this research shows that these collection of symptoms are not equally distributed across the firm but that there are *Functional Units* where they have a strong influence while they remain virtually absent in others. At the intersection of the *Organizational Design* and the *Marketing* literatures this research concludes that the most widely used *Marketing* model the *Segmentation, Target and Positioning* (STP) (Schieffer, 2005) is ineffective in front of the *Mirroring Hypothesis* because it's based on the *Needs Construct* (Claycamp and Massy, 1968), which doesn't contain the information needed to overcome the *Organizational Rigidities* generated by the *Mirroring Hypothesis*.

The Job Construct

The *Job Construct* has been previously identified in the extant literature (Christensen et al. 2007; Berstell & Nitterhouse 2001). The extant literature shows that the *Job Construct* has three branches. *Functional*, *Emotional* and *Social* (Anthony and Sinfield, 2007). This thesis confirms the existence of both the *Job Construct* and of these three branches while adding two more branches, *Exhaustiveness*, that is related to the *Industry* and *Variability* that is related to the customer experience. The presence of the *Job Construct* has implications for a variety of literatures, for instance it contains information about which *Functional Unit* should be *Interdependent* (*Organizational Design* literature), how many other options of reference within the *Industry* should be considered for the product (the *Strategy* literature), what *Functionalities* will be valued for the product (*Product* and *Innovation* literatures), the performance level that is optimal and the optimal *Reliability* level associated to that performance. In addition it provides critical information about the customer (*Marketing* literature) by showing how his two-step process adds a new model to the *Choice* based models that are already described in the literature (*Customer Cognition* literature). Most importantly the *Job Construct* is the leading variable of *Customer Impetus*. This implies that the also tangentially distributed extant literature on *Growth* is where the *Job Construct* has the most influence. Literatures such as *Cross-Selling*, *Corporate Entrepreneurship* and *Corporate*

Venturing are heavily influenced by the *Job Construct* and the information that it provides in cases when the *Entrepreneur* is a firm.

How the Job Construct Overcomes the Mirroring Hypothesis

This research contributes to the theory of incumbent's response in front of a threat by clinically introducing the *Job Construct* in firms where the *Mirroring Hypothesis* was overwhelmingly present. This research shows how, before the *Job Construct*, the only initiatives that gained *Impetus* (Bower & Gilbert 2005; Bower 1986) were *Lower-Margin* initiatives that complemented the firm's main products, no *Higher-Margin* initiatives were able to gain *Impetus*. Once the *Job Construct* was introduced all *Higher-Margin* initiatives and all *Lower-Margin* initiatives were able to gain *Impetus*. The implications of these findings imply that the information that contains the *Job Construct* is strong enough to overcome the *Mirroring Hypothesis* in those *Functional Units* where it has a strong influence, and with it, enabling the firm to resume new net-growth, a finding that may percolate strongly in firms whose growth has stalled and therefore suffer from severe *Stagnation* (Olson & Van Bever 2008), Especially if they are trying to re-ignite new net-growth through *Corporate Venturing* initiatives (Chakravorti, 2010).

There are two delimitations of this research that should be considered. The first is related to the nature of the *Retail Banking* industry in Spain. The second is related to *External Validity* (Campbell 1957; Davis 1971).

Any given country in the world has one of the following three types of financial systems: 1) *Market Centered*, *Bank Centered*, *State Centered* (Guillen and Tschoegl, 2008). For instance, the U.S. would be a case of *Market Centered*, while Switzerland would be a case of *Bank Centered*. Spain is a case of *State Centered*. In Spain the banking regulators exert considerable pressure on retail banks. Therefore this research was done under this underlying assumption. This should be considered as the points of pressure where the regulators have a strong influence in the *Functional Units* of the retail banks. For example, the Spanish retail banks have a very strong internal legal department, which strongly emphasizes the (legal) security of the bank for any initiative undertaken. This research shows that the

Mirroring Hypothesis is very strong in that *Functional Unit*. Other countries with other financial systems might differ in this regard.

Single industry studies always have the case of *External Validity*. In this case in particular there is a strong reason for that. As mentioned, the *Retail Banking Industry* in Spain is a heavily regulated industry. The findings of this study, especially the ones related to the *Mirroring Hypothesis*, are therefore heavily influenced by the regulator's activities. Additional studies that might be conducted in the future in less regulated industries might reveal if these findings stand the test of *External Validity*. Regarding the *Job Construct External Validity* is also key. Additional studies might also help test the *Job Constructs* that were obtained in this research and that can be re-tested in different countries and different industries. This process conforms to the normal development of a new theory (Christensen 2006).

1.4 Structural Overview of the Dissertation

This dissertation has six chapters and is divided into four sections. The first section describes the research setting and reviews the *Technological Change*, *Marketing* and *Retail Banking* literatures. This first section comprises chapters one, two and three. Literature reviews were developed according to the research methodology depicted in Appendix A. There is a certain overlap between these three literature reviews²⁹ but for the large part they have evolved independently. Nonetheless the origin of these overlaps is a convergence in their *Units of Analysis*, especially if they focus on the customer (Di Stefano et al., 2012). The literature on *Technological Change* has transitioned from a deeply embedded supply side view of viewing the world (Adner, 2002; Danneels, 2002; Thirtle and Ruttan, 1987) to a demand-side view (Brown et al. 2008; Caves & Williamson 1985; Adams et al. 2012). The *Marketing* literature on the other hand has transitioned from a purely psychological way of analyzing customers (Beshears et al., 2008; Bettencourt and Ulwick, 2008) to understanding the situations where the customers make the purchase as the *Unit of Analysis* (Mooy and Robben, 1998; Ulwick, 2005). Chapter three doesn't emphasize issues related to regulation, bureaucracy and the financial aspect of the institutions³⁰. The focus has been kept at reviewing what has been researched in terms of the internal forces that the retail

²⁹ These overlaps come for example from empirical research done on both *Technological Change* and *Marketing* using the banking industry as the field of study (Beerli et al. 2004; Jacobides 2005; Laukkanen et al. 2007).

³⁰ The main focus in this chapter is to isolate the retail banking business model in order to understand how both market and non-market forces might act upon it. Controlling for a variety of country-specific issues will reduce a portion of the variability in the research that might cause interference with the *External Validity* of the *Model*.

banking *Business Model* must manage³¹ and the performance implications on their *New Product Development* and *Corporate Entrepreneurship* and *Corporate Venturing* initiatives.

The second section is contained in chapter four. This section is focused on isolating and studying the *Job Construct*. The *Qualitative – Quantitative Sequential Multi-Method Model* (Tashakkori and Teddlie, 2003) used is presented and the twelve *Job Constructs* obtained are introduced. A *Positivist* (Cook & Campbell 1979; Miller & Tsang 2011) orientation is kept throughout the entire section and therefore detailed explanations of the entire process are carefully depicted. Finally a differential analysis on the *Job Constructs* is presented and the main conclusions are drawn.

The third section is contained in chapter five. In this section the three *Propositions* from this thesis are expanded into Hypotheses and the information on the *Job Construct* obtained in the previous section is carefully introduced into the *Mixed Method* (Dillman, 2006; Edmondson and McManus, 2007). The survey analysis provides a series of findings that confirm the results obtained in the previous sections as well as providing evidence and insights on this research.

The fourth section is contained in chapter six, where the conclusions from the research are introduced and expanded. A summary of findings is provided and the implications for the literature and for future research are explicated together with the implications for practice.

³¹ It's important to emphasize this is not a dissertation related to finance. The research setting is the *Retail Banking Industry* because in Spain and many other countries there is a tradition in this industry to invest a significant portion of revenues in initiatives related to collecting and using consumer information. Any implication related to the finance literature is outside of the scope of this thesis.

Chapter 2: The Role of Theory Building in Shaping the Literature of Customer Innovation

*People are always blaming their circumstances for what they are.
I don't believe in circumstances.
The people who get on in this world are the people who get up and look
for the circumstances they want, and, if they can't find them, make them.*

-- George Bernard Shaw, "Mrs. Warren's Profession" (1893) act II

The problem of reducing variability and randomness when launching new products, services and *Business Models* is critical for the firm's sustainability (Brentani & Reid 2012; Van Oorschot et al. 2010). This problem is so critical that it has transcended the realm of a single field and henceforth has been researched from a variety of research fields, each with its very own lenses and research traditions. The result of this widespread research effort is a cadre of vast research literatures that have approached this particular problem in many different – often overlapping – ways.

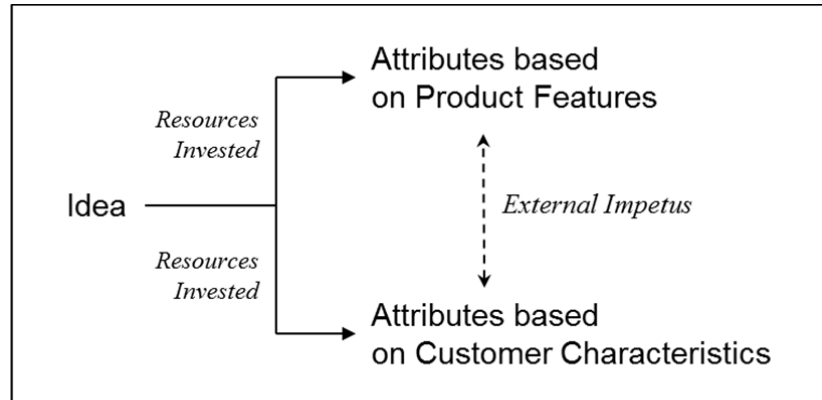
Additionally, forces external to the firm – such as globalization – have increased the rate at which some of these bodies of literature are about to collide (Kleinschmidt et al., 2007; Thurow, 2003). Both the *Technological Change* and the *Marketing* research fields have come up with useful theories for predicting the right new product or venture creation success rate. Still to this day these theories not only have quite high failure rates but also suffer from *Anomalies*, tautologies and *Theoretical Replications*, some of them hard to falsify (Stubbart & Knight 2006; Geroski 1995).

As depicted in Figure 2.1³² a useful way of organizing the literature that is focused on increasing the success rate of corporate innovation and its impact on the firm's sustainability is grouping the bodies of literature into two broad schools of thought. The first school focuses on developing customer innovation theories without ever (or minimally) involving the customer. According to this school, the use of effective models can not only explain but also predict what will be the rate of customer acceptance and diffusion (Robertson 1967). The underlying assumption critical for the development of this line of thought is grounded in the difficulties customers have in explaining or rationalizing what they want, especially after a specific product performance threshold is surpassed. The second broad school of thought focuses on developing customer innovation theories by understanding the customer and even

³² This Figure is adapted from Christensen & Raynor (2003a)

sometimes *Co-Creating* solutions with him. This school focuses on developing theories that help uncover fundamental *Needs, Wants* and *Behaviors* that the customer has – or will have – without him knowing ex-ante. In this school of thought the underlying assumption that is almost always present in its literature is the belief that all kinds of customer behavior are both identifiable and measurable.

Figure 2.1: Two Approaches to Understand What “Hits” the Consumer



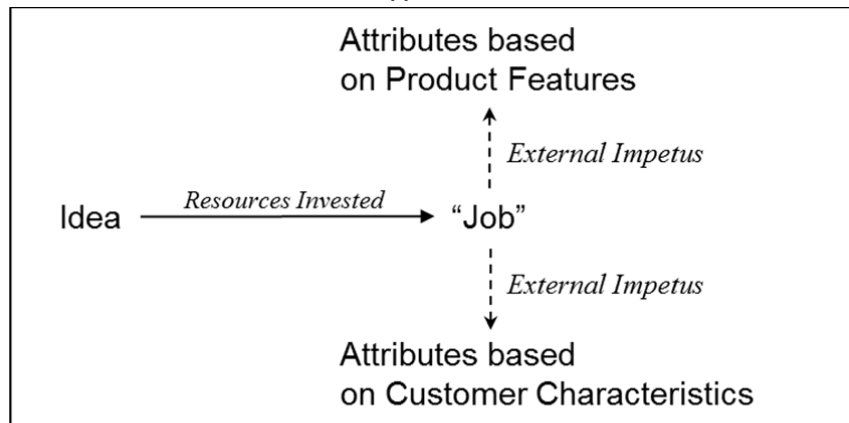
SOURCE: Adapted from Christensen & Raynor, 2003a

Both these schools have strong advocates in both the academic and the practitioners’ worlds. The first school is usually populated with technology intensive companies. These tend to be focused only on both the technology and the product and they usually try to anticipate customer’s demands even before customers realize that that kind of solution is technically possible (Page and Schirr, 2008). For example, as described in the previous chapter with the Apple 4 and how Mr. Jobs ridiculed the complaints that customers were expressing about the way of holding the device (Bloch 2011). The second school is not short on supporters either. This school is usually populated with companies focused on *Marketing* research and that over time have developed their own way of capturing the *Voice of the Customer* (Ulwick, 2005). Companies such as Procter & Gamble, Unilever, etc. populate this school (Brettel et al., 2011; Langerak et al., 2007).

However a recent trend of these *Customer-Centric* companies is to end up having to buy technology intensive companies (Johnson 2010). Companies such as Johnson & Johnson or Procter & Gamble are very effective at exploiting their market research capabilities but they seem to have trouble successfully exploring new products or *Business Models’* market fit (Tushman & O’Reilly 1997; Tushman & Anderson 1986). Why is it so? Why the process of launching a new technological intensive product or *Business*

Model is so risky? Why does it often have such a dramatic outcome? Where the firms that survived the ones that caused incumbents to fail or force the incumbents to buy them while they still could? To understand and explain this phenomenon we will draw on a group of previously unconnected theoretical literatures. We will introduce these literatures in an effort to frame the problem and its limitations. Specifically we will try to highlight that, as depicted in Figure 2.2, it's not that one school is right and the other misguided but that there are specific *Circumstances* that favor each one of these schools for reducing the customer innovation failure rate. Customers have gone from consuming food to consuming concepts (Ariely and Norton, 2009). These *Circumstances* can be assessed using a *Construct* that has been identified *Inductively* named the *Job Construct*³³ (Christensen et al. 2007). The presence and anatomy of the *Job Construct* is the leading variable of the *Customer's External Impetus* concept. This is the main factor affecting new product or *Business Model* success.

Figure 2.2: A Normative Construct Named *Job* Determines When Each Approach Will "Hit" the Customer



SOURCE: Adapted from Christensen et al., 2007

In this chapter we will introduce these literatures in an effort to frame what has been researched previously on the *Job Construct* and where does it fit in the relevant literatures. To add context as well as information relevant for this research we will classify both the *Technological Change* and *Marketing* literatures according to the methodology introduced in Appendix A. We will then suggest a series of *Propositions* to be tested.

³³ A *Job Construct* is a *Normative* based *Construct*. Appendix A describes the role of this type of *Constructs* in the theory building process.

We would like to highlight that the aim of this chapter is not to list two very large bodies of the previous extant literature exhaustively; but instead to review the bodies of literature that are related either directly or indirectly with this thesis research question. Additionally, these bodies of research have been structured according to the methodology introduced in Appendix A. Even though using the methodology described in Appendix A is a very useful way to isolate the research problem throughout the literature review, same as to visualize and relate the main lines of research at play and assess each field's progress there is a caveat: since the extant literature is not organized in this way it had to be adapted to this model. None of these aforementioned literatures is organized as depicted in Appendix A. As a result a large number of research papers contain more than one item and could potentially fit into more than one category, e.g. Henderson & Clark's (1990) paper makes a phenomenal contribution introducing an *Attribute* based categorization scheme while also introducing the *Architectural Technology Construct*, a *Construct* they *inductively* find when they classify remaining data that doesn't fit into the previously researched constructs such as *Incremental* or *Radical* (Abernathy and Utterback, 1978). This problem is present in almost all of the literatures that are going to be reviewed in this chapter. In order to apply a consistent rule for addressing it each paper has been classified according to its most fundamental contribution³⁴. Hence, in the case of Henderson & Clark's (1990) This research was therefore added as a *Descriptive Framework*.

Another difficulty of using this theory building methodology is that the separation between both the *Descriptive* and *Normative* papers is also elusive³⁵. In this case however the way to overcome this hurdle is unequivocal because of the type of data used, the kind of analysis performed and the type of contribution made³⁶.

³⁴ The researcher is aware this decision might raise some controversy as there are excellent papers that not only introduce a *Framework* or a *Model* but also a new *Construct* that wasn't identified before. There are also papers that will be remembered for a contribution that the author wasn't planning to highlight in the first place (Ansoff, 1964). However when factoring this typology of papers into this review the end result in terms of hypotheses definition and precision has not changed significantly.

³⁵ Not to mention the extremely varied meanings of the word *Contingency* used in the extant literature (Thompson 2003). One of the more orthodox ways of adding *Contingency* into the research outcome is using either *Dummy* or *Control* variables to perform sensitivity analysis on regression analysis. Kim & Atuahene-Gima (2010) provide a good example of how this is done.

³⁶ In the classification of *Normative* papers we have considered papers that weren't dealing with fundamental *Attributes* and that had clear elements of *Contingency* as a fundamental part of the analysis. Please note that we didn't add to the *Normative* section most of the papers that contain the word "Contingent" in the title or that use extensively the word "If" as if they are trying to predict an specific outcome. Most of these papers can be found in the *Descriptive* section. The reason(s) for that is explained in Appendix A. Additionally please note that the number of *Normative* papers that contain some sort of *Qualitative* research or *Mixed Method* is significantly larger in proportion to that of the *Descriptive* section. This is due to *Confirming Bias* (Johnson & Schkade 1989) where researchers that want to find *Contingent* variables can't use any of the existing data because it was obtained and designed for confirming *Descriptive* data rather than for being accumulated for future *Normative* based research (Castilla, 2007).

Finally as it will be shown, most of the previous work undertaken in both literatures is mainly *Descriptive*. Consistent with Kuhn (1962) when different paradigms compete to try to explain the very same phenomena, and at the same time it seems that the more paradigms you add the more the phenomena expands instead of contracting (Davis 1971), these symptomatology must be interpreted as a signal. It usually indicates that individual case studies are going to emerge causing a transition in these fields in a rather *Discontinuous* way (DeTienne and Koberg, 2002). This case is at the same time compounded by external conditions such as external factors that keep adding pressure to practitioners who are at the same time transferring a significant portion of that pressure to the academic community, which increases *Scientific Rigidity* (Bourdieu and Wacquant, 1992). Among the latest demands there was a significant call for relevant and *Actionable* research (Martin 2012; Aldag 2012; Tushman et al. 2007; Von Glinow & Teagarden 2009). Both schools of thought have heard the call and are trying to create discontinuous evolution in their dominant paradigms (Pfeffer, 1993). This thesis tries to help them understand that their previous efforts were not only right, but consistent and indispensable for the natural evolution of the development of a *Theory* (Cannella & Paetzold 1994).

2.1 Literature Reviews of Technological Change and Marketing

There are several external threats identified that can cause an established firm to fail (Prahalad and Hamel, 1994). For instance, one of the threats most well documented is the impact of the rate of evolution of a particular technology (Tellis and Sood, 2005). Identifying and categorizing the variety of threats has been instrumental for the development of an extensive body of literature on *Technological Change* (Cooper & Schendel 1976). The reason is that one of the most fundamental questions that this literature tries to untangle is when and why will incumbents fail (Macher and Richman, 2004). Rather than reviewing exhaustively the entire literature on *Technological Change* the following pages' approach is rooted in describing the previous research efforts that are more closely aligned with this thesis research question. This approach coupled with fundamental contributions from this literature; contributions indispensable for an exhaustive review, will keep adding *Contexts* to the review which will lead to the direction of this thesis research question. In order to provide a comprehensive overview of

the literature an exhaustive list of all the items considered together with a visual of where they have been classified according to the methodology depicted in Appendix A (shown in Figure 2.3).

Descriptive Constructs

The rate of innovative activity held in an established firm has proven indispensable for both generating substantial economic returns (Schumpeter and Opie, 1934) and responding to an external threat (Henderson, 1993). One of the main criteria used to understand where the firm is investing its resources is represented by the separation of the corresponding *Unit of Analysis* in two *Constructs*; the *Product* and the *Process* (Abernathy and Utterback, 1978). Before this distinction, the three *Units of Analysis* that concentrated the research efforts were the *Firm*, the *Industry* and *Product Type*. The *Process* construct, which initially included both the product line and its associated hands-on production, became considered thereafter as the *Productive Unit*. At the firm level, the separation of innovative efforts between *Product* and *Process* subsequently produced the separation of the research efforts traditionally focused on *New Product Development* (NPD) (Cooper 2005; Cooper & Kleinschmidt 1995). Although unnoticed at the time this was done at the expense of those of the *Process* (Steffenson McElheran, 2010a). This separation not only created an imbalance but also made it difficult to undertake research on firms where the separation between product and process is nonexistent because they are inherently linked, a characteristic of the *Services* industries (Ettlie and Rosenthal, 2011; Thrane et al., 2010). Hence, in a service a “product is the process” (Frei et al., 1998). However, the *Productive Unit Construct* has proven to be helpful in manufacturing industries. For instance, in the automobile industry, where some authors undertook most of this research (Cousins et al., 2011).

Another useful way to map the effectiveness of a firm’s initiative from within is by looking at how its *Resources* are being employed. This method, named the *Resource Allocation Theory*³⁷ (Bower & Gilbert 2005; Bower 1986), has proven particularly useful when it comes to trying to understand some situations where the incumbent just can’t react to an external threat (Bower & Gilbert 2007). The *Resource Allocation Theory* was developed to change the perspective of what was considered at the time a financial or a budgetary challenge. This *Theory* unveiled that the true nature of these problems belongs more to the administrative realm than to the financial or budgetary realms. It tried to address

³⁷ Although, as explained in the methodology described in Appendix A, this is not a theory but a set of descriptive *Constructs* and *Frameworks* developed and classified into an inductively obtained *Descriptive Model*.

the management need of developing a method for managing a multiunit enterprise as a portfolio of business strategies with different opportunities, risks and cash flows (Noda and Bower, 1996).

The *Constructs Definition, Impetus* and *Commitment* were inductively developed to instrument how the lower layers in the corporate hierarchy are the ones that effectively define the strategy of the firm. Even without realizing it, while performing rudimentary tasks, and almost always, in what seems a seamless and logical decision. In this case *Definition* refers to “The process by which the basic technical and economic characteristics of a proposed investment project are determined” (Bower 1986, p. 67). A useful parallel for visualizing the *Definition* construct is realizing that it’s the equivalent for practitioners of what a *Construct* for scholars is³⁸.

Following that parallel, the *Definition* construct is a way of describing a specific investment that is self-contained and contains most of the information required to understand the initiative. Often the *Definition* is generated by operational managers (Noda and Bower, 1996). *Impetus* is defined as “force that moves a project forward” (Bower 1986, p. 67) and it represents the rate at which *Definition* passes through the company’s operating funnel (Cooper 2001; Wheelwright & Clark 1994). In the case of *Impetus* it’s important to notice that although it has been described with accuracy it doesn’t indicate where the “gained traction” comes from. Bower mentions that it can come from the need to add capacity to a specific plant (p. 244) or that it might come from the top management’s decision to pursue a specific opportunity. Additionally, although not purely from the original *Resource Allocation Theory*, we have added *Commitment* (Ghemawat, 1991) to this set of constructs because both the formal allocation of financial resources and the individual allocation of time and attention at the operating levels of the firm determine its behavior both in reacting to an external threat and in deciding about new investment opportunities. Sull (2005) described an interesting case where the degree of *Commitments* held by the established group of *Bias-Ply* tire manufacturers was the leading factor that originated their ultimate demise. In the case of new investment opportunities Bower (1986) describes how, because of the difficulty of measuring returns on revenue-generating investments, companies find easier to commit to cost reduction initiatives. In other words, in the case of manufacturing firms,

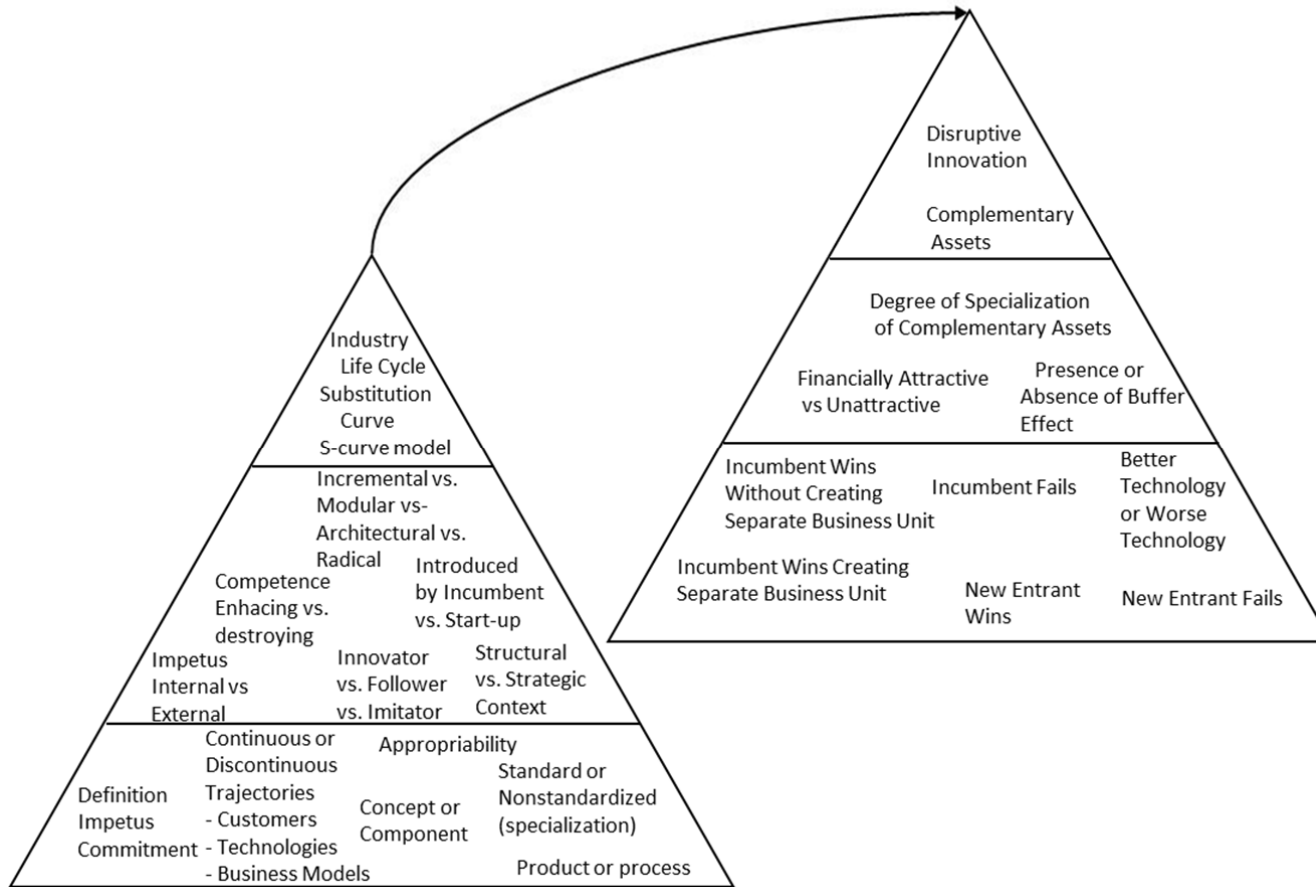
³⁸ As defined in Appendix A.

companies tend to favor investments in the processes (the “productive unit”) of the firm rather than in *New Product Development* (Eggers, 2012).

Although *Resource Allocation* is a *Model* that has a substantial explanatory power (especially for driving and visualizing strategy) it suffers anomalies on its own. In the case of this thesis, there are empirical observations that show Apple’s strategy is noticeably *Top-Down* rather than *Bottom-Up* (Kawasaki, 1990; Linzmayer, 2004). Another anomaly would be to realize that according to this *Model* a successful entrepreneurial opportunity would have been pursued from outside of the firm even though it was *Defined* inside the firm where it failed to gain *Impetus*. Finally, Bower & Gilbert (2005) describe (p. vi) that, since there has been not enough research explaining the interaction between organizational and economic forces, once this mechanisms are understood, the *Resource Allocation Theory* might be subjected to some adjustments to control for these anomalies.

At the other end of the continuum *Top-Down* vs. *Bottom-Up* as it has been described in the *Resource Allocation Theory* lies the *Resource Dependence Theory* (Pfeffer and Salancik, 1978). This model posits that in reality most the resource allocation decisions are made *Top-Down*. However, the “top” that they usually refer to is actually higher than the upper boundaries of the organization. The agents that really decide upon the allocation of resources are the *Investors*, the *Clients* and the *Shareholders*. This *Theory* states that at the end managers are almost irrelevant because they just follow the indications received from these three agents. The authors go as far as describing organizations as (p. 11) “quasi-markets organized so these organizational participants are most critical to the organization’s continued survival and success”.

Figure 2.3: Approach Used to Build the Theory-Building Model Literature Review on Technological Change



One of the *Constructs* most commonly used in the literature of *Technological Change* has been borrowed from the literature of mathematics (Dosi, 1982; Garcia and Calantone, 2002). This *Construct* identifies a particular situation when a technology, rather than evolving according to the distribution of a continuous function, suddenly “jumps” to a much higher level of performance (Brentani, 2001). This discontinuous improvement has been documented in a variety of units of analysis such as *Products* (Veryzer, 1998), *Industries* (DeTienne and Koberg, 2002), *Firms* (Tushman et al., 1986) and *Managers* (Kaplan et al. 2003). A significant number of *Constructs*, *Frameworks* and *Models* have been built³⁹ around the *Discontinuity* phenomenon. As described in Figure 2.3 we plan to review the three *Constructs* most relevant to this thesis research question and that encapsulate this phenomenon controlling for different *Units of Analysis*. These are the *Technological Discontinuities*, *Customer Preference Discontinuities* and *Business Model Discontinuities*. *Discontinuities* were classified as a *Construct* because at heart they just depict a fundamental change in the trajectory of any particular element that might impact the firm. The rest of the outcomes derived from that trajectory, being quite relevant in terms of implications for both scholars and practitioners can be classified according to the other elements described in Appendix A. It’s not the purpose of this thesis to classify these research efforts but to identify the phenomena of *Discontinuities* in what’s related to this thesis research question.

Technological Discontinuities

Technologies are usually deployed inside a technological paradigm (Malerba et al., 2008; Nelson, 2008), which is a set of procedures, with a clear definition of the relevant problems and the specific knowledge related to their solution (Dosi, 1982). The natural evolution of a technology follows a trajectory that represents the direction of advance within a technological paradigm. In a process akin to what happens in science (Chalmers, 1976; Kuhn, 1962), in technological terms, the many continuous changes the technological paradigms suffers during its existence are suddenly stopped with the emergence of a new paradigm (Martin et al. 2012). Usually *Discontinuities* in technology are the consequence of scientific advances, economic factors, institutional variables, and unsolved difficulties on established technological paths (Dosi, 1984). *Technological Discontinuities* have been a useful way to understand the

³⁹ For example, the technological succession process depicted in the *S-curve Model* is at heart the graphical representation of a *Discontinuity*.

impact of contingent factors on lagging variables measured in industries and firms (Klepper and Malerba, 2010; Woolley, 2010). However, since Dosi's work, although research has been extensive, there isn't still available a comprehensive model that captures how these factors impact both the firm and the industry (Teece, 2008).

Customer Discontinuities

Technological Discontinuities have an interesting side-effect, they usually provoke an upsurge in demand (Tushman & Anderson 2004). Usually caused by two factors; The first is the sudden entrance of a large number of new firms that try to capture revenue using the new technological paradigm (Romanelli, 1989). The second is – from the point of view of new customers – how attractive the new functionalities embedded in the new technology are (Thornton, 1999). These two outcomes have been usually described as the leading factors that generate the commonly observed industry heterogeneity (Leonard-Barton 1992; Shane & Venkataraman 2000). It has been documented that customer demand has a clear effect on the resource allocation efforts of the firm (Mowery and Rosenberg, 1979; Schmookler, 1966; Thirtle and Ruttan, 1987). Also, because of the inherent heterogeneity of demand, the resource allocation investments usually are asymmetric across the industry (Adner and Levinthal, 2001). While industries at mature stages don't show this asymmetry⁴⁰, the one factor that can cause an industry to regress to periods of high heterogeneity and high rates of innovative activity is the customer discontinuities (Kahl and Yates, 2006; Tripsas, 2008). Technological change is not the only cause of a customer discontinuity, other factors such as socio-political alterations of the playing field (Thurow, 1992), the role of *Modularization* (Baldwin & Clark 2000), the very own evolution of customers over time (Bayus, 2005; Lancaster, 1979) and some producer moves are also relevant for understanding radical shifts in demand (Kreps, 1990). Customer discontinuities have been empirically observed through industries history and have been identified as one of the main causes that trigger discontinuities (Dalziel, 2007). This phenomenon has usually been described as the emergence of a mainstream *Need* from what was previously a niche *Need* (Adner 2002; Christensen 1997b).

⁴⁰ This is at the consumer level, at the technical level firm age is negatively related to technical quality (Balasubramanian & Lee 2008).

Business Model Discontinuities

In doing research on the patterns of new product adoption this intriguing version of the discontinuity construct has been emerging more often recently (Doz and Kosonen, 2009). A business model discontinuity represents the fundamental alteration in an industry of the traditional encroachment between the way the resources are organized and used and the external factors that support their viability. This association, usually labeled *Encroachment* (Schmidt and Druehl, 2008) describes the anatomy of this viability and basically describes the *Dominant Design* (Murmann & Frenken 2006; Prahalad & Bettis 1986; Anderson & Tushman 1990) the industry is using as the fundamental pillar to grow. Once this encroachment is altered (Tushman & Anderson 1986) a new dominant design emerges in what has been described as a process, not an event⁴¹ (MacCormack et al. 2010). Usually, this process creates a separation in the industry architecture between the high-end competitors – who usually enjoy high margins or large *Economies of Scale* (Chandler Jr, 1977) – and the low-end competitors who are capable of being profitable with lower margins (Schmidt and Van Mieghem, 2005). Once this separation has occurred, the most recent *Dominant Design* starts a process of climbing up-market that – if not influenced by external factors – advances at the pace of the old *Dominant Design* cycle-time (Fine 1998; Askenazy et al. 2006). In industries where this cycle-time is rather fast, as in the hard-drive industry Christensen (1997) it was observed that once the most recent *Dominant Design* reaches a certain threshold the old *Dominant Design* starts to fade at a much faster rate (Adner and Zemsky, 2005). Other scholars have observed that the old *Dominant Design* can “buy time” using innovations that the new dominant design has introduced to leapfrog the performance of its products & services, a phenomenon usually labeled *Last Gasp* (McGahan & Silverman 2006; Adner & Snow 2009; Snow 2004a; Sull et al. 1997).

The appearance of *Standards* in an industry dates back to the realization that insourcing critical activities is more efficient and effective for a firm (Coase, 1937). In his seminal work *The Nature of the Firm* Coase indicates that firms emerge as a result of the integration of activities that bring them closer, which lowers transactional costs. Since the market is efficient, Coase indicates there are many other costs that revolve around it and that cause integration to make sense, i.e. information costs, bargaining costs,

⁴¹ The fact of observing that a *Dominant Design* substantiation is not a process but an event explains why both *Interdependent* and *Modular Business Models* can co-exist at the same time in the life of an industry. However, it doesn't explain why the revenue that companies obtain from having these organizational architectures is asymmetrical.

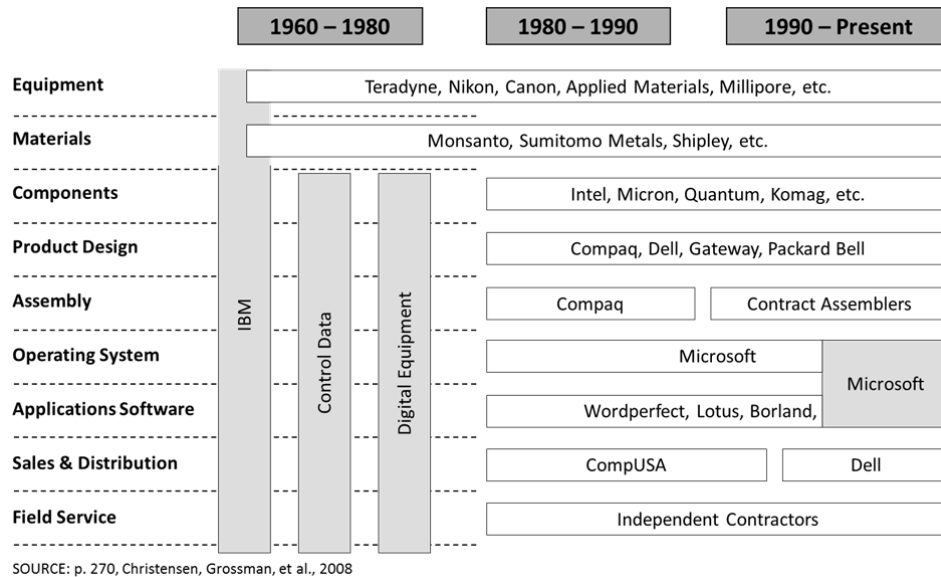
search costs, etc. In a refinement of this *Transactional Cost* approach that includes *Bounded Rationality* (Scott 1981; Simon 1991), Oliver Williamson (1975) describes how to use transactions as the *Unit of Analysis* to understand the hierarchy of an industry. In his book *Markets and Hierarchies, Analysis and Antitrust Implications: a Study in the Economics of Internal Organization* he presents a model, the *Organizational Failures Framework* (OFF), that specifies which organizational architecture will maximize efficiency in front of variations in the environment and human factors.

In his book *Only the Paranoid Survive: How to Exploit the Crisis Points that Challenge Every Company and Career*, Andrew Grove (1996), the former CEO of Intel, describes the process (p. 44) through which an industry slowly but inexorably transitions from having a fully integrated non-standardized way to evolve to a situation where most of the competitors, or at least certainly the ones who are making the lion's share of revenue and profits, become highly specialized. This latter group is capable of surviving because the standards through which they compete as a nested network inside an industry (Garcia et al., 2007; Murmann and Frenken, 2006) have evolved sufficiently to become commoditized (Chesbrough, 2003). The longitudinal transition of an industry from these two stages is depicted in Figure 2.4 (Christensen, Grossman, et al. 2008). Previous research indicates standards arise when a component implements commonly used functions and the interface to the component is identical across more than one different product (Ulrich, 1995). In order for these two conditions to be satisfied the *Interfaces* must have three properties overtly satisfied. The first is *Specifiability* which describes the ability of managers and/or engineers to specify the critical attributes at the interface between components. The second is the *Verifiability* which deals with the ability to measure the specs described previously. Finally the third is the *Predictability* which basically states no unpredictable behavior is expected from the interaction of the components. It specifically states that every behavior resulting from making two or more components work together has been carefully described and it is known when and why will happen (Tushman 2004; Kassicieh et al. 2002; Christensen, Anthony, et al. 2004).

The *Construct* that measures in a market the continuum between the extremes of "easiness to imitate" and "difficult to imitate" was named *Appropriability* (Teece, 1986). This construct was elicited while looking for explanations of why over 60% of companies that introduced an innovation to a market where overtaken by other competitors that entered the market much later while introducing a

functional imitation of that product (Markides & Geroski 2004; Lieberman & Montgomery 1988). Although initially perceived as a binary construct it was later acknowledged there are degrees of appropriateness in every industry and both market and non-market forces influence this degree heavily (Caerteling et al., 2008). One industry where the degree of *Appropriability* is remarkably high is the pharmaceutical industry, where firms have a rather long of period of time from exploiting their research efforts (Yu 2006; Gino et al. 2006; Dunlap-Hinkler et al. 2010). At the other extreme, the banking industry has a remarkable easiness for companies to imitate each other's products, especially in developed markets (Grant and Venzin, 2009; Teece, 2010). The degree of *Appropriability* is a construct very commonly used for developing models that explain why some incumbents are capable of resisting in front of new entrants. The most commonly used is the *Complementary Assets Model* (Chesbrough et al., 2006; Teece, 2006).

Figure 2.4: Industry Transformation Longitudinal View



During the eighties and early nineties, the most useful way of recognizing the characteristics of a new technological innovation was seeing its impact on two *Constructs*; the *Concept* and the *Component* (Iansiti, 1995). The combination of these two *Constructs* and their interplay has been instrumental for the development of the *Framework* named *Architectural Innovation*⁴²(Henderson & Clark 1990). The separation between the product as a system and its components has a long history in the design literature (Alexander, 1964; Marples, 1960) and represents the hierarchical separation of the different

⁴² This *Framework* is reviewed in the next section.

elements of a product (Luo et al., 2009; Murmann and Frenken, 2006). This hierarchy is reflected in the way of defining components as “a physically distinct portion of the product that embodies a core design concept” (p. 2) Distinguishing between the product as a *Concept* and as a *Component* requires the firm to know not only about the core design of each *Concept* but also about how these concepts interact with each other. These *Standards*, as explained previously, once they have evolved up to a certain threshold become exogenous to the firm, opening the access to the industry to a cadre of potential competitors that weren’t able get access to it previously (Chesbrough, 2006). This observation, carefully described previously (Peneder, 2010; Schumpeter, 1942), is going to be instrumental for developing the first categorization schemes.

Descriptive Frameworks: Categorizing *Constructs* to Develop Useful Explanations

The selection of *Constructs* introduced in the previous section is instrumental for understanding how the first – and at the time very useful – categorization schemes evolved. The first way to group the inherent path-dependent characteristic of a technology together with the *Newness* of its *Business Model* and the periods of radical discontinuous change was dubbed *Generational* (Henderson, 1988). In p. 43 Henderson writes “established firms trying to develop a new product based generational innovation are likely to be less successful than entrants since they rely on a less efficient design technology”. A statement that underlies the effect of how a firm that belongs to a particular nested architecture, when it comes to selecting new potential successful initiatives, has a tendency to self-select the options available. This is the reason that most of the incumbents in an industry are so effective at launching incremental innovations but can’t appropriate the revenues associated with *Radical Innovations* (Gilbert & Newbery 1984b; Gilbert & Newbery 1984a; Gilbert & Newbery 1982; Reinganum 1984). This case is even more difficult for incumbents to overcome if the new generation is especially focused on the previous technology’s bottlenecks (Baldwin 2010). This insight, that the generation of a technology and therefore its encroachment to a *Business Model* is mostly driven by exogenous factors helped Henderson & Clark (1990) transition their initial *Generational* concept to a more exogenous approach labeled *Architectural*.

The combination of the constructs *Concept* and *Component* described previously helped introduce the new *Architectural Innovation* inside a very useful categorization scheme that, because of its *Descriptive*

nature had a very effective explanatory power. Figure 2.5 shows this *Framework* and the four types of innovation identified at the time.

Figure 2.5: The Architectural Innovation Framework

| | | Core Concepts | |
|---|-----------|--------------------------|--------------------|
| | | Reinforced | Overtured |
| Linkages between Core Concepts and Components | Unchanged | Incremental Innovation | Modular Innovation |
| | Changed | Architectural Innovation | Radical Innovation |

SOURCE: Henderson & Clark, 1990

This categorization scheme indicates there are different competitive effects depending on the type of innovation pursued. The discontinuity construct is expressed in the two previously known innovation types: *Incremental* vs. *Radical*. These two *Constructs* represent two extreme points along these two dimensions. *Radical innovation* establishes a new dominant design that requires the redefinition of both the design *Concepts* and its *Components* (Dahlin and Behrens, 2005). New entrants usually introduce this kind of innovation into the market (Corso and Pellegrini, 2007). While incumbents have difficulties introducing radical products into the market because of the new capabilities required (O'Connor and Ayers, 2005) and because the *Cannibalization* threat (Chandy and Tellis, 1998). On the other hand *Incremental Innovation* rests within the domains of the incumbent and is usually the most common response observed when the incumbent is facing an external threat (Henderson, 1993). Still there are cases where incumbents have survived the challenge of a *Radical Innovation* (Hill and Rothaermel, 2003). What seems to be insurmountable to incumbents is not *Radical Innovation* per se but an *Architectural Innovation*. Reconfiguring an established system to link together existing components in a new way is extremely challenging for incumbents, especially because the entire incumbent's organizational architecture *Mirrors* the existing product (Colfer & Baldwin 2010). *Architectural innovation* is usually triggered by a *Component* that experiences a *Discontinuity* inside its own nested architecture. This *Discontinuity* is usually associated with a radical increase in that particular

component's functionality, propelling a new wave of possibilities other components might be susceptible of improving from. This *Modular* improvement, the fourth quadrant of Figure 2.5 matrix, will gain prominence in subsequent research when the *Component* instead of belonging to a particular firm's business unit is set up as a stand-alone *Business Model* that remains fully autonomous. The leapfrog in performance explained in this matrix will enable a variety of possibilities for the other components to improve at the technological level. Additionally, inside its nested *Value Network*, it will also enable new business model architectures and new product attributes that were not considered a priority beforehand and, while developing this possibilities by integrating into its nested ecosystem, will initiate a wave of *Disruption* that will cause the incumbents to fail (Christensen 1997c).

Another useful categorization scheme that has influenced many waves of subsequent research specifically controls for who is the agent that introduces a particular innovation in the market. Especially these agents can be either the *Incumbent* or a *New Venture* (Burgelman and Grove, 2007b). Paradoxically in its early stages it was the very same person that defended both points of view. In his book *The Theory of Economic Development; An Inquiry Into Profits, Capital, Credit, Interest, and the Business Cycle* Schumpeter (1934) describes how the development of technologies and their successful adoption from the market is a process largely dependent on large established firms. This way of categorizing data has been used extensively for classifying innovation and for understanding the limitations incumbents suffer from introducing new innovations into the market (Ahuja and Morris Lampert, 2001; Nelson and Winter, 1973, 1974, 1982). A few years later⁴³ he also introduced the concept of *Creative Destruction* (Schumpeter, 1942). The process through which an established firm fails in front of a new entrant, mainly because it introduces a radical way of servicing customers. He explains (p. 68) "These revolutions periodically reshape the existing structure of industry by introducing new methods production (mechanized factory, electrified factory, chemical synthesis, etc.) that rejuvenates de productive apparatus." Again this way of categorizing data has had a remarkable influence in the literature on innovation, where new ways of investing in the development of capabilities or in capitalizing a technological innovation have proven deadly for the established firms (Bhidé, 2000; Malerba, 2002).

⁴³ Schumpeter moved from Austria to the U.S. during those years.

In many cases new firms enter the industry when the industry itself is in the middle of a noticeable turmoil. One of the rather large number of categorization schemes that has gained substantial prominence for categorizing industry turmoil has been labeled *Punctuated Equilibrium* (Scott, 1981). This framework describes a situation when, after a rather long period of incremental innovations (Poole and Van De Ven, 2004) an environmental factor (Tushman & Anderson 1986) fundamentally changes the required capabilities that were needed to compete (Adner and Levinthal, 2002). The *Punctuated Equilibrium* acid test is measured by the usefulness of the incumbent's capabilities after the particular phenomena has occurred. These capabilities can only be of two types: the first are the dubbed *Competence Enhancing Capabilities* (Bresnahan et al., 2011) which represents both assets and activities that the established firm had developed prior to the discontinuity and that remain fully operational and effective ex-post (Anderson & Tushman 1991). These competence-enhancing capabilities tend to be highly specialized and they were usually developed for undertaking incremental innovation inside the established firm, in most of the occasions at the expense of pursuing radical innovations with more or less success (McDermott and O'Connor, 2002). This zero-sum game of having to prioritize between incremental and radical innovations and the investment in capabilities that each of these alternatives entails has been superseded recently with the development of the *Perturbation* concept, which is a mechanism that implies that during the period of stability between *Punctuated Equilibriums* the *Perturbation* mechanism can cancel the pernicious effect of developing new routines without harming the traditional ones (Brunner et al., 2009). An organization that is capable of both pursuing *Explorative* and *Exploitative* opportunities is usually described as *Ambidextrous* (Tushman & O'Reilly 2004; Taylor & Helfat 2009). The second type of capabilities are the *Competence Destroying*, these represent a new set of assets and activities that either the firm doesn't possess or that obtaining them is too costly because what they require in terms of resources, investments and time. Or it might just be that the firm's internal rigidities are preventing it from laying its hands on them (Nelson and Winter, 1973). This last case usually happens because of two mechanisms, the *Corporate Inertia* (March 1988; March & Simon 1958) and the *Corporate Rigidities* inherent in the development of a particular capability (Leonard-Barton, 1992).

The *Competence-Enhancing / Competence-Destroying* framework of *Capabilities* for established firms has anomalies that it can't account for. Three of the most frequent are; First, the empirical observation that capabilities become rigidities or suffer the risk of obsolescence without the *Punctuated Equilibrium* discontinuity (Clark et al. 1994); Second, that market turbulence can affect significantly the ability of the firm to alter its capabilities (Lichtenthaler, 2009), especially if the firm is deliberately trying to capture and assimilate external innovations, a phenomenon labeled *Absorptive Capacity* (Cohen and Levinthal, 1990) and; Third, how much of the entire capability is affected by external events (Eisenhardt & Martin 2000). For instance, in regimes of rapid technological change, the ability of the firm to achieve high-growth is mostly affected by the degree of obsolescence of its capabilities (Teece et al., 1997).

At the heart of the development of radical competences lies the understanding of the contexts the firm might face in the future (Bellone et al., 2008; Child, 2009). The framework suggested in the *Resource Allocation* theory described above tries to untangle how both managers and the firm's organizational forces shape the process definition of investment in improving competences (Bower 1986; Bower & Gilbert 2005; Eisenmann & Bower 2000; Burgelman 2002; Burgelman 1983b). This categorization scheme has two parts. The first is the *Structural Context*; Bower defines the structural context as "the set of organizational forces that influence the process of definition and impetus" (Bower 1986, p.70). Bower emphasizes a large part of this influence corresponds to the firm's *Corporate Structure* which he defines as "the system of information and control used to measure performance of the business, and the systems used to measure and reward performance of managers" (p. 71). In turbulent environments, where high uncertainty and market discontinuities are the norm the corporate structure tends to become more top-down when it comes to decision-making (Sull, 2009). In that case it's critical to keep the new initiative sheltered from the internal forces of the firm and outside of the pressure to increase its margins so it has time to gain *Market Foothold* (Eisenmann and Bower, 2000). The second part of the *Resource Allocation* categorization scheme is the *Strategic Context*; which is another force identified by Robert A. Burgelman (1983, p.66) as "the efforts of managers to link autonomous strategic behaviors at the product / market level into the corporations". When it was mentioned previously that *Strategic Context* overtakes *Structural Context* and that this is the kind of situation entrepreneurs are facing⁴⁴, this

⁴⁴ *Strategic* and *Structural Contexts* have also been used to explain the differences in companies performance and profits at the *Industrial Organization* level (Porter 1979).

is following the rationale of understanding that if the *Definition* and *Impetus Constructs* are elicited in a situation where there is no Corporate Structure it's because there is no firm (Dean et al. 1998). Hence, if a firm has to be created, it means it will be a start-up. Start-ups tend to be created when the founders (both entrepreneurs and established firms) observe an opportunity in the *Strategic Context* (Christensen & Bower 1996).

In general it can be argued that both the *Resource Allocation Theory* and the *Resource Dependence Theory* have focused their attention on defending the extremes of the wrong aspect of the problem. As they kept focusing on the decisions of the executive and how does he decide (both consciously and unconsciously) the way resources should be invested in the firm. That includes three scenarios; the first and the second are the top-down and the bottom-up approaches respectively. The third refers to the "normally bottom-up except in punctuated equilibrium moments" previously described. As Barnard (1938, p. 191-192) points out "From the point of view of the relative importance of specific decisions, those of executives properly call first attention. (But) from the point of view of aggregate importance, it is not decisions of executives but of non-executive participants in organizations which should enlist major interest". In other words, the discussion should not only be focused on understanding how executives make decisions and whether *Resource Dependence* and *Resource Allocation* can explain those decisions but also on how does the environment influence the cadre of non-executive members of the firm that (usually unconsciously) are making decisions that are both shaping the future of the firm and determining the degrees of freedom of executives for their decision-making. Degrees of freedom in this case determine the options that will become ultimately available. The more research there is in the direction of understanding how an external threat can potentially affect a firm's sustainability using the theory building model explained in Appendix A the faster the transition to *Circumstance* based *models* would have occurred. That transition would have been quite likely if the timeframe when these models were developed and the research methods revolution that started in the 1960s would have converged (Campbell & Fiske 1959; Campbell & Stanley 1963; Glaser & Strauss 1967; Davis 1971; Cook & Campbell 1979; Bailey 1983; Burgess 1984).

Another issue that persists noticeably in the literature is the difficulty of the innovator to capture the profits from investing in both *R&D* and *Commercialization*. In most of the cases follower firms,

customers and suppliers capitalize on the competitive potential of the technology much more effectively and profitably than the innovator (Teece, 1988). Several factors influence this outcome, among them the failure of developing the *Capabilities* needed to exploit the new technology effectively enough while keeping it away from imitators. These *Capabilities* –which include *Complementary Assets* – vary in their degree of importance according to the *Industry Life Cycle* and the *Degree of Interdependency* needed with the firm to function effectively (Chesbrough et al., 2006; Teece, 1988). Although the development of *Capabilities* has proven that it can be both beneficial (Teece, 1988) and deleterious (Leonard-Barton, 1995) one of the main lagging effects of having them underdeveloped by the time of the launch of a new product is the failure to profit from the investment and the risk that needs to be managed. If, in fact, the company is capable of reaping these rewards it will still have to invest a significant amount of resources because, as Markides & Geroski (2004, p. 64) point out “the skills, mindsets and structures needed for "discovery" and "colonization" are fundamentally different from those needed for consolidation and commercialization”. This is one of the fundamental reasons that explain how business model evolution is necessary not only to survive but to benefit from launching new products. The *Capabilities* explanation solves anomalies the previous *Frameworks* couldn’t account for. The *First-Mover Advantage Framework* provoked a revolution in places like Silicon Valley⁴⁵ when (Lieberman and Montgomery, 1988) pointed out that it was usually the pioneer the one who reaps the rewards of first entering into a market. Later empirical evidence however indicated otherwise as was also paradoxically recognized by Liebermann & Montgomery (1998). At this level of analysis it seems clear not only that many frameworks coexist and solve anomalies from each other but that the question of how to gain traction and profit from an innovation remains elusive (Cacciatori & Jacobides 2005; Dahlin & Behrens 2005; Funk 2009; Peneder 2010; Wolter & Veloso 2008; Yu 2006). Most of these frameworks, although internally valid, fail the *External Validity* test in the sense that they can’t control for the effects of the very same innovation in other industries (Dolata, 2009; Tripsas, 2008) or in different pieces of the *Value Chain* (Porter 1985). Still this research question is far from solved. Nowadays, the pioneers failure rate is over 64% (Tellis and Golder, 2002).

⁴⁵ This is the origin of the sentence “Get Big Fast”. A common mantra from almost every Venture Capitalist in the Valley to the dot com entrepreneurs during the internet bubble.

The last framework reviewed introduces an external point of view to a portion of the *Resource Allocation Theory*. Specifically it analyzes how the *Structural Context* would behave if the firm is not self-contained within its architecture and therefore influences how impetus is shaped across different boundaries. Using research on diffusion and stakeholder theory a new categorization scheme is elicited together with how its influence impacts different stakeholder groups. Specifically the customers, dealers, suppliers, and competitors (Talke and Hultink, 2010). Although this research is mainly focused in managing the diffusion barriers to innovation, the new categorization scheme that classifies as a binary variable the construct *External Impetus* (Bagozzi & Lee 1999; Gatignon & Robertson 1989) is intriguing. This research separates between what is a barrier for any stakeholder to commercialize an innovation from what it means for these agents to gain *External Impetus* by themselves. Leaving a zone in the middle where the firm might not have done anything wrong but still failed to commercialize an innovation successfully. Furthermore this *Multiple Diffusion Barriers* approach gets compounded with complexity when market turbulences, especially at the different granular levels, are introduced. While the authors recognize that managing diffusion barriers is influenced by contingent factors they still manage to classify them according to a framework with following axes: 1) *High Technological Turbulence*; 2) *High Market Turbulence*; and 3) *Highly Complex Products*. However in the case of *External Impetus* the authors point out (p. 537) the remarkable importance of the launching activities for market success and how these launching activities must be classified into two categories. Being the first one the launching strategy per individual stakeholder and the second one the launching tactics⁴⁶. Among the latter the continuous adaptation of the levers product, pricing, promotion and distribution (p. 538) is emphasized.

This section on frameworks is trying to illustrate how important it is for the firm sustainability to understand when it has to react to an external threat and why gaining early adoption of the investment efforts is such an elusive target. This section ends up (deliberately) with the *External Impetus* framework because, although at this point it has been obtained as a lagging variable it's an empirically clear observation of high-demand for a product (such as for the iPad). What ignites the energy of the *External Impetus*? Why there are firms that get right not only the product but the different stakeholders all

⁴⁶ The authors are clearly separating between *Attribute* and *Circumstance* based categorization schemes. Part of the latter is described in the forthcoming *Marketing* literature.

combined with the environmental conditions and still fail to gain *External Impetus*? This thesis relies extensively upon Talke & Hultink's definition of *External Impetus* and on the insights from the *Marketing* scholars to provide rather unambiguous support for the causality inherent in the relationship between *External Impetus* and high-adoption rates.

Building Models: Why Describing Empirically the Phenomena Doesn't Reduce the Number of Anomalies

The models described in this section share several characteristics. In the first place all of them have been extensively tested empirically. In order to accomplish that, data has been generated and used to test these models both *Inductively* and *Deductively*. In some instances data was real and cases were developed. Other research efforts include the use of simulations and econometric models (Gavetti and Levinthal, 2000; Rivkin and Siggelkow, 2003; Siggelkow and Rivkin, 2009). Additionally they all explain phenomena the others can't account for while at the same time yield anomalies that remain largely unexplained⁴⁷. However all of them have represented very useful contributions for understanding the adoption and growth of innovations, they have become a much needed step in the cycle of theory building that tries to unveil how this mechanism works. After Lawrence & Lorsch (1967) seminal contribution where they indicate contingency is key to determine the adequacy of any action that gains *Impetus* inside the firm, scholars tried to build on the *Frameworks* previously explained and others in order to build *Models* that could include a variety of endogenous variables to control for these *Circumstances*.

The first of the *Models* is the *Industry Life Cycle* (Klepper, 1997). After empirically observing that the *Constructs* "number of firms" and "aggregate industry profitability" vary throughout time for a given industry, a new research line emerged that tried to explain if the differences in firm's performance could be explained at the industrial level. This research line would try to link several industry characteristics to the individual firms' aggregate profitability (McGahan & Porter 1997; Bain 1964; Bain 1959). Some of the characteristics that were specifically controlled for were the constructs' multi-modal distributions, the frequency distribution of data (Hannan & Freeman 1989) and the influence of both market and non-market forces on industry evolution (Baron 1995; Delmas & Toffel 2005). Some of the findings indicate

⁴⁷ Most of these models have been seriously challenged at the *Descriptive* level. Considering Appendix A, and due to the nature of the research methodology used to obtain them, these models should also be challenged at the prescriptive level.

that industries tend to follow a specific evolution pattern that may be contingent for both controlling the outcome of particular theories and maximizing the return on investment of a number of managerial decisions (Gort and Klepper, 1982; Klepper and Graddy, 1990; McGahan and Baum, 2003). The *Industry Life Cycle Model*, depicted in Figure 2.6 (Hoffer 1975, p. 788)⁴⁸, indicates the throughout time industries transition across four main phases. The first phase, named *Fragmentation* indicates the moment where either the established firm or the entrepreneurs identify a fundamental problem to be solved together with more than one invention that could effectively solve it. The resulting observations describe a cadre of different incipient *Business Models*, grouped by different technologies or solutions and by different revenue architectures all of them oriented to gain foothold in that new industry. For example the three main technologies that populated the *Fragmentation* phase of the automobile industry life-cycle where the gasoline, the steam and the electric cars (Freeman & Soete 1997; Chandler Jr 1977; Rao 2008). The three had problems and advantages related to every characteristic of the product and the business model. At this stage companies try to find an architecture that gives them a fundamental advantage against its competitors, this is usually observed through their different production costs (Jovanovic, 1982). This wide range of ways of solving each problem propelled an exponential growth in the number of heterogeneous firms entering the industry (Akcigit and Kerr, 2010). The main objective at this stage is to use the available scientific knowledge to meet the competitive demands of the moment while generating new scientific knowledge useful to build the next incremental innovation and temporarily gain an edge (Abernathy and Utterback, 1978).

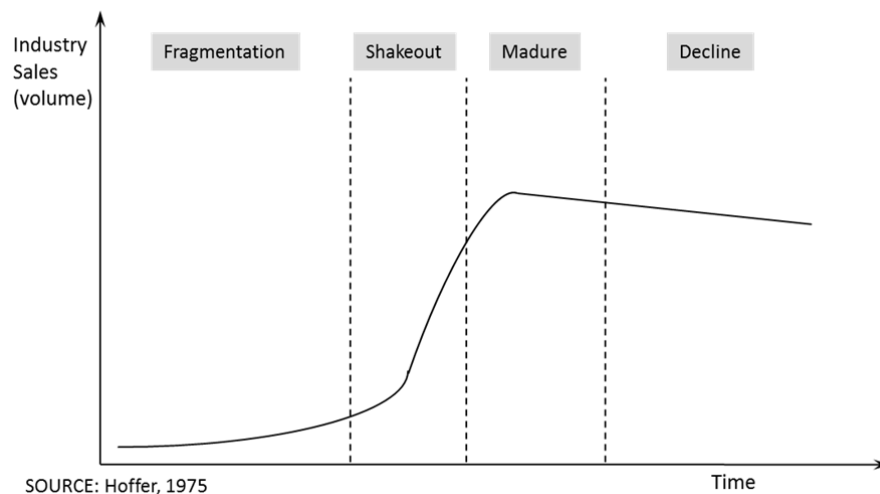
The second phase is marked by a *Discontinuous* event mostly observed through the investments in technological improvement. After a specific point in time some companies transition from investing in fundamentally improving their products to investing in honing their processes (Utterback and Abernathy, 1975)⁴⁹, for still undetermined reasons, the industry reaches a point where a particular technology and business model starts to thrive causing the other businesses to fail. Although it's not uncommon that the most efficient model is the one that ultimately prevails, the mechanism that causes that phenomenon to happen as well as if there are any other mechanisms that would provoke the same

⁴⁸ Although (Hoffer, 1975) includes a phase of turbulence before the maturity phase recent research shows there are turbulent phases before every phase (Bellone et al., 2008; Londregan, 1990).

⁴⁹ It still remains unclear if this change in *Resource Allocation* patterns is deliberate or is the result of a fundamental exogenous change in the industry that only a group of these, very early stage companies, perceive.

effects are still unclear (Campo-Rembado & Alva Taylor 2008; Agarwal et al. 2005; Jovanovic & Tse 2006; Agarwal & Bayus 2002). Hence, the *Shakeout* is the result of the appearance of a *Dominant Design* (Dosi, 1982) that not only determines the firm's main performance metric of both the technology and the revenue architecture but also – and most importantly for this thesis – the primary *Attributes* of performance early customers must expect from that particular product or service (Barnett 1990). One important event of this phase is the explosion of new firms entering the industry (Shane & Venkataraman 2000; Nerkar & Shane 2007) and the corresponding scholarly observation that these new entries become eventually successful and eliminate in most of the cases the early firms that created the industry in the first place (Markides & Geroski 2004). Table 2.1, from *Fast Second: How Smart Companies Bypass Radical Innovation to Enter and Dominate New Markets* (p.61) depicts a short list of companies that invented the product or service and the companies that entered around this stage and took over from them (usually with dismal consequences for the earlier firm)⁵⁰.

Figure 2.6: Industry Life Cycle Model



The third phase of industry evolution, named *Mature* is characterized by the difficulty of the remaining firms to improve the productivity of the *Dominant Design*. The more resources they allocate to this purpose the less returns they will obtain from them (Beinhocker, 2006). This diminishing returns observation is new to the firms in the industry and it's usually associated with cost reduction programs and with buying or merging firms. This drives the outsourcing policies (Khanna and Rivkin, 2001) of

⁵⁰ This phenomenon occurs at such an early stage in the industry *Life-Cycle* that these new firms tend to forget that they took over the industry. As a result it's not uncommon that when interviewing personnel from these firms they think it was that particular firm's founders the ones who actually created the invention. This methodological research problem is called *Self-Reporting Bias*.

several companies in a paradoxical stage where industry profitability is particularly high. Finally, the industry enters the *Decline* phase, characterized by the reduction in the aggregate volume of products sold. Sometimes in the last phase the remaining firms source their ideas from outside the industry and then subsequently introduce an innovation that revitalizes the technology for a while. This phenomenon has been labeled the *Last Gasp* (Snow 2008; Snow 2004a; Sull et al. 1997) and it usually describes the radical improvement of a technology over a physical barrier that was considered insurmountable before. Still, it has been observed this phenomenon ameliorates the decline rate of the industry but doesn't stop it. The reason why the industry is not revitalized at this point resides in the *Unit of Analysis*, firms are focused on improving their technological processes while the rate of the industry decline is mainly driven by the increasing gap of adaptation between the firm's *Business Models* and the fundamental reasons the market was interested in the industry in the first place (Olson & Van Bever 2008).

Table 2.1: Examples of Inventors Succumbing to Followers

| Two Types of Innovators: Idea Explorers and Market Creators | | |
|--|---|---|
| <i>Industry</i> | <i>Innovator That Came up with the Idea</i> | <i>Innovator That Created The Mass Market</i> |
| 35mm Cameras | Leica | Canon |
| ATMs | DeLaRue | IBM/NCR |
| Diapers | Chicopee Mills (J&J) | P&G |
| Personal Computers | Osborne/Apple | IBM |
| Online Bookselling | Charles Stack | Amazon |
| Online Brokerage | Net Investor | Schwab |
| VCRs | Ampex | JVC |
| Copiers | (Haloid) Xerox | Canon |
| CAT Scanners | EMI | GE |
| Videogames | Magnavox/Atari | Nintendo |
| Operating Systems | Digital Research | Microsoft |
| Pocket Calculators | Bowmar | TI |
| Mainframes | Atanasoff's ABC Computer | IBM |

SOURCE: Markides & Geroski 2004

The Industry *Life Cycle* is not only widely accepted but also widely used. Even though it's plagued with anomalies it can't account for. However, even before the anomalies, the reasoning that drives practitioners and scholars to choose this model for analyzing an industry is still unclear. They seem to believe that no matter the type of industry or the circumstances that surround it, this model will not only have *Explanatory* but also *Prescriptive* power. That is rarely the case because even the very definition of what an *Industry* is and how to clearly isolate it for analysis is still unclear, and this is one of

the fundamental assumptions of this model (Benner and Tripsas, 2012). There is even research that considers industries' characteristics as lagging variables or ex-post phenomena that appear just because of a leading variable effect (Anand and Singh, 1997). The reason is that, at their inception, industries are very difficult to identify and there are plenty of examples of industries that have gained prominence departing from niches nested at the interstices of other industries (Audretsch, 1995). And even if this phenomena of an industry gaining traction has been observed ex-post, the industrial innovation literature is plagued with examples documenting efforts to deliberately create industries that weren't successful (Aldrich and Fiol, 1994; Aldrich, 2000). On top of the problems described relating to industry identification there are the myriad anomalies of the four different phases outlined in the model. For instance, these phases not only assume the industry has been successfully isolated for analysis but also that each phase is clearly distinguishable from the rest so the selection of a phase is unequivocal (McGahan and Baum, 2003). Additionally this model also presents another challenge, which is how to endogeneize the number of exogenous variables that cause the industry to transition through the different phases, and especially how to introduce as endogenous variables discontinuous innovations that at the same time can potentially create a new industry (McGahan, 2004) or represent an inflection point that revitalizes the industry unexpectedly (Grove, 1996).

In general my belief is that theorists have focused on the wrong solution for the need that originated this *Model*. Their solution is oriented towards developing a *Prescriptive Model* that helps scholars and practitioners understand the different mechanisms that will cause a determined outcome to happen. However instead of developing a methodology that includes *Normative* data to make it prescriptive they used methodologies that are very effective for dealing with *Descriptive* data (number of firms, growth rate, etc.), as a result they obtained a solid descriptive model (Hoffer, 1975) that is capable of treating as endogenous variables any exogenous variable that is generated through a descriptive methodology. The most extreme example of this endogeneization process is the inclusion of the *Organizational Ecology Theory* (Hannan & Freeman 1989) inside the *Model* as an attempt to add prescriptive power. An effort that, although it's quite helpful for refining the industry phases, fails to accommodate for anomalies that still can't be explained ex-ante, for instance, what will happen (and why) in case of specific variations in

the model's variables (McGahan, 2004). Figure 2.7 describes the four industry archetypes based on a (descriptive) categorization scheme of Assets (*Foundational*) and Activities (*Architectural*).

Figure 2.7: The Four Types of Industry Archetypes

| | | Architectural | |
|--------------|-----|----------------|-------------|
| | | Yes | No |
| Foundational | Yes | Radical | Creative |
| | No | Intermediating | Progressive |

SOURCE: McGahan, 2004

McGahan states that about 43% of industries in North America follow a *Progressive trajectory*, where incremental innovation is the *Dominant Design* (Abernathy and Utterback, 1978; Abernathy, 1978; Utterback and Abernathy, 1975). *Creative industries* on the other hand (Caves, 2000) have the threat of owning assets that are subjected to obsolescence while their activities maintain their value over time. Around 6% of North American industries are *Creative*. About 32% of industries have an *Intermediating trajectory*, a situation where the activities of the industry are becoming obsolete while the assets maintain their value. This industry trajectory is usually associated with industries where an architectural change can cause them to transition to another trajectory (Henderson & Clark 1990). Finally 19% of industries in the US have a *Radical Trajectory*, a situation where both the assets and the activities of the industry are under threat and the industry itself needs to be heavily redefined. *How Industries Evolve* tries to build on *Organizational Ecology Theory* to add contingency to the *Industry Life Cycle Model* indicating that only *Progressive* and *Creative* Industries can be explained through the traditional *Industry Life Cycle Model*. There is another *Life Cycle Model* capable of accounting for *Intermediating* and *Radical* industries, and this variation is composed of different phases. These are *Emergence*, *Convergence*, *Coexistence* and *Dominance*. These phases explain the variation of an *Industry Life Cycle* that has no *Dominant Design* and that are usually characterized by strong positive externalities that lead to

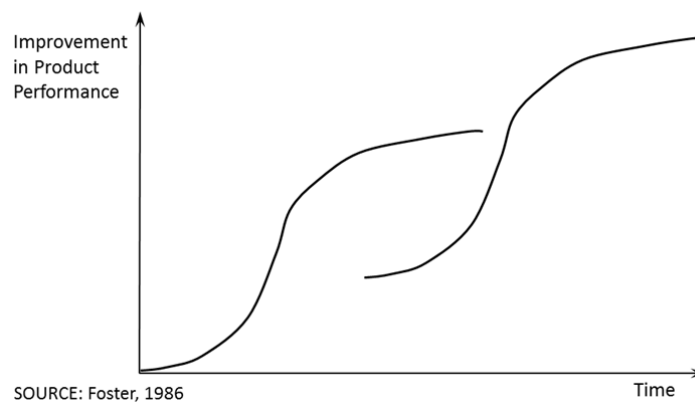
situations where the first two incumbents dominate the market. A situation usually labeled a *Winner Take-All* Market (Eisenmann 2006; Frank & Cook 1995).

Situations where industries need to be heavily redefined because the technology embedded in their dominant has reached a limit are also carefully considered in the literature of technology planning and in particular in one of its most popular models: the *S-Curve* (Foster & Kaplan 2001; Foster 1986; Cooper & Schendel 1976). The limits the *S-Curve* describes is the lagging variable of both product and process innovations through time (Abernathy and Utterback, 1978; Utterback and Abernathy, 1975). These efforts can be plotted using a continuous distribution that resembles the shape of a capital "S", as shown in Figure 2.8.

The *S-Curve* model was developed when researchers looked fundamentally at technology as the cause of failure of large established firms. The representation of how a particular technology improves over time changes its slope abruptly to describe how a technology has transitioned from its experimentation phase to its exploitation phase. Once this dominant design has been reached, improving the technology to maximize its potential becomes not only intuitive for managers but also very attractive in terms of return on investment (ROI). However it seems all technologies reach eventually a threshold when a physical or environmental limitation trumpets additional efforts to improve it. Foster indicates that when this physical limit has been reached a new technology is akin to take over from that upper portion of the diagram and continue its upmarket march through performance improvement. The *S-Curve* model tries to become prescriptive by adding a contingent situation. It prescribes that, when a superior technology tries to enter into the market at a time when the established technology hasn't reached its physical limit, that particular technology will not gain foothold. If on the other hand if the superior technology enters the market when the previous technology has reached maturity it is quite likely the new technology will take over that market (Alles, 2002). The reason, it posits, is to be found in that the companies that own the previous technology are not willing to lose the investments made in the established technology and therefore are reluctant to migrate to the new one and count these investments as losses. This situation is particularly acute in the case of companies that have fully depreciated assets, especially if they are *Complementary Assets* (Bower & Gilbert 2005).

At the descriptive level the *S-Curve* model has been extensively commented. The model has been dubbed as incomplete and inaccurate as different studies appeared showing over 40% of the technologies embedded in the dominant design of a number of industries didn't have the "S" shaped curve that the *Model* posits (Cooper & Schendel 1976; Londregan 1990; Klepper 1996). It seems there are alternative diffusion curves that are more accurate for describing (and basically explaining) the trajectory of performance of a given technology in an industry (Comin et al., 2008). Another grey area comes from the definition of the physical limit a technology can't surpass. It seems when organizations stop growing (Olson & Van Bever 2008) or when the appropriate incentives are in place (Sull et al., 1997) the firm makes the technology surpass this physical limit. It's a phenomenon labeled *Last Gasp* (Adner & Snow 2009; Snow 2008; Snow 2004b).

Figure 2.8. Classical Representation of a Technological S-Curve



At the prescriptive level the model is also challenged when it basically leaves aside the role of customers in deciding which technology should gain prominence. Specifically the role of customers is neglected up to such a point that it questions the validity of the statement that a technology that is improving exponentially can't be displaced. The reason is that if actually customers start adopting it they would be represented outside the diagram, a *Theoretical Replication* that the current *Model* hasn't been adapted to (Christensen 1992a). additionally the *Model* can't account for the anomaly of a different business model capitalizing the market with a superior technology, a phenomena quite recurrent in the innovation literature that was later addressed in the *Architectural Innovation* framework described previously (Christensen 1992b).

The prescriptive anomalies found in the *S-Curve* model have been used as the foundations of several forecasting techniques. Including the one introduced as the last *Model* of this section: The *Substitution Curve*⁵¹. Although a variety of models that are based on the “S” shaped penetration (Mansfield, 1968; Ofek, 2005) have been developed, the *Substitution Curve* is much more helpful in the sense that it tries to gather information about the early developments of a technology to predict when it will displace the established one. Hence, data from the early years of the substitution can be used to forecast the entire *Substitution Curve* based on a set of assumptions. The *Substitution Curve Model*⁵² is a form of exponential function where – if the logic of the *S-Curve* model is preserved – and the new technology is starting a displacement trajectory – the logistic function that can be used to forecast the path of substitution can be calculated.

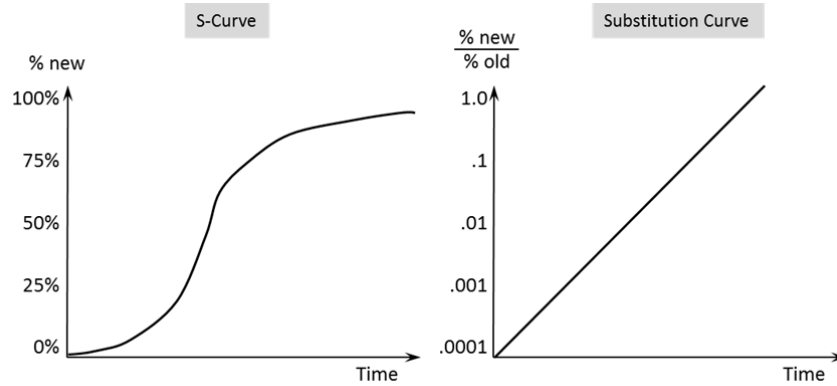
The logistic function makes two assumptions. The first is assuming that if the substitution has achieved a determined point it will continue all the way to completion. The substitution that has occurred is proportional to the remaining amount of the previous technology left to be substituted. This assumption is controversial in the sense that the literature has challenged it indicating there are plenty of external events that cause the rate of substitution to be altered noticeably (Prahalad & Hamel 1994; Porter 1985). The version of the *Substitution Curve* depicted in Figure 2.9 was developed to prevent practitioners from projecting linearly if a new technology was going to replace the one they are capitalizing on. The model was modified to accommodate in the vertical axis the ratio of market shares held by the new technology divided by the old while the vertical axis needs to be computed on a logarithmic scale. The prescriptive portion in this model indicates that, if plotted this way, if the first four or five points do not lie in a straight line there is no risk of being substituted. The reason is that for substitution to be present data must always fall on a straight line. The model indicates that, if substitution is present, the pattern of substitution almost always tends to be slow at the beginning, it then dramatically steepens upward (after the emergence of the new technology dominant design) and

⁵¹ The *Substitution Curve* presented in this section is a version similar to the one developed in Fisher & Pry (1971). Originally the *Substitution Curve* was developed to explain the law of diminishing returns and indicated the possible combinations of quantities of two goods which could be produced with given quantities of the factors of production (Haberler, 1936). This original curve was defined in such a way that its slope at any given point represented the ratio of the marginal costs of the two products. Harberler then demonstrated that the gains from an economy’s international trade could not only be indicated but measured by means of its production substitution curves. The substitution curve was later popularized by Leontief (1933) when it was combined with a system of indifference curves.

⁵² Also called the *Logistic Function Model*.

finally it asymptotically progresses substitution the remaining portions of the market where the previous technology is still present.

Figure 2.9: The Substitution Curve



SOURCE: p. 250-251. Christensen, 2008

Where the functional form of the relationship as applied to substitution as follows:

$$\frac{F}{1 - F} = \text{exponential } K (\text{time}) \quad (1)$$

Where:

F = fraction of the total potential market that has switched to a substitute

K = a constant set equal to the early growth rate of a substitute

At the prescriptive level the *Substitution Curve* is particularly sensible to both external changes that might modify or even alter it (both incrementally and discontinuously) (Prahalad and Hamel, 1994) and internal changes that can also cause substantial variations in the assumptions described (Porter 1985; Christensen, Anthony, et al. 2004). It is believed that the *Prescriptive* intent of this *Model* comes more from the need of both scholars and practitioners to find *Prescriptive Models* than from this particular model predictive power. In this sense the comment that should be mentioned goes even before the assumptions where the model is grounded and deals with the kind of data needed to feed the model. These data is most commonly market shares or any other sort of *Descriptive* fraction selected specifically to describe the market situation. *Descriptive* data like that tends to be at the same time the lagging variable of the phenomena that the model tries to unveil, which is the shape mechanism through which the causes that determine if the substitution is going to be produced and the rate

appear. Therefore these models, together with the previous ones explained, although quite powerful at the explanatory level have strong shortcomings at the prescriptive level. At the *Descriptive* level they can be modified to accommodate both *Theoretical Replications* and *Anomalies*, especially the ones that come from the leading variables that, using the lenses of these models, remain either unknown or partially discovered. As Kuhn (1962) predicted, when different ways to explain reality can survive during a long period of time two issues become clear. The first is the acknowledgment that no solution is satisfactory to researchers; the second is that, by increasing the research pressure on the models to get them to outgrow their limitations, there will be a point when one will leapfrog the stages of *Descriptive* theory building and become *Contingent*. That's the beginning of the *Normative* theory building process described in the next section.

Normative Models: The First Steps of Contingency

As Figure 2.3⁵³ describes that, there is a moment where a few researchers start using empirical field-based research combined with ethnographic studies (Edmondson & McManus 2004; 2007; Gibbert et al. 2008) to accommodate for variables that not only *Describe* the *Unit of Analysis* but also *Describe* a particular *Circumstance* that remains intriguingly constant over time. This usually happens while conducting case-based research (Yin 2002) or any specific interviewing technique based on qualitative methods (Miles & Huberman 1994). Once this *Circumstance* has been identified researchers usually look for the same *Circumstance* when they want to replicate the experiment. It turns out every time that particular *Circumstance* is present the *Descriptive* mechanism that was described in the *Descriptive* portion of the research⁵⁴ works as expected. If, on the other hand, the *Circumstance* is either not expressed as before or even absent, a different outcome – usually considered an *Anomaly* – will be observed at the *Descriptive* level. In this section we plan to introduce two models that are fundamentally *Normative*⁵⁵. They represent the very first efforts in the literature of *Technological Change* that try to isolate the *Circumstance* from the mechanism.

⁵³ And Appendix A explains how this process happens in detail.

⁵⁴ The *Descriptive* portion of the Theory in depicted in Appendix A.

⁵⁵ The *Normative* character of a model has to be researched starting from the way data is obtained. There are *Normative* and *Descriptive* ways to obtain data. A common misconception of this terminology is present in published papers where the authors *control* for the different outcomes of the mechanism. This misunderstanding of controlling variables in a model and *Contingency* is not uncommon in the recent literature (Kim & Atuahene-Gima 2010).

The case of incumbents stumbling in front of new entrants while they still have the best product in the market is still intriguing. There are many cases identifying the opposite, where new entrants fail if their entry strategy consists on trying to capture the incumbents' most valued customers (Dowell, 2006; Sood and Tellis, 2010a). However, there is an assumption that has been largely overlooked in the previous innovation literature, which is when in the new entrant's life it starts targeting the incumbent's preferred customers. In other words, are the incumbent's preferred customers the first customer target of a given start-up? Controlling for this *Circumstance* we can differentiate between who are the incumbent's preferred customers vs. how important are them for the start-up⁵⁶. And if there are external mechanisms that help the incumbent to protect its most valued customers⁵⁷. Since there are plenty of cases that describe how variations of this situation are continuously happening in today's economies (Christensen 1997c) there must be another contingent mechanism that describes the incumbent's challenges in front of this situation. This mechanism is unequivocally described in the *Disruptive Innovation Model*.

Disruptive Innovation is a contingent model that links the theories of *Resource Dependence* (Pfeffer and Salancik, 1978) and *Resource Allocation* (Bower & Gilbert 2005; Bower 1986). This model tries to describe the incumbents' maladaptive response to new entrants that, instead of trying to compete head-to-head with a superior product, they capture other areas of the market that incumbents have either largely dominated or largely overlooked. This model is built throughout a longitudinal analysis of a comprehensive dataset of the entire US disk drive industry (Christensen 1992c). The main findings suggest *Resource Dependence* acts in such powerful ways that management can't actually dedicate resources to eliminate the new entrant when that option is still possible. Additionally, in the few cases when managers are actually capable of diverting resources they find their organizations unable to implement the initiatives that they had previously planned; this is the reason both alternatives lead to the same outcome: which is the incumbent's ultimate demise or a severe *Stagnation*.

⁵⁶ We will refer back to this separation of consumers in the *Marketing* literature review, specifically in the *Descriptive Framework* named *Segmentation* and in the *Normative Frameworks* that determine consumer behavior.

⁵⁷ In the forthcoming section (*Circumstance* Based Categorization Schemes) we will introduce the somewhat elusive mechanism of the *Buffer Effect*. To my knowledge, there are almost no research articles that explore the role of this categorization when the new entrant doesn't try to capture the incumbent's best consumers. The only piece that was found and that approaches this phenomenon indirectly is the research on consumer discontinuities associated to market turbulences (Tripsas, 2008).

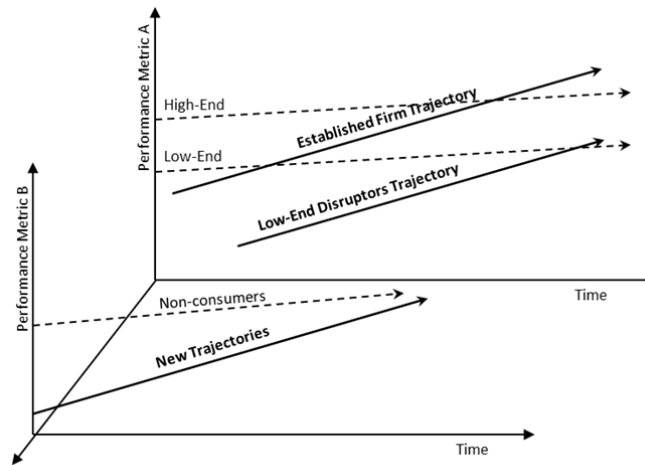
Although the possibility of having inferior technologies taking over the market had been previously described (Clark 1989) together with the dynamics that describe how firms improve through time (Abernathy & Clark 1985), this *Model* is unique in the sense that contains not only how the firms are performing but also how consumers will react in front of that performance and what does that imply for the economics of the industry. As depicted in Figure 2.10 the *Disruptive Innovation Model* has three components.

Firm's Trajectory of Performance: Usually this trajectory is grouped into three categories of nested architectures. The first category is the established firm's trajectory of improvement. It usually describes the path-dependent improvement of the main dimensions of the product that shaped the industry right after the *Dominant Design* was established. The second category of trajectory of improvement is that of the *Low-End Disruptors*. These are firms who have deliberately lowered the main dimensions of performance in favor of adding product improvements in the ancillary dimensions of performance (Christensen 1997c). The third category describes the *New-Market Disruptors*, these are firms that have engineered a new organizational architecture, which still hasn't reached its *Dominant Design* but that was particularly successful at helping people who couldn't consume in this industry previously become part of it (Christensen & Raynor 2003a).

Market: The dotted lines of the model represent the customers in that particular industry. These lines don't really represent the customers but their consumption patterns (Baudisch, 2006). Customers in this model are sorted in a very specific way. The customers who have a low *Willingness-to-Pay* (Eisenmann, 2006b) and therefore provide narrow margins to firms are denominated the least-demanding or *Low-End* type of customers and are located at the lower portion of the model. Moving upwards, the dotted lines at the top indicate the most profitable customers of the industry. As the model indicates there is a tendency of firms to try to capture the next highest margin consumer so the trajectory of improvement of firms is always going upwards (although at different slopes). The established firms, since they have been in the market the longest, are usually capturing revenues from these *High-End* customers. This income is causing a huge impact in their financial statements that cause most of the other customers to look not nearly as profitable as they should be. The dotted lines at the bottom of the diagram, where the non-consumers are located, represent groups of consumers that haven't had the opportunity to

consume in this market. They are waiting for the right *Business Model* to appeal to them (Faulkner and Runde, 2009; Henderson and Anna, 2004).

Figure 2.10: The Disruptive Innovation Model



SOURCE: Christensen, 2003

Performance Metric: The third element of the *Model* is the metric that expresses the “way you make money” (Christensen 1997c) in an industry. There are usually two performance metrics (Van Oorschot et al. 2011). The first is the traditional one. It was established with the emergence of the *Dominant Design* (Simon 2005), the second one is located in the *Non-Consumers* market and describes a completely different way to monetize the customer. A complete departure from the established one (Markides & Oyon 2010; Durmuşoğlu et al. 2008).

The *Disruptive Innovation Model* leaves three contingent scenarios that predict when and why a new firm will be successful when challenging the incumbents. When it was previously explained that incumbents had difficulty adapting to new *Business Models* targeted to customers they usually control, this type of *Disruptive Innovation* is called *Low-End Disruption* (Amaldoss & Shin 2011; Droege & Johnson 2010; Thomond et al. 2004). This new *Business Model* is inferior in the main performance characteristics than the incumbents but its ancillary characteristics overcompensate for this inconvenience. One of the most widespread examples of this model are the online travel agencies or the online apparel stores (Christensen 1997c). The second scenario is represented by new entrants that incorporate *Business Models* into the market that allow customers who couldn't participate in the market to do so more extensively. These are the customers that were mentioned before who are largely

overlooked. The name of this innovation is *New Market Disruption* (Gilbert 2003) and describes a mechanism through which a new business model is encroached into a more up-to-date technology revolutionizing the market in the long-term. Examples of *New Market Disruptions* are Ebay or Cisco (Christensen & Raynor 2003a). The third element of the model is an anomaly to most of the previous descriptive research, it's named *High-End Disruption* and describes the mechanism through which a new entrant with a superior product displaces the incumbents. This type of innovation describes the type of *Business Model* and the type of market conditions required for the start-up to thrive (Anthony, 2006; Vazquez Sampere, 2012). Although Christensen had acknowledged a *High-End Disruption* anomaly in the *Disruptive Innovation Model* (George et al. 2005) he has usually suggested that a superior product would nearly always fail in front of an established firm, a phenomenon empirically verified before in a variety of industries such as compact-discs, injectors, Skype (Rao et al. 2006) and many others. This observation coupled with the inherent difficulty in understanding and conducting contingent research has caused a remarkable confusion among researchers that, as is usually happens historically, tried to cram this model into what was previously known, in other words, they tried to make it compete against the other *Descriptive Models* instead of comparing it with other *Normative*-based models. Contributions in this sense abound, the most noticeable are for example Danneels (2004) when he explains the *Disruptive Innovation Model* is not contingent at all, and that what Christensen does is naming *Disruptive* any case where the new entrant caused the incumbents to fail. Di Benedetto (2006) indicates no company can launch a *Disruptive* new business without unlearning about their current *Business Model*, and that that is nearly impossible to do while exploiting it. Danneels (2006) also provides examples of situations where not listening to the preferred customers as Christensen recommends has damaged the established firm's position in the market. Henderson (2006) indicates *Neoclassical Theory* had studied this kind of problem before and that the research results show that, in the absence of *Cannibalization*, the incumbent always responds to any threat. She indicates in case the incumbents don't respond is because some kind of *Organizational Rigidity*. Govindarajan & Kopalle (2006) indicate that a *Disruptive Innovation* can only be identified ex-post and that in any case this type of innovation what it does is reduce the technological costs for all firms. Utterback & Acee (2005) indicate this *Model's* categorization scheme is not correct, that *Business Models* should have been considered in more depth. Additionally Markides (2006) also describes how inferior technologies don't really displace established firms. Slater &

Mohr (2006) indicate the consumer's categorization is more heterogeneous (Adner and Zemsky, 2006; Adner, 1998, 2002) and that new technologies are successful if the initial customer is selected correctly. McKelvey (2004) indicates this model lacks *External Validity* because it was developed solely for industries where the use of technology is very intense. Tellis (2006) explains all technologies, no matter who brings them to the market, are inferior when they are initially developed and that in the research he undertook in the disk drives industry he couldn't replicate Christensen findings⁵⁸.

We believe that the case of the diffusion of the *Disruptive Innovation Model* and subsequent research has been unfortunate. Christensen (2006) acknowledges he would have changed the term "Technologies" for "Business Model" if the first book wouldn't have been already in the printing press but we believe the biggest misunderstanding is not this one. We think *Disruptive Innovation* was introduced to the world as a way to explain when a superior product can displace the incumbents. An ancient and legitimate question whose answer we have been searching for – at least – since the times of Schumpeter. The truth is that *Disruptive Innovation* answers the opposite question: when an inferior technology causes an incumbent to fail. This difference is abysmal. Although in both cases the incumbents perish or are tremendously compromised, in the first case it's a *High-End* anomaly, which occurs in a market zone that despite that the incumbent knows very well still causes its ultimate demise. In the second case it's a *Low-End*, which at a deeper level can be described as a consequence of having *Overserved* that market, what causes its ultimate demise. The difficulty of undertaking contingent work coupled with this misunderstanding has caused confusion and in many cases denial from prominent scholars who otherwise would have been instrumental for advancing in this comprehensive contingent model.

The other contingent model that tries to explain when and why an incumbent will resist the new entrant's challenge comes from the observation that firms that are vertically integrated (Argyres and Bigelow, 2009; Harrigan, 1983) have a higher success rate than the ones that aren't when facing a radical technological change (Afuah, 2001). Additionally it seems resistance is not the only advantage to integration because incumbents that are fully integrated tend to appropriate the economic returns of the innovations they launch (Teece, 1986, 2006). These patterns of integration are both internal and

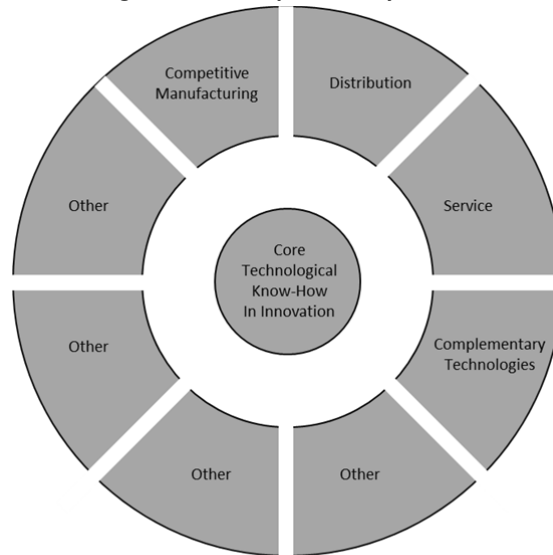
⁵⁸ Actually, when reviewing Tellis work, one could observe the data from Tellis is different from the data Christensen employed. Christensen's data is only from the US, while Tellis's data is from the US and Japan combined. Also, Tellis work doesn't control for the creation of an independent business unit in those cases where incumbents responded (Christensen 2006).

external to the firm (Teece, 1987, 2010) and in many cases contribute to create capabilities that provide a sustainable competitive advantage (Teece and Pisano, 1994).

Teece's contingent model of incumbent's sustainability is grounded in the empirical observation that describes how firms tend to become fully integrated throughout time (Sørensen & Stuart 2000; Porter 1985; Porter 1980; Porter & Siggelkow 2008). As described in Figure 2.11 this model describes an ecosystem of *Complementary Assets* that surrounds the technological innovation, without considering if that particular innovation is superior or inferior compared to the one that incumbents are currently commercializing. Teece's model indicates that, since no technology or product comes single handedly to a market but it usually comes embedded either loosely or tightly coupled with other capabilities or assets (Aggarwal et al., 2011), that in most cases the availability of those assets comes from being either proprietary or licensed (e.g. outsourced), being the latter the most frequent case if the new product is being introduced by a new entrant. Therefore the *Appropriability* of that particular innovation will come from two factors: First, if the firm owns that particular asset and; Second the *Degree of Specialization* that this particular asset might require. An adaptation the firm will have to combine with the requirements of the product (or technological innovation) that is planning to introduce.

This model is very helpful for understanding the mechanism that might be engaged if a new entrant tries to gain foothold in a market in a determined way. It's also very useful for realizing who will benefit from an innovation when it's launched, since it controls for both the incumbent and the new entrant. However, from the stand point of other industry participants, it's rather unclear who will mostly benefit from it. For example, if customers or imitators will benefit from it too. Teece's model is contingent in the sense that describes who will appropriate the value of an innovation when this innovation is treated as a lagging variable of who is the owner of the group of *Complementary Assets*. Which are what at the end will determine the *Appropriability Regime*. For example, in the case of nascent industries that have just reached their *Dominant Design* stage, the firm that develops the capability to manufacture large quantities of the product while appropriating the largest share of the economies of scale (Makadok, 1999) will eventually become an incumbent in the industry. Once this capability is largely developed, the firm will continue its integration march by installing inside their *Business Model* most of the capabilities that management considers key to continue *appropriating* returns from R&D.

Figure 2.11: Complementary Assets



SOURCE: Teece, 1986

In the case of new entrants Teece's contingent model describes how, if the incumbent doesn't control the *Complementary Asset* the new entrant might be able to appropriate the returns of their investment gaining foothold. This is the case for example of RC Cola in South America with its direct selling mechanism, an alternative channel they were able to fully exploit mostly because that distribution channel is a *Complementary Asset* that is not owned by Coca Cola or Pepsi in that particular zone. This anomaly, key to the introduction of a product or service irrespective of the technical superiority or inferiority of the incumbent's, is present in most of the innovation literature. It seems if the incumbents that don't sell through a particular commercialization channel or in cases where their presence is minimal the likelihood of success of new ventures is much higher (Vazquez Sampere, 2012).

Unfortunately managers understood Teece's *Contingent* model as an excuse to integrate as quickly and as much as possible. This caused a massive wave of mergers and acquisitions during the nineties. Where managers believed the best way to secure the firm from external impacts was to become as much integrated as possible (McKendrick and Wade, 2009). Scholars on the other hand considered this model quite useful for understanding the critical role that *Complementary Assets* play when it comes to the challenges related to the established firm's sustainability. However owning that many assets also uncovered new challenges, such as the *Commitments* firms internalize together with the assets themselves (Sull, 2005; Sull et al., 1997). These *Commitments*, although marginally beneficial at the

competitive level turned out to be quite difficult to modify or adapt when there is a shift in the competitive environment, endangering greatly the established firm survival rate (Taylor & Helfat 2009).

We believe Teece *Complementary Assets* framework is very helpful for understanding the different roles and the interactions among the incumbent, the new entrant and the rest of the agents of the industry when in front of a technological innovation. However we find a major drawback in Teece's underlying assumption that considers all assets of this model to be of equal importance. If this model would have controlled for a *Circumstance* based categorization scheme that introduces the criticalness of the assets (in addition to the one described in the next section) we believe it's impact for both theory and practice would have been even greater (Hess & Rothaermel 2011; Rothaermel 2001b; Itami & Roehl 1991; Black & Boal 1994).

Circumstance-Based Categorization Schemes (Frameworks)

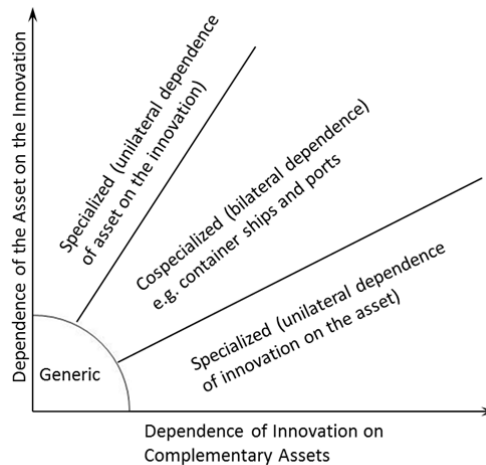
The *Degree of Specialization of Complementary Assets* is Teece's response to categorizing assets in a *Contingent* way. Specifically Teece calibrates the degree of interdependency between the assets and the firm to determine how the asset will react in front of a technological innovation and which firm is more likely to reap the rewards of that particular innovation. In order to meet this objective Teece introduces three types of firms from his research (*Innovator, Imitator* and *Follower*) and inductively assigns a score that measures the *Interdependence* of each one of the assets per type of firm. The result is depicted in Figure 2.12 and describes three types of *Contingent Assets*. This distinction is made according to their *Interdependence* and how critical they are for the innovation to ultimately gain traction in the market.

Generic Complementary Assets: These are in essence *Descriptive* assets. They don't need to be adapted anyhow to the innovation in question. They act as general purpose assets and are completely *Modular* in nature. Which means both the incumbents and the new firms can adopt them if they have the resources to put them to use. Examples of this type of asset are any industry where production is fully modularized, for example, manufacturing running shoes.

Specialized Complementary Assets: In this case these assets are defined by a unilateral dependence between the innovation and the *Complementary Asset*. This dependence, although always unilateral might go in two different directions. As Figure 2.12 depicts, it might go from the asset to the innovation

or viceversa. Teece mentions as an example the dependence of trucking on containerized shipping, which is less than that of containerized shipping on trucking.

Figure 2.12: Degree of Specialization of Complementary Assets



SOURCE: Teece, 1986

Co-specialized Complementary Assets: Those are the assets where the relationship of dependence between the innovation and the *Complementary Asset* is bilateral. The most common example is the technical service of the electronics market, or, as Teece mentions the introduction of the rotary engine by Mazda. The co-specialization is defined in this case by the mutual dependence of the innovation with the repair facility.

The reason this categorization scheme emerged was observed in a different circumstance Teece controls for the *Degree of Imitation*. Teece describes how, when *Imitation* is easy, profiting from an innovation tends to fly away from the innovator to the owner of the *Complementary Asset*. This process, although critical for the sustainability of the established firm doesn't control for the kind of innovation introduced into the market, in particular if the product is superior or inferior to the one the incumbents are selling. A subsequent study on the typesetter industry revealed how some *Complementary Assets* can have a beneficial effect to the established firm in case the new entrant is gaining traction in a market with both low and high imitation regimes. This is the second *Contingent Framework* named the *Buffer Effect*.

While unraveling the process of *Creative Destruction* Tripsas (1997; 1996) found that the balance between the three factors; *Investment*, *Technical Capabilities* and particularly *Appropriability* that are

characteristics which are some of them obtained from a cadre of *Specialized Complementary Assets* are instrumental for determining the commercial performance of incumbents in front of new entrants. Specifically Tripsas found specialized *Complementary Assets* provided a *Buffer Effect*, in other words, a shelter from which incumbents could reorganize and develop a more effective counter-attack. In the absence of this *Buffer Effect* incumbents tend to provide a maladaptive response in front of a threat that ultimately drives them to their ultimate demise (Gilbert 2001; Kaplan & Tripsas 2008). Consistent with the way to conduct *Circumstance* based categorization research Tripsas explains (p.119) "Drawing upon an unusually rich data set that covers the technological and competitive history of the typesetter industry from 1886 to 1990, this paper uses a combination of quantitative and qualitative analysis to unravel this process of creative destruction". Tripsas model is intriguing in the sense that it provides an additional piece of information to the puzzle of when new and better technologies can displace the incumbent. It turns out that "if" the incumbents own a *Specialized Complementary Asset* then the superiority of the technology is not a leading variable that predicts the commercial success of the start-up. Figure 2.13 depicts this *Contingent* model.

As Tripsas indicates, this *Normative* framework is not purely *Descriptive*. When she writes (p. 119): "In this industry, specialized complementary assets played a crucial role in buffering incumbents from the effects of competence destruction, and an analysis that examined investment or technical capabilities in isolation would have led to misleading results". She is implying that adding complexity to previous research highlighted new relationship effects that previously remained undetected. These relationship effects, inherently exogenous, are tightly-coupled with the industry and *Circumstances* of the situation and the author correspondingly claims the *Buffer Effect* is observed under these *Circumstances* but that we will need further research to prove its generalizability.

Using a database that captures the performance metrics of the main firms in the typesetter industry for over the last 100 years, Tripsas describes how, over the years, this industry has endured three waves of *Radical Innovations* but, contrary to what would have been expected, only in one occasion incumbents were effectively displaced by a new entrant that was using a superior technology. When the research controlled for the incumbent's efforts in launching new products or in adapting to the new technological requirements it found no significant difference, as it's consistently described in the previous innovation

literature (Arrow 1962; Gilbert & Newbery 1982; Gilbert & Newbery 1984a; Reinganum 1983) and in the *Resource Allocation Theory* (Christensen & Bower 1996; Pfeffer & Salancik 1978). The result is that, although in the three occasions described, incumbents reacted by launching new products that were technically inferior to the ones offered by the new entrants (Henderson, 1993), there was only one occasion when new entrants were successful. Figure 2.13 describes the model that prescribes that, if the *technological superiority* doesn't overrule the role of *Complementary Assets* incumbents will always win. So it's not only about bringing a superior technology into the market but also doing so in a way that is outside of the area of influence of the incumbent's current *Complementary Assets*. When the *Complementary Assets* are still valuable they provide a temporary *Buffer Effect* that prevents the new entrant from gaining foothold in the market.

Figure 2.13. Unraveling the Process of Creative Destruction – A Contingent Normative Framework

| | | Incumbent's Product Technical Capability Compared to That of the New Entrant | |
|----------------------|--------------------|--|----------------|
| | | Inferior | Superior |
| Complementary Assets | Still Relevant | Incumbent Wins | Incumbent Wins |
| | No Longer Relevant | New Entrant Wins | Incumbent Wins |

NOTE: This model has been built from Tripsas (1997). It is not present in the article.

Tripsas's *Model* depicts four scenarios, classified according to two different dimensions. The first dimension represents the role of the *Complementary Assets* while the second one the *Technological Superiority* of the incumbent's product.

Scenario 1. Incumbent's product is *Technically Inferior* but *Complementary Assets* are still relevant: In this scenario the incumbent wins through acting as a fast follower to the new entrant's product. An example of this case is RC Cola. The latter company was the first to introduce cans to sell cola drinks and it was also the first to introduce the diet product *Derivative*. Both innovations were subsequently

adopted by the established firms preventing RC Cola from gaining foothold in the market⁵⁹. This scenario prescribes investment in *Complementary Assets* always pays, because they increase the firm's capabilities while sheltering it from new entrants. This is one of the reasons that companies invest so strongly on *Complementary Assets*, without considering when these investments might turn back at them in case these newly acquired assets are no longer relevant. Additionally it's in this case, and specifically in those moments where the new entrant's product is superior and the incumbent's product inferior, when the *Buffer Effect* is key. This effect increases temporarily the life cycle of the industry providing to incumbents the much needed time to invest their vast resources in adapting their lagging products to what the market expects. Meanwhile the new entrant remains frustrated seeing how their superior product is not gaining the desired traction in the marketplace.

Scenario 2. Incumbent's product is *Technically Superior* and its *Complementary Assets* are still relevant: In this scenario, where the incumbent reacts with a superior product (usually capturing the information to improve the products through its *Complementary Assets*), the incumbent always wins. This scenario is nonetheless quite rare because extensive research done in the pharmaceutical industry indicates incumbent's reactions tend to be *Maladaptive* (Gilbert 2005) in front of a new entrant's *Radical Innovation* (Henderson, 1993).

Scenario 3. Incumbent's product is *Technically Superior* but *Complementary Assets* are no longer relevant: This is the classical scenario that describes *Incremental* or *Radical* improvements developed by the incumbents. Depending on the type of improvement the incumbent sometimes finds it will need to develop the corresponding *Complementary Asset* needed to help the new innovation thrive. In either situation new entrants face a difficult situation if they try to capture the incumbent's most profitable customers. If they don't they might enter the market using a *Business Model* that is disruptive compared to the one of the incumbents.

Scenario 4. Incumbent's product is *Technically Inferior* and *Complementary Assets* are no longer relevant: This is the canonical scenario described by Schumpeter (1942) when a *Radical Innovation* enters into a market with a new set of *Complementary Assets* or causing the current ones to become

⁵⁹ There are several countries in South America where RC Cola is the leading brand. This is not because of their product superiority but because they used an independent selling mechanism incumbents and a different reward program for their products that incumbents were unable to adopt.

irrelevant for the market and thus serious rigidities for the incumbents (Leonard-Barton, 1995). This case is usually devastating for the incumbents that have to powerlessly observe how their preferred customers abandon them for the new entrant despite the massive turnaround and investment in *Complementary Assets* and product innovations undertaken. Usually this process is quite dramatic and can be observed in a short period of time. The end result tends to be a market where previous customers who couldn't afford the product have now gained access to it. Historically this is the type of innovation associated with the *Creative Destruction* concept, probably because of the drama involved, the associated job losses and the empirical observation of how what was regarded as a large powerful firm stumbles. In the XIX century and in a large portion of the XX century this process was the most commonly observed (Beinhocker, 2006), and the debate as to whether this is the right process to make an industry evolve and make sure wealth and access to products is distributed evenly ensured still goes on (Nelson & Winter 1977; McCraw 2007; Wiggins & Ruefli 2005; Malerba & Orsenigo 1995; Schumpeter 1939; Schumpeter 1954; Schumpeter 1942; Marx 1867).

In general we believe Tripsas' effort is remarkable and the building of this *Contingent Framework* is useful for scholars and practitioners alike. However the implications of this framework are intriguing from the point of view of the industry. According to this *Model*, the more interdependent the firm becomes the more protected it will be against new entrants and the more sheltered it will be because of the *Buffer Effect*. The problem is that *Interdependence* has a huge cost for the firm in terms of profitability (Lenox et al., 2009), which means the more *Interdependent* the less profitable so the less attractive the industry becomes to potential new entrants (Hodgetts 1999; Porter 1985; McGahan & Porter 1997) this might explain why in over 100 years only four *Radical Innovations* were introduced in the typesetter industry but might also fail to explain if the one *Radical Innovation* that was successful was it so just because the *Buffer Effect* didn't work or because the incumbent's were at that particular time under the effect of some other *Perturbation* (Brunner et al., 2008, 2009). Additionally, from the methodological point of view, Tripsas research design is purely *Descriptive*, and surprisingly enough, it comes up at the end with a *Contingent* model. Although using a *Descriptive* research design together with *Descriptive* data might eventually render a *Normative* design this might only be valid in the specific *Circumstances* of the industry that, due to the nature of the study, were not looked for ex-ante.

Although subsequent work on this industry has tried to capture and redo part of it to accommodate for this caveat (Adner, 2004; Tripsas, 2008), if these variables would have been captured initially the end result would have been much more robust and a more easily generalizable framework.

Regardless of that, scenario number three left us with some intriguing results. Even if the *Buffer Effect* is not at work, there are cases when the new entrant gains foothold in a market where the incumbent is commercializing an *Inferior* product. There must be another mechanism that is at work and that might be able to explain this phenomenon. Scenario three indicates the new entrant sells an *Inferior* product to non-preferred incumbent's customers. Incumbents in this scenario choose not to react, as it is measured through their *Resource Allocation* (Bower 1986; Bower & Christensen 1995) and the type of initiatives that gain *Impetus* on that particular *Strategic Context* (Bower, 1986; Burgelman, 2002, 2003). The cause of this *Resource Allocation* lagging effect is to be found in the *Resource Dependence Theory* (Pfeffer and Salancik, 1978). In other words, managers don't let the new entrant gain foothold in the market because of malpractice, but because a deliberate decision that drives them to do so. When Pfeffer & Salancik write (p. 11): "Organizations are quasi-markets in which influence and control are negotiated according to which organizational participants are most critical to the organization's continued survival and success". They are basically acknowledging that firms react to the external environment they can cognitively see (Kaplan & Henderson 2005; Kaplan & Tripsas 2008; Smith & Tushman 2005) and improve from there responding to the nested architecture described in the contingent *Disruptive Innovation Model* introduced previously. With time this behavior generates a strong culture (Schein, 1985, 1990) which focuses their attention on a particular type of consumers. A relationship of mutual dependence that ends up capturing the resources of the firm and preventing it from both investing and reacting to any other customer external influence. In other words, the firm becomes "prisoner" of this group of demanding customers (Bikhchandani et al., 1998). Since they usually are the *High-End* customers the firm becomes unprotected to the appearance of new entrants that try to capture the *Low-End* of the industry. This *Normative* based categorization scheme of *Resource Dependence* is what Christensen (1992c) observed in the disk drive industry and what originated the *Disruptive Innovation Model*.

Normative Constructs: The Observation That Only Appears Ex-post

Although Christensen & Carlile (2009) don't really distinguish between *Descriptive* from *Normative Constructs*, this distinction was found to be critical for understanding how the methodology of building theory works in practice. The best way to separate them is using time. Therefore we consider *Descriptive Constructs* those abstractions that describe how to situation was ex-ante while *Normative Constructs* how it was ex-post. For example, most scholars will mostly agree in assigning a particular technology (Clark 1989; Abernathy & Clark 1985) the construct *Incremental* or *Radical* (Abernathy and Utterback, 1978). The disagreements arise when it comes to arguing about how that technology has been introduced into the market – for example it could come in the form of a *Process* or *Product Innovation* (Utterback and Abernathy, 1975) a difference that would affect substantially the impact of this new technology in the market. Therefore attributing to a technology the ability to eliminate the incumbents or the ability to have a new company gain foothold in the market is a *Normative Construct*. An ex-ante characteristic that can be only observed ex-post even though it can be verified as precisely as the previous *Descriptive Construct* (Langlois and Steinmueller, 2000). Some examples of the measurements of these *Normative Constructs* can be the incumbent's sales percentage of reduction, number of new firms using this new technology that have reach one million in sales, number of incumbents and of new entrants that are still working independently after ten years, etc. Same as a digital signal is technologically inferior to a digital one (in the case of the telephone industry), and same as we can measure how this superiority is expressed in technological terms ex-ante we can henceforth observe what would happen ex-post (Sandström, 2010a). That would help choosing the appropriate *Constructs* and understanding how they express themselves after some time (Godfrey and Hill, 1995). The separation between *Descriptive* and *Normative Constructs* is critical for that matter.

There are three useful ways to separate this *Constructs*. We have found particularly useful for conducting research to control for the behavior of the previously identified constructs as well as for the unidentified ones that appear ex-ante (Gatignon et al., 2002).

Unaltered Constructs: These constructs do not vary throughout the whole experiment⁶⁰. They have been observed ex-ante and they are still present – with the same anatomy – ex-post. In the literature of *Technological Change* it's quite common to find research articles that describe how new entrants that had no sales when they entered the market have some sales ex-post. This *Construct* observation has been labeled occasionally *New Entrant Wins* (Blank, 2006; Burgelman et al., 2003). Note however this *Construct* is different from *Incumbent Fails* (Govindarajan and Kopalle, 2006b) which is another *Construct* that describes a group of metrics that have serious implications for incumbents and that might have also reached several pre-defined numbers.

Altered Constructs: This group of *Constructs* does vary during the experiment, often causing researchers to modify the design of the study to account for this *Theoretical Replication*. A quite heated discussion on altered *Constructs* is the different perspectives on how incumbents survive to new entrants. Specifically there are groups of scholars that portray incumbent's constructs remain unaltered (as in the previous case) and still can eliminate the new entrants, for instance, in the *Corporate Venturing* literature there are cases described where the incumbents reacted to the new entrant by launching a business unit inside the firm and still were successful (Burgelman and Välikangas, 2005; Burgelman, 1983b, 1988; Gunther McGrath et al., 2006). In this thesis this case is labeled as *Incumbent Wins Without Creating a Separate Business Unit*. Other scholars disagree, they describe situations where the incumbent's *Constructs* were essentially altered and survived the new entrant's attack creating an independent business unit, a process usually labeled *Corporate Entrepreneurship* (Burgelman 1983c; Wolcott & Lippitz 2007; Chakravorti 2010; Dunlap-Hinkler et al. 2010; Ireland & Webb 2007), in this thesis we have called this research stream *Incumbent Wins Creating Separate Business Unit*.

Newly Appeared Constructs: The third group of *Constructs* is intriguing but extremely useful for conducting research. These are *Constructs* that are only observable ex-post of either the experiment or the research (Kerlinger & Lee 2000). Among them there is a sub-group that is completely new and, since they were absolutely unexpected, they don't even have useful measurements to be accounted for⁶¹. The

⁶⁰ “Do not change” means they stay the same and are identified with the same measurements. It doesn't mean they don't change in, for example, their measures. For example, if a company launches a new product into a particular channel the “sales measured in euros from this product” is the same before and after the product launch. This doesn't interfere with the fact that this number was zero ex-ante and can be either zero or any other positive number ex-post.

⁶¹ When in front of one of these it is recommended to treat them as dummy variables. Therefore if they are present a “1” is assigned and if they are absent a “0” is assigned.

mere fact of isolating them and having other researchers drive their attention towards them will give opportunities in the future to uncover the mechanism that causes them to appear, together with their anatomy and its implications⁶². Examples of newly appeared *Constructs* that can be measured is the semi-modular architecture of firms (Henkel & Baldwin 2010; Lau et al. 2011), where it is recommended established firms neither use *Corporate Entrepreneurship* nor *Corporate Venturing* for reacting to a new entrant but instead develop a “partial” spin-off where the new initiative still capitalizes on the established firm’s assets while not inhering any of the *Rigidities* (Markides & Charitou 2004). An example of the other case, where newly appeared *Constructs* (that we can expect will appear) finally do is notated in this thesis under the label *New Entrant Fails*.

When the Consumer Can No Longer Help You: A Review of the Marketing Literature

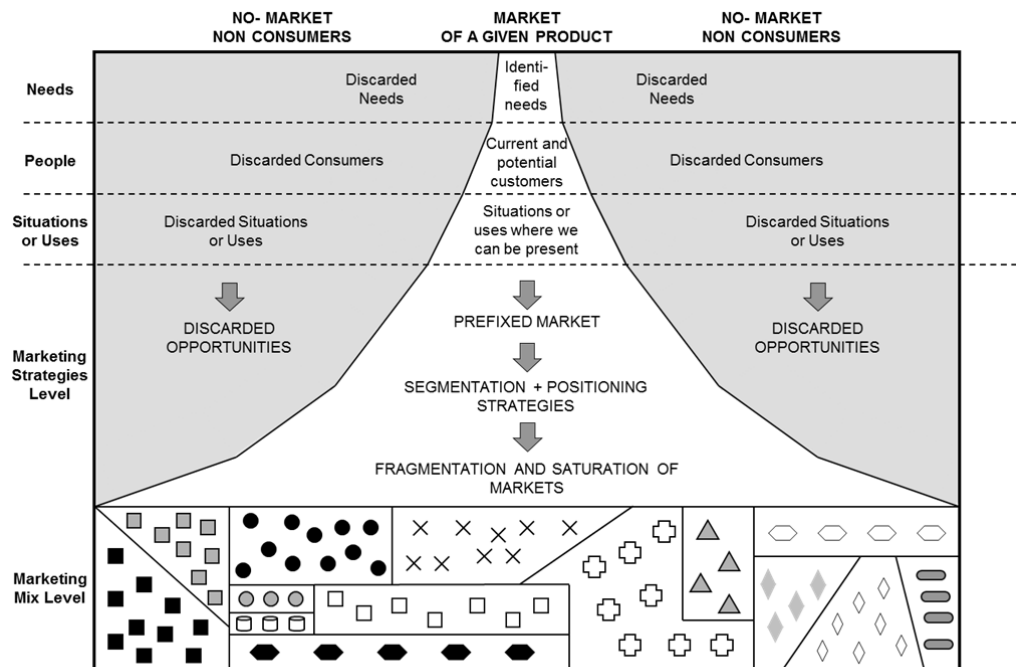
When it comes to understanding the influence of the *Consumer* on corporate growth the *Marketing literature* is very extensive and considers a variety of points of view⁶³ (Baumol, 1957). The customer’s *Emotions, Fundamental Needs, Behavior, Consuming Occasions, Attitudes, Beliefs*, etc. have been extensively researched with the objective of understanding when and why a customer will make a purchase (Edelman and Salsberg, 2010; Edelman, 2010). The number of studies has become so large that paradoxically over 72% of marketing practitioners are satisfied with the amount of information they have gathered from *Consumers* (Ulwick, 2003a). Paradoxically, despite this agreement, there is still a lot of disagreement on what does the *Needs Construct* stands for (Ulwick and Bettencourt, 2008). The results are staggering, every year about 30,000 new consumer products are launched in developed countries and over 95% of them fail and are eventually retired. This result comes after the extensive involvement of very smart people that use their best resources while capitalizing on their companies’ well-honed capabilities (AC Nielsen, 2010). Other studies indicate failure rate is around 85% (Bumpas, 2010). The consultancy Frost & Sullivan (2008) reports that only one every 300 new products significantly impacts a firm’s growth. They also affirm only 1% of new products recoup their product development costs. The *Corporate Strategy Board* reports that over the past four decades only 5% of the 172 firms that spent time in the Fortune 50 had a growth rate greater than the Gross Domestic

⁶² In a way this thesis is precisely that. The *Job Construct* has been previously observed in both the *Technological Change* and *Marketing Literatures*. Both these literatures describe how “there is something else out there”. This thesis in essence tries to isolate the *Job Construct* to understand its anatomy and its implications for both new entrants and large established firms.

⁶³ The concept of *Marketing* was virtually absent from books until the early 1920s. One of *Marketing’s* early texts: *Marketing: Methods and Policies* (Converse, 1921) describes *Marketing* methods as: “everything that is done to influence sales”.

Product (Olson & Van Bever 2008). *Corporate Venturing* and *Corporate Entrepreneurship* don't fare any better. Only 11% of all venture investments get to achieve some sort of capital liquidity (Price Waterhouse Coopers, 2008). However this dismal statistics can't hide the fact that they are averages. Inside these numbers there are firm's that actually have a much higher success rate, such as Apple. These firms usually employ methodologies that have managed to reduce variability in new ventures (Zahra & Wright 2011). The three most successful methodologies are Cooper's (2008; 1990), who claims his *Stage-Gate Methodology* succeeds 25% of the time. Second the PDMA⁶⁴, who claims that using their certified methodological approach new products will succeed 59% of the time and; third, Strategyn LLC's methodology. A firm that uses an internally developed methodology that is focused on discovering a hidden *Construct* named *Job* and its expressions (dubbed *Outcomes*) and that claims that they have a staggering 86% success rate (Bumpas, 2010). These studies average yield an innovation success rate of 17%, removing the high outliers the average success rate is 8.5%, consistent with several studies that indicate the established firm's sustainable growth is elusive at best and that revolves at around 10% (Olson et al. 2008; Foster & Kaplan 2001; Collins 2001; Bayus 2005).

Figure 2.14: The Marketing Process

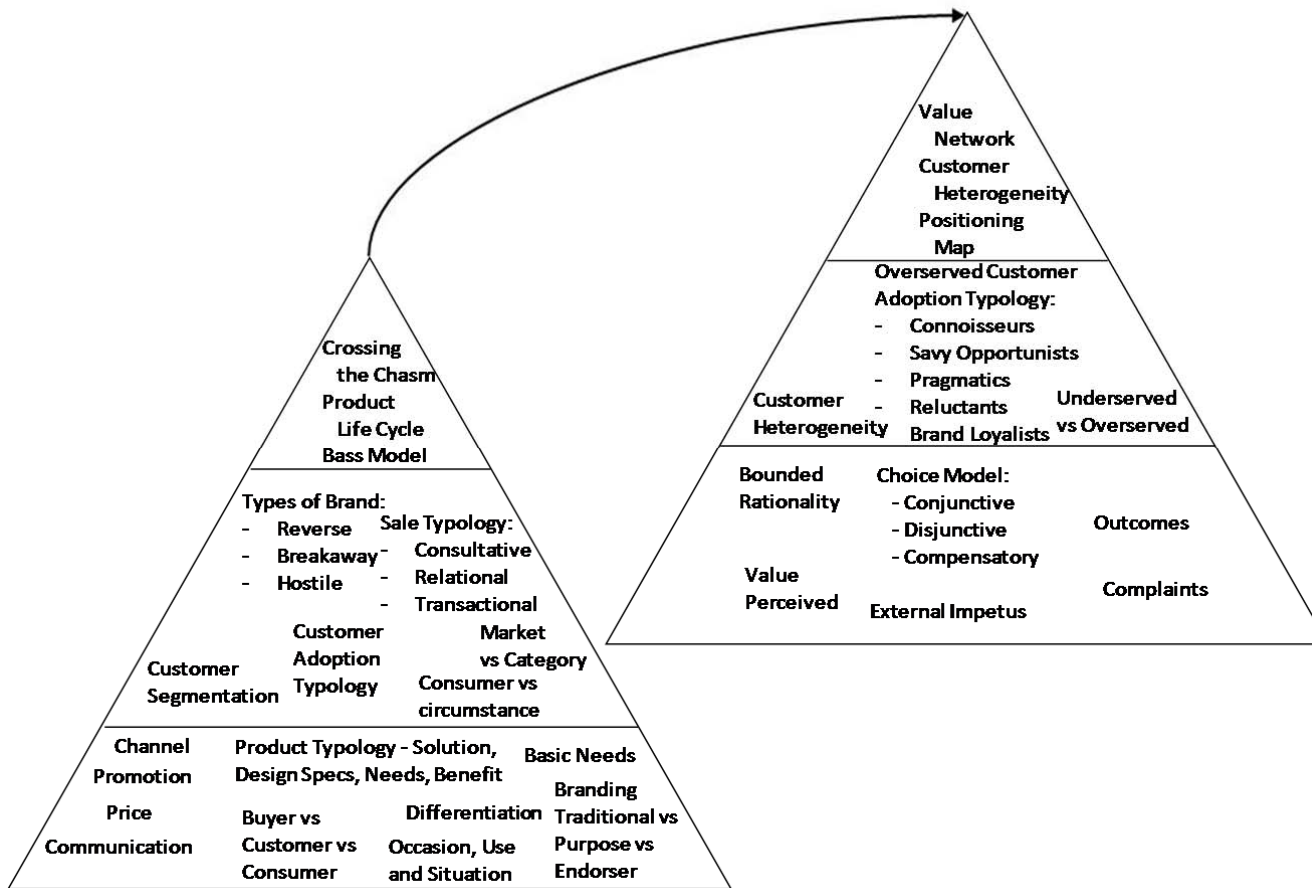


⁶⁴ Product Development & Management Association.

However, these methodologies have one thing in common, they inadvertently introduce variability into their results because of the assumptions they make and the way they are designed (Reinertsen, 2009). Figure 2.14 depicts this descriptive way of understanding marketing and how the consumer marketing research field works (Kotler and Trias De Bes, 2003) (p. 35). This is the predominant way to conduct research among the *Marketing* scholars. The variability introduced in each of the models described previously comes from *Describing* this paradigm. However, as Kuhn (1962) warns us, once the number of *Anomalies* and *Theoretical Replications* become too large the transition to *Normative* based research starts happening almost spontaneously. Figure 2.15 describes both the *Descriptive* and *Normative* theory of consumer research *Marketing* according to the methodology described in Appendix A⁶⁵. This is the *Model* we are going to review in this section. The objective of this section is to untangle Figure 2.15 so that it will complement and balance the product (and technological) orientation described in the previous section. With the marketing literature focused on the subfield of consumer research. This section is therefore dedicated to describe the most influential lines of work in the marketing field that try to shed some light on the mechanism that reduces the variability of new product, service or *Business Model* launch. As indicated previously this literature is not exhaustive (because same was previously described in the previous literature on *Technological Change* we are talking about (literally) thousands of papers) but we believe it contains enough information to assure that the most relevant research efforts has been included. Additionally it is hoped that it contains enough information for, if needed, pick an additional paper and understand where it fits in the model depicted in Figure 2.15.

⁶⁵ In a way Figure 2.15 depicts what's described in Figure 2.14 but using a different pair of lenses. Notice how different the world looks and the different ways to visualize the research opportunities depending on the prism that's being used.

Figure 2.15: Approach Used to Build the Theory-Building Model Literature Review on Marketing



Descriptive Constructs in Marketing, In Search of What Makes Us Look Different

The history of the *Marketing* field is highly populated with *Constructs* that look for the main differences between firms that explain heterogeneity in performance (McGahan & Porter 1997). These main building blocks were developed with the aim of representing the main differences in firm's performance (Connor, 2007; Langerak et al., 2004). Therefore these so called clinical differences between firms were treated at their inception as binary variables⁶⁶, until, consistent with the way to define theory, subsequent research refined these constructs bringing them to a stage where there is significant disagreement on what they mean, how they are expressed and how they should be measured (Chintagunta & Nair 2011). This is the case of the *Needs Construct* (Ulwick and Bettencourt, 2008; Ulwick, 2003a). When marketers want to distinguish why some products generate actions in the consumer they try to discover a user *Need* which is loosely defined as: "a state of felt deprivation of some basic satisfaction" (p. 7, Kotler 1994). *Needs* however were widely popularized much earlier, with the works of Abraham Maslow (1943) who described five basic human *Needs* and a way to organize them depending on how *Fundamental* they are. Hence the *Physiological, Safety, Love, Esteem* and *Self-Actualization* are the fundamental product arguments that new products must address in order to elicit some sort of consumer's response (Radford & Bloch 2011). At that time it was considered that firms who were capable of addressing those *Needs* were the ones that had the highest profits.

While scholars kept trying to classify products per type of *Need*⁶⁷ (Ulwick and Bettencourt, 2007), a large number of them found this *Construct* to present unsolvable anomalies when it comes to classifying new product typologies and why they register high growth rates (Bettencourt, 2010). While conducting research, three other typologies for categorizing products that showed influence on the customer's behavior were discovered. These are the *Solution*, the *Specifications* and the *Benefits* (Haley, 1968; Ulwick, 2003a). The *Specification* describes how particular functionalities have to be modified to adapt

⁶⁶ A useful example for understanding this early "binary" way of thinking happened in the eighties. At the time both practitioners and academics agreed there was a substantial difference in performance between firms' who had a *Marketing* department and those who didn't.

⁶⁷ Some of the scholars observe that the *Need* construct is almost a *Descriptive* tautological way of describing the customer. This view departs from a particular type of *Construct* that describes a characteristic that is so inherent in the individual that without it the individual wouldn't be an individual in the first place. They then claim this inalienable characteristic is the reason that originates the consumption. A very extreme example would be describing the consumer as a human that needs oxygen to live, and then claiming it's because this characteristic that the human consumes. This is the same logic that underlies the *Need* construct in the sense that if the customer buys it's because it has a need but not because consumers have needs they end up buying. These type of *Constructs*, although self-evident truths at the beginning tend to be discarded relatively quickly in other research fields. In the *Marketing* field, because of its inherent difficulties of doing research, they still prevail and both scholars and practitioners still use them frequently nowadays (Magnusson 2009; Hentschel 2009).

the product for the customer's requirements, some examples would be to reduce weight of the device, to have it start or stop in less than one minute, etc. the *Benefits Construct* on the other hand separates buyers depending on the what they expect from the product, for example in the toothpaste market the benefits could be economical, medicinal, etc. (Kotler, 1994). Finally the *Solution* is not really focused on the product but on the way this product is brought into the market and it's often described as a concept, characteristic or idea, an example would be to design an inclined table for architects (Ulwick, 2003a, 2005). At the extreme of understanding products based on the type of *Solution* that they provide the research effort's eventually stepped outside of the customer's *Unit of Analysis* and, while trying to understand when and why a particular product becomes so valuable so that the customer always buys it they realized that it was tightly coupled to an *Occasion*⁶⁸. A connection that lies in the relationship between the solutions the product delivers and the occasion when it is consumed (Goldenberg et al., 2001). An example of trying to increase product sales based on occasion would be to try to change the packaging of an orange juice to adapt it to another occasion of consumption other than breakfast. *Use* on the other hand is more related to usage and describes the intensity of utilization of a particular product. There usually is a group of heavy-users per product that account for a large portion of total consumption. *Situation* tries to endogeneize several of the *Constructs* described in the sense that tries to capture external factors that might be affecting the customer, for example, focusing on consumers that need the product urgently (Henard and Dacin, 2010).

These fundamentally different *Constructs*, which combine the product characteristics with the customer's external environment, helped create a very useful framework for practitioners: *The Marketing's Four P's*⁶⁹: *Product, Price, Place* and *Promotion* (McCarthy et al., 1960) represent four different constructs that describe the seller's view of the marketing tools available for influencing buyers. They are designed in such a way as to provide a unique consumer *Benefit* (Kotler and Trias De Bes, 2003; Kotler, 1994). *Price* represents the amount of money that customers have to pay for the product. *Place* describes the marketing activities on several distribution channels the company puts

⁶⁸ *Occasion, Situation, Use* and *Circumstance* are four different ways to locate the customer in a particular setting and understand a particular behavior. To my knowledge there is no research that describes exactly what type of variables are included in each of these four ways of classifying these environmental conditions. Although there are a variety of research articles that depict some of them (Henard and Dacin, 2010). In the *Marketing* literature these words tend to be used as synonyms causing certain confusion.

⁶⁹ Although in this literature review we describe this process as straightforward in reality this process and the four P's weren't developed in this deliberate straightforward way. The same is true for both the forthcoming definitions and for the different constructs that describe the consumer's typologies (Shiv et al., 2005).

together to make the product available to the consumers (Greenstein, 2010). *Promotion* stands for the different activities the company engages in to communicate to the world the availability of the product and its benefits. These four constructs have been extensively criticized and what they entail has been severely questioned. For example Robert Lauterborn (1990) explains that this seller's point of view neglects the customer and instead suggested the four C's (*Customer's Needs and Wants, Cost to the Customer, Convenience and Communication*). Additionally several scholars consider that these *Constructs* need to be refined, one of the most common suggestions is to adjust the *Construct Price* to the economical income available construct named *Willingness-to-Pay* (Kling et al. 2010; Anderson & Dana 2009).

These four P's must be designed for the different types of actors that will evaluate the product. These actors are mainly referred to as *Consumers, Buyers and Customers*. Although the difference between consumers and buyers tends to be associated with the use of the product if the buyer uses the product it will also be considered the consumer. This difference becomes more elusive when the buyer acts as a *gatekeeper* or as an *influencer* (Kotler and Trias De Bes, 2003; Kotler, 1994, 2003). The different types of consumers on the other hand tend to be more agreed on, these are the *Apostles, Mercenaries, Hostages and Terrorists* (Schieffer, 2005), the classification of each type is made according to their satisfaction and usage pattern (loyalty). This classification is usually performed using focus groups where customers are classified according to several attributes of loyalty and satisfaction, a *Descriptive* way to characterize *Constructs* in this phase that usually introduces a significant amount of variability in both the *Marketing* and the *Innovation* process (Ulwick 2005; Christensen 2006; Christensen et al. 2006; Christensen 2010; Christensen et al. 2005).

The *Descriptive Constructs* reviewed until now were isolated and researched (Connor, 2007; Ketchen et al., 2007) as a set of leading variables that tried to impact three particular lagging variables that will be reviewed to conclude this section. These are *Differentiation, Branding* and *How to Measure New Product Success*. The Construct *Differentiation* (Porter 1980; Porter 1985; Schieffer 2005; Kotler 1994) describes a firm's superior performance as it is perceived by a large portion of the market. Again this distinguishing characteristic is defined in terms of *Attributes* and this *Construct* indicates there is some degree of uniqueness. Rare firms differentiate themselves in more than one *Attribute* while none are

capable of differentiating themselves in all *Attributes* relevant to a particular industry (Westerman et al., 2006). Examples of differentiated firms are the service leaders, the quality or the technological leader's platform, etc. The flagship way for customers to identify a Differentiated firm is the *Brand*. Philip Kotler defines the *Brand* as (p. 8) "any label that carries meaning and associations" (2003). Since products are surviving in the market for shorter times *Brands* tend to disappear faster (Lindstrom, 2010). In any given industry *Brands* have proliferated in the last quarter of a century because today to build a brand costs less than before (Kotler and Trias De Bes, 2003). Although the construct *Brand* has been discussed extensively and there are multiple refinements as to what they mean, how they are built and what effect do they have in consumers (Aaker, 1991, 1995). There are two types of *Brands* that are particularly relevant for this thesis. The *Purpose* and the *Endorser* brand (Christensen & Raynor 2003a; Christensen et al. 2005; Christensen et al. 2006; Ulwick 2005; Christensen 2010). A *Purpose Brand* is the lagging result of years and years of effort delivering a product highly adapted to a *Use, Occasion, Situation or Circumstance*⁷⁰. The traditional approach in branding relates brands to a specific *Attribute* that can belong to either the firm or to the consumer, for example the most reliable or the most emotionally fulfilling brand (Fuchs and Diamantopoulos, 2012). A *Purpose Brand* describes a completely different thing, an adaptation of at least one of these multidimensional set of constructs during a very long time that causes a unique association in consumers' minds⁷¹. This unique association can't be extended to any other category but can be elongated to other products that have high *Relatedness*⁷²(Reinders et al., 2010).

The *Constructs* more widely accepted to measure the success in launching a new product, service or business model are *Revenue* (Kimball, 1997; Lafley and Charan, 2008; Osterwalder, 2004; Thomson, 2005), *Market Share* (Armstrong & Green 2007; Makadok 1999; Rumelt & Wensley 1981), *Customer Satisfaction* (BCG, 2007, 2008; Jamal and Naser, 2002; Moon, 2010; Winer, 2001) and *Return on Investment* (ROI) (Bessler et al., 2007; Evangelista and Vezzani, 2010; Ulwick, 2002a, 2003b, 2005).

These constructs have been particularly useful for scholars because they can be observed and quantified

⁷⁰ In essence, this is what a *Job Construct* is. A new construct the endogeneizes the different variables present in each of these dimensions.

⁷¹ An association much more profound than the one described in the Marketing literature on Branding. The reason is that the *Purpose Brand* is usually associated with a *Winner-Take-All-Market* (Barthélemy, 2006). For example, IKEA has no direct competitor in its category. However discount retailers, when they emerged, were very quickly replicated both in the US and Europe (Frank & Cook 1995; Cockburn & Henderson 1994).

⁷² This characteristic is very important for this research because for uncovering the *Cross-Selling* mechanism the degree of fit between one product and another is extremely important when it comes to consumer's evaluation.

both ex-ante and ex-post. If they suffer from *Anomalies* or *Theoretical Replications* those can be easily controlled for when they are *Normative*.

Descriptive Frameworks: The Marketing Frameworks That Were Also Used for Organizational Design

The literature on *Descriptive* categorization in the consumer *Marketing* field is extensive (Olson et al. 2005; Golder 2000; Alderson 1957). Several frameworks have been developed to try to categorize the myriad *Constructs* observed, a small portion of which have been introduced above. Although the ones introduced in this section are the most widely spread among both scholars and practitioners all of them suffer from *Anomalies* they can't explain while simultaneously explain each other's *Anomalies*. In this section we will focus mostly on non-overlapping *Frameworks*, specifically we plan to review the different types of *Brands*, *Sales Typologies*, *Customer (new product) Adoption Typologies (CAT)*, the *Market*, the *Category*, the *Consumer's Circumstance* and finally the *Customer Segmentation*.

A market is: "a selection of a concrete *Need* coupled with a particular type of *Person* and in a defined *Situation*" (Kotler and Trias De Bes, 2003) (p. 23). An example would be the need to be informed-oriented to business people that get their information first thing in the morning (Carroll 1984). The corresponding product for that would be the product: "Newspaper". At this dimensional level the newspaper market is equivalent to the category: "Newspapers". But -- according to this example -- these readers don't read the entire newspapers in the morning. They focus on the *Subcategory* "Daily Economic Press". Thus the newspaper market can be divided into *Subcategories*, such as the one dedicated to "inform" or "entertain", etc. Any market can be divided into *Subcategories* (Santos & Eisenhardt 2009). This is a way to view sub-markets at a more granular level⁷³. *Subcategories* then divide a market or a general category in certain non-overlapping ways, for example, with or without sugar, light, etc. there are two important implications in the *Subcategories* where firms choose to compete in. The first is that, the *Category* defines the competition, a factor that is key to determining how these firms are going to react in front of this new product. Defining the competition inside a *Category* is also extremely delicate from the point of view of the consumer's perception, since they usually need prior information on the frame of reference to evaluate the new product offering (Di Benedetto, 1999; Dasu and Chase, 2010; Rangan and Bartus, 1995). The second implication of this way of understanding the

⁷³ New research that uses new methodologies such as *Regression Discontinuity* has uncovered a variety of negative effects of the *Marketing* initiatives in this *Subcategories* (Hartmann et al., 2011).

market in the form of *Categories* and *Subcategories* comes from a practice that has become quite widespread in the *Descriptive Frameworks* of the *Marketing* field, which is to modify the organizational structure of the firm to try to make it “look like” the market. In the case of the *Categories Framework* and its corresponding organizational adaptation is the *Category Manager* (Higgins 1989; Dewar & Schultz 1989) which is a person specifically devoted to analyzing the category and identifying ways to make the company’s products stronger; mainly throughout capitalizing on *Underserved Needs* (Kotler, 1994). The same is true with the *Brand Framework*. Although in this case the position is described as the *Brand Manager*, who is a person devoted to both creating promotion plans and capturing information from the market to improve the product (Moe and Schweidel, 2011). In some firms the responsibilities of the *Brand Manager* reach even the *Production Process*. The objective of the *Brand Manager* is to reinforce the value of the *Brand* in the *Category* while increasing sales. Although there are many ways to categorize brands (these ways range from the simple association between the *Brand* and a particular functionality to very sophisticated ways such as understanding what the customer “feels” when exposed to the brand). There is a particularly useful way to *Categorize* brands that is more related to both the *Experience* (Schmitt, 1999) and the *Attitude* of the company that sells that particular product (Moon, 2010). According to this classification there are mainly three types of *Brands*, the *Reverse*, the *Breakaway* and the *Hostile*. The *Reverse Brand* is described as a *Brand* that makes the deliberate decision not to continue the *Augmentation*⁷⁴ march of the same products in the industry and chooses instead to hyper-reduce the product to its most minimum expression. Therefore when consumers and competitors are expecting a more and better type of product the *Reverse Brand* appears with a minimized version of the product. Google is the archetypical example of a *Reverse Brand*. In a moment where all search engines were replicating the *Business Model* of the yellow pages online Google appeared with a completely blank page. They just provided a better service in the basic *Functionality* of the category of search engines: be more precise with the results. These types of *Brands* are very challenging and counter intuitive for managers (Teece, 2010) because the market punishment for failing to meet customer’s expectations is quite severe. A *Reverse Brand* tends to work if the bare radical improvement offered to the market is cognitively better for the customer. (Talke and Hultink, 2010;

⁷⁴ A very prominent *Model* in *Marketing* is the *Product Augmentation Model*. We don’t review this model in this thesis because, although its relevance inside the *Marketing* literature is very significant, the items we are reviewing have a direct implication with this thesis research question.

Thomson, 2005). The second type of brand is the *Breakaway Brand*. The best way to picture it is visualizing the underdog of a *Category*, especially if the product being introduced is a new comer from another *Category*. This *Brand* type is enabled because customers categorize products in a natural cognitive process. The *Breakaway Brand* is in itself a product who just shouldn't be there but that the customer, instead of perceiving it as a mistake, relates the characteristics of the product to this category instead. An example of a *Breakaway Brand* would be Kimberly-Clark's Huggies. This product has the same absorptive properties than a diaper but it's sold as pants for older kids. Kimberly-Clark even created a new subcategory with this product, the "Pull-Up". In this case, the characteristics of a diaper, instead of being perceived as negatively by the customer (old kids no longer wear diapers) is perceived as an "absorptive pant for older kids". A *Need* for which consumers will gladly make some room in both their minds and wallets. The third type of *Brand* is the *Hostile Brand*. This type of *Brand* benefits from the sense of scarcity that populates human behavior. It usually does it by playing "hard to get" (Anderson 2009). The most effective way to implement this strategy is to evade any of the four P's described previously. Surprisingly this way of being forthright about the product's shortcomings doesn't backfire, instead, being authentic pays in unexpected ways, and customers are strangely willing to pay a premium for that. An example of that would be the introduction of the Mini Cooper in the US, the communication used to enter this market was oriented to explain to the customers that it wasn't a good idea to buy this car because it was too small. Another example is the Red Bull energy drink. When this drink was being tested in the market customers said the drink looked unappetizing and that the taste was terrible. Dietrich Mateschitz, the person in charge of launching Red Bull in Europe, replied... "Great!" (Moon, 2010).

The type of relationship the firm develops with the customer is another key *Framework*. Firms have tended to view this relationship using a *Framework* that instead of the relationship itself what it really prioritizes is the type of selling process the firm needs to engage in to keep the consumer loyal and at the same time to make him consume as often as possible. As a result there are three types of interactions with customers; the *Consultative*, the *Relational* and the *Transactional* (Dougan 2004; Beard & Dougan 2004). The *Transactional* type of relationship is mostly used as a way to capture customers. In every market there are groups of customers looking for the best deal, these type of customers, that are

always looking for the best offer are a very interesting option for firms who want to grow or who want to gain foothold in that particular market. Once the firm and the customer have interacted and they have established any sort of relationship the type of relationship the firm wants to transition to is that of a *Relational* nature. The objective of the firm at this stage is to try to capture as much information about the customer as possible to compare it with its product portfolio and try to get from the client as many purchases as possible⁷⁵. The other two objectives of the relationship with the customer are to have him get as much confidence in the firm as possible and to *Monopolize* it so it doesn't interact with current competitors. The third selling type is the *Consultative*, this type of sale process is common in consumers who don't have a clear and structured problem, just a collection of symptoms, therefore needing advice. Examples of this *Consultative* process are doctors or business administration consultants, these people tend to interact extensively with the customer before and during the purchase in order to help him obtain the most adapted solution to the problem he has. After the first interaction the relationship tends to become somewhat relational as well.

The *Consumer vs. Circumstance Framework* represents a turning point in the *Marketing* field (Beshears et al. 2008; Christensen et al. 2007; Poole & Van De Ven 2004). The reason is that it separates the customer from the *Use, Occasion* and *Situation Constructs* explained above. After this separation two main lines of work emerged. In the first one, the one dedicated to the customer research on cognition, biological and anthropological research gained ground (Lehrer, 2009). The second one, a completely new one, starts a completely different path starting to research all those environmental factors as if they are causing consumer's behavior (Schiffman and Kanuk, 1994).

Customer *Segmentation* (Claycamp and Massy, 1968) is one of the most researched and widespread frameworks in the marketing literature. *Segmentation* is: (p.47) "the process of dividing a potential market into distinct subsets of consumers with common needs or characteristics and selecting one or more segments to target them with a different marketing mix" (Schiffman and Kanuk, 1994). Henry Ford summed up the way firms used to tackle markets before segmentation became widespread, he used to say: "People can have the Model T in any color – so long as it's black"⁷⁶. That was *Mass Marketing*. What Claycamp & Massy (1968) suggest is a multistage mathematical model that not only considered the full

⁷⁵ When the firm owns a set of independent non-related products what is really trying to do is *Cross-Sell* products to the same customer. This is the research setting where this thesis is being focused on.

⁷⁶ http://www.goodreads.com/author/quotes/203714.Henry_Ford accessed June 2011.

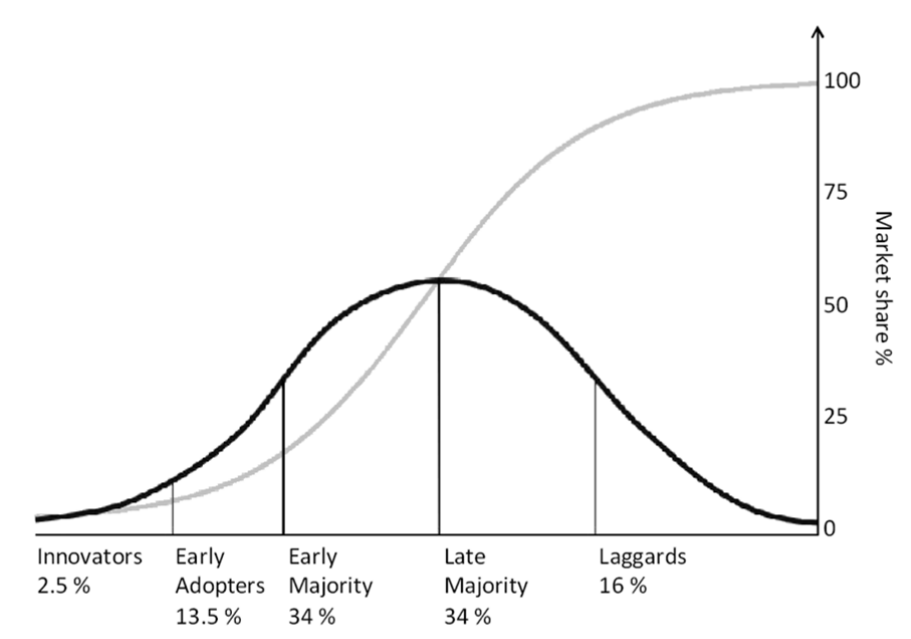
range of *Segmentation* possibilities but also considered them from the point of view of both the *Mass Marketer* and the *Monopolist*. This is today the most common way to separate customers into actionable groups. It uses a robust econometric analysis that looks for commonalities across an entire population and tries to group them into a finite number of heterogeneous segments. Practitioners have embraced this research since its early inception with the expectation that clear and articulated segments would reduce the variability that predominate both new venture creation and new product launch (Frishammar et al., 2012; Langerak et al., 2008). *Market Segmentation*, the way to group consumers into categories and sub-categories in a way that they are mutually exclusive and collectively exhaustive proved almost deadly for Ford when General Motors started using this methodology (Chandler Jr, 1977, 1992). There are many ways to *Segment* the market; among the most common ones are *User Status*, *Usage Rate*, *Brand Loyalty*, *Demographics*, *Benefits*, *Psychographics* and *Occasions* (Haley, 1968; Harrington and Tjan, 2008; Schieffer, 2005). Usually firms don't use just one of these ways but a combination. They usually combine two or more methods to come up with their own "blend" of customers. However all methods have something in common, they view the market from two lenses, that of the product dimensions and/or that of the customer dimensions⁷⁷. This way to tackle the market, from *Categories* to *Sub-Categories* to *Segments*, coupled with the convergence of all firms approaching this problem in the very same way is what it's called the *Segmentation-Target-Positioning* (STP) which is the *Dominant Design* in Marketing. One of its most noticeable lagging effects is expanding the *Market* while at the same time causing *Differentiation* to be extremely difficult. Especially for firms who struggle to capture the mind of the consumer (Moon, 2010; Utterback and Acee, 2005).

One of these *Segmentation* combinations, specifically the one that combines time of adoption with type of consumer (Rogers & Bazerma 2006) has profound implications in the literature of *New Product Diffusion* (Rogers 1962; Shane 2009; Schieffer 2005). Rogers (1962) studied how *Purchase Time*, *Adopter Category* and the *Rate of Adoption* interact. As Figure 2.16 describes, when it comes to explaining sales, the literature of *Diffusion* has adopted this *Categorization* extensively. Rogers customer adoption typology describes not only the five *Segments* of adopter *Categories* that exist but also how many of

⁷⁷ Viewing the *Market* from the product instead of from the customer's point of view has serious "distorting effects" for firms; while at the same time augment significantly the amount of variability and error companies pour into their internal processes (Christensen & Raynor 2003b; Christensen et al. 2006; Christensen 2000). The *Mirroring Hypothesis*, described in the forthcoming section, explains why this happens and how the firm inherits *Rigidities* from this phenomenon (Colfer & Baldwin 2010; Leonard-Barton 1995).

them there are and, especially important for firms, how much time it's expected to elapse for each of these segments to adopt the innovation.

Figure 2.16: Adopter Categorization Framework



SOURCE: p. 279. Rogers, 1962

Rogers indicates this *Framework* is valid as long as the innovation being studied is new to consumers. The five customer typologies are the following; the first ones are the *Innovators*; they are high-venturesome and not really risk averse. In technology markets they are referred as “techies”. They pursue new products constantly and are not concerned with products defects. In fact they are delighted to help the firm improve its products. The second one is the *Early Adopters*; they tend to be opinion leaders and they aren’t particularly interested in technology but appreciate the benefits technology can bring to life. At the managerial level there are the *Innovators*, they want to be the first in the industry to have the new technology implemented. *Early Majority*, this segment tends to be very pragmatic, in fact they are usually called *Pragmatists*, they are noticeably risk averse and would not adopt a technology unless it has been proven extensively it’s reliable. Ranked by the time of adoption this segment is the first noticeably large, this is the reason that most firms strive to reach them as soon as possible. The fourth segment is the *Late Majority*, although noticeable large as well their main defining characteristic is that they are reactive. They need to be pushed to adopt the new innovation. They believe in tradition and are completely risk-averse. They tend to be very reluctant to any change and tend to dislike

discontinuous innovations. The fifth segment is the *Laggards*; they are referred as the *Skeptics*, and the best way to have them accept a new technology is to have it embedded in another product or service. Otherwise is very difficult to convince them to adopt it. The main comments on this framework come from the inconsistencies derived from the different responses of each of these segments to the different innovations, especially if the products come from different *Categories*.

Marketing Models: How to Comprehensively Describe the Overwhelming Number of Phenomena

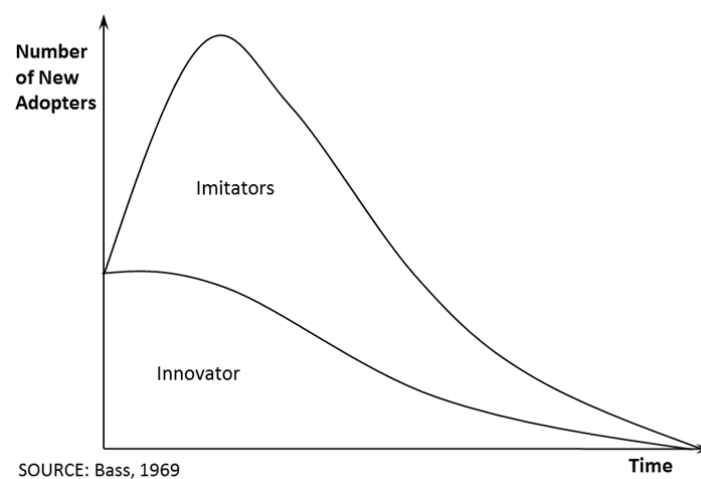
Geoffrey Moore (2002) introduced a version of Roger's work when comparing the segments the former *Framework* described with those of the high technology industries. Although Moore's contribution departs from the *Customer Segmentation* described in Figure 2.16 he introduced a new perspective: the *Business Model* requirements. Consistent with what was observed previously, that at a particular point of the development of a new industry companies start prioritizing *Product* innovations at the expense of significantly affecting *Process* innovations (Utterback and Abernathy, 1975), there is a point where industries stop competing just on the way the product attributes are both combined and evaluated by the customer. This leads to the emergence of a *Dominant Design* (Dosi 1982; Rao 2008), which favors the firm that reaches it first. Which is not usually the firm that created the product in the first place (Markides & Geroski 2004). Moore describes that there is a *Chasm* between the *Early Adopters* and the *Early Majority* that can only be surpassed by transforming the company's *Business Model*. An extremely challenging accomplishment (Bucherer et al., 2012; Byrnes, 2010; Sheehan and Stabell, 2007; Zott and Amit, 2009). Moore indicates the reason that companies that created the industry stumble in front of new entrants that the latter entered the industry with a *Dominant Design*, a good timing. If a new entrant tries to beat the incumbent with a better technology right after the industry and the customers have consolidated around the *Dominant Design* but before the incumbents had time to transform their *Business Models* and start developing mainly *Process* innovations then the new entrant will almost always be successful. The reason is that it will catch up right at the beginning of the first large portion of the market. A point of entry that will not only consolidate the new entrant but also cause the incumbents to transform their *Business Model* and amortize the previous R&D expenses much more quickly. Although Moore's work is very popular⁷⁸ scholars have always been concerned about the

⁷⁸ Engineers, Venture Capitalists and Business Schools use Moore's *Model* regularly.

External Validity (Bagozzi et al., 1991) of his model because the high technology industry has properties that are not present in other industries such as upgrading, debugging, bundling, etc. (Schieffer, 2005). Moore's recommendations on the other hand seem to be generic and applicable to all kinds of industries; among his most frequent recommendations are improving market targeting, repositioning the product, approaching product understanding in a more holistic way, changing channel or pricing practices or rebuilding the firm's entire marketing strategy. The reason is that the *Early Adopters* and the *Early Majority* are so different that irrespective of how successful the firm was earlier with the previous segments it must approach this new challenge from scratch. To this argumentation there is another line of criticisms that find no such a difference between these two types of segments in other industries because Moore's research can only be applied to *Discontinuous* or *Radical* innovations. When the innovation is that of a *Continuous* nature, which basically means it doesn't require a significant behavioral change from the consumer (Bagozzi & Lee 1999), then the previous models of technology adoption (Gourville 2006b; Rogers 1962) and diffusion have more explanatory power (Shane 2009).

The model that predominates for explaining how *Continuous* innovations become widespread in a market is the *Bass Model* (1969), depicted in Figure 2.17. Using the same underlying logic described previously in the *Substitution Curve* but using instead a *Ricatti Equation* with constant coefficients this model tries to predict⁷⁹ when a new innovation will dominate a *Market* (Reinganum, 1989).

Figure 2.17: The Bass Model



⁷⁹ The *Bass Model* (1969) is one of the most cited papers in the history of *Management Science*. It is considered mainly a *Forecasting Model*.

Although many extensions of the *Model* have been proposed, the original *Model's* four variables used for its predictions are the following:

$$\frac{f(t)}{1 - F(t)} = p + qF(t) \quad (2)$$

Where:

$f(t)$ = *The rate of change of the installed base fraction.*

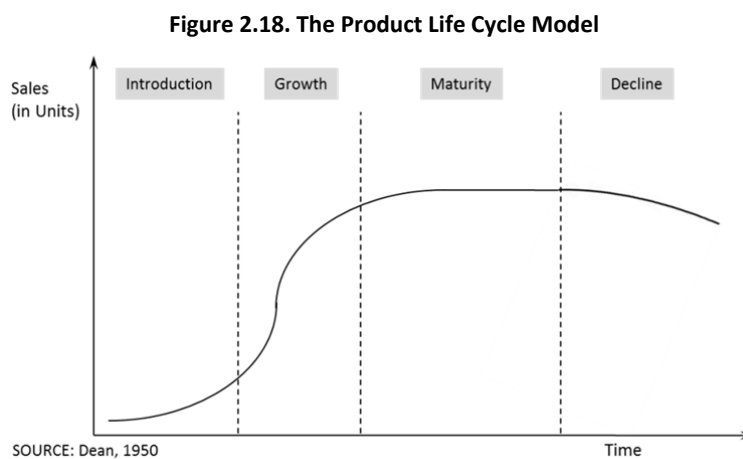
$F(t)$ = *The actual installed base fraction.*

p = *The coefficient of innovation.*

q = *The coefficient of imitation.*

The *Substitution Curve* is a particular case of the *Bass Model* where the *Coefficient of Innovation* is equal to zero. In that particular case the *Model* is reduced to a logistic distribution identical to that of a *Substitution Curve* (Lilien et al., 2003). This is the reason that the model has not only been used for forecasting the diffusion of new products but also for predicting the failure of incumbents (Guo 2002; Kimberly & Miles 1980). The *Bass Model* has some implicit assumptions. Among them it considers that consumers can adopt the product only once, or in the best case scenario every few years. The *Model* is also relevant for modeling the first time an individual begins using a new product or service (Ofek, 2005). The model considers two types of individuals, the *Innovators* and the *Imitators*. Bass describes the *Innovators* as: "innovators are described as being venturesome and daring" (Bass, 1969). The *Innovators* are not influenced in their purchase timing by the number of persons who have already bought, however promotions might have some influence in them (Prince & Simon 2009). As time progresses the relative number of innovators diminishes monotonically. *Imitators*, as opposed to *Innovators*, are mainly influenced by the number of previous buyers. The *Bass Model* has been refined on many occasions and several new variables have been included in it, for example the price of the innovation, etc. Although it's a very powerful explanatory *Model* it's prescriptive power is limited, and its degree of explanatory power depends to a large extent on the industry being analyzed (Hall 2004; Shane 2009; Tellis et al. 2006).

The other *Model* that tries to understand the evolution of a *Continuous* innovation crystallized in a particular product inside a market is the *Product Life Cycle Model* (Dean 1950). This model tries to reduce uncertainty in the product life by understanding the properties of the stage where the product is in (Landau et al., 1996). Since its inception this *Model* has become widely accepted in the *Marketing* literature. Although subsequent studies have refined it, changed its shape, its length and stages (Cox 1967; Polli & Cook 1969; Rink & Swan 1979) there is an agreement that, using as a metric the yearly sales in units, this *Model* consists of the four phases depicted in Figure 2.18: *Introduction*, *Growth*, *Maturity* and *Decline* (Day, 1981).



When products are initially created they tend to be classified as inventions. The different phases of the *Life Cycle Model* represent the outcomes of the continuous minor improvements applied to the product that result in its natural evolution (Nelson and Winter, 1982), for example, the plane Douglas DC-3 represents the outcomes of several research streams that, when combined in a product, improved significantly the aviation industry (Miller & Sawers 1968). Even though the first *Model* was already significantly radical, as it was fully built with metal, the wings where anchored in the low end part of the body of the plane, it was more aerodynamic and longer than most of the planes developed until then during the next decade, and then the improvements continued. Every new generation was faster, had a longer range and was more efficient. This evolutionary product development life cycle continued and has been observed consistently both in consumer and business to business markets (Enos, 1962).

In the *Introduction* phase several characteristics of the product are deeply considered, such as the comparative advantage it withholds compared to the best possible alternative, the risk that first buyers

might be suffering a negative experience (Bayus, 2005; Schmitt, 1999), the different adoption barriers, and the amount of information available (Ward & Robertson 1973). Additionally in this phase firms have to control for the exogenous factors that can come from both the environment and the competition. Incumbent response as a dummy variable has been studied extensively in this phase (Gilbert & Newbery 1982; Gilbert & Newbery 1984a; Gilbert 2005; Gilbert & Newbery 1984b; Reinganum 1984; Schmutzler 2010; Tirole 1988).

The *Growth* phase starts to emerge when both product uncertainty declines and there is an upsurge in demand (Utterback and Abernathy, 1975; Utterback and Acee, 2005; Utterback, 1972). In this phase product improvements start embedding features of potential substitutive products (Stern & Deimler 2006) which at the end improves the customer perception of *Willingness-to-Pay* (Chandy & Tellis 1998; Cans & Stern 2000; Taylor & Helfat 2009). Another particular characteristic of this phase is the massive entrance of competition, which is the result of having a clear value proposition with measurable risks and with a clear playing field, an example of this phenomena is the video game industry (Porter 1980). Additionally in this phase consulting firms try to convince their clients this is the right moment to enter because they have the belief that it's easier to gain market share when the market is growing. This phase also registers the first wave of repeated sales. In every industry a substantial portion of sales comes from repeated sales (Hultink and Atuahene-Gima, 2000). Several research studies point to the repeated sales effect as the reason the slope of sales is so steep (Midgley, 1981; Steenkamp et al., 1999).

The *Maturity* phase, usually measured as the sales penetration adjusted for the size of the market, the factor that contributes the most to the sales progress is the replacement market. This is the moment where firms try to expand the market size by capitalizing in the economic and social changes that have a large impact in the future needs; an example of this type of growth opportunities is the environmental concern. Otherwise the market size remains relatively stable while growth stagnates. The other factor characteristic in this phase is the customer's knowledge. Customers have already learned about the product extensively (Clark et al. 2010). In this phase they tend to become more price sensitive and less sensitive to advertising and promotions (Montgomery and Wittink, 1980). Some models include in this phase an additional sub-phase named *Turbulence* (Wasson, 1974). This sub-phase usually comes from

the excess of capacity that usually populates firms in this phase causing them to lower prices and more frequent than not engaging them in price wars. This effect, initially observed by the *Boston Consulting Group* (Conley, 1970), has been observed lately in the other phases of the *Model* (Kaplan & Tripsas 2008).

In the *Decline* phase of the *Model* there are frequently a myriad of factors to account for (Harrigan, 1980). One of the main observations of this phase is how stable and persistent are a finite number of demand niches, a characteristic usually absent in technology markets (Williamson 2009). This phase can last for years and is very challenging to incumbents (Michael, 1971), that have to continue exploiting this market while at the same time explore other markets with high uncertainty (Tushman & O'Reilly 2004; Tushman et al. 2010; Smith & Tushman 2005).

The *Product Life Cycle Model* was developed more than fifty years ago and has received a number of criticisms (Christensen 2011). Some scholars explain that is a fundamentally *Descriptive Model* (Hoffer, 1975) therefore with a very limited prescriptive power. Additionally it's unclear in which phase of the *Product Life Cycle Model* a particular product is located. There are concerns about what causes each transition among each of the phases and there are even scholars who claim they can't even find the phases depicted at all (Rink & Swan 1979; Christiansen et al. 2010). Finally there are concerns about the heterogeneity on success and failure stories of firms' practices in each phase of the *Model* (Landau et al., 1996).

We believe that the leading effect of the three *Models* described in this section (and also of the myriad models that could have been included in this section) is the interaction (or friction) between two agents: the product's *Trajectory of Improvement* and the *Consumers Natural Evolution* (Cox 1967). An observation initially described in Clark (1985). There are people like Mr. Ford or Mr. Jobs that were talented enough to grasp where this distribution was going to go next (Mokyr, 1990). The kind of research and *Descriptive Modelization* that researchers undertook and that's been described in this section results in the strong *Explanatory Models* that have been presented but that have low or non-*Predictive* power. These are *Models* that are *Descriptive* in nature and that mostly use lagging variables as inputs. On the other hand, the *Normative* models described in the next section will shed some light

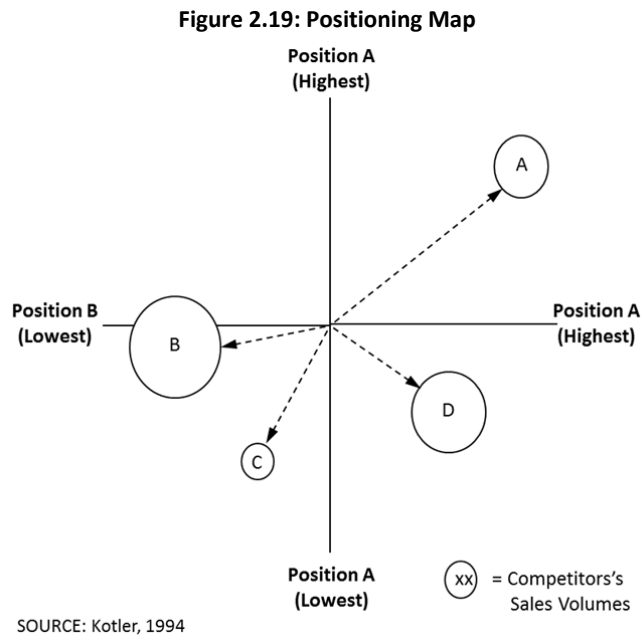
about can the talent of Mr. Ford or Mr. Jobs be *Normatively* included in a methodology that is both predictable and reliable.

Marketing's Normative Models: The Elusive Goal of Trying to Add Contingency to the Current Models

The *Marketing* literature has traditionally emphasized the relationship between a variety of Marketing activities, such as advertising, promotion, etc., and the consumer's response. The latter usually measured through a variety of metrics, being the most frequent ones the attitudes towards the brand, the willingness to consider a purchase or the *Willingness-to-Pay* (WTP) (Kotler, 1994, 2003). This research has benefited from ideas and methods that originated in allied fields (Chintagunta et al. 2013) such as statistics or economics. Hence, statistical methodologies such as *Clustering* or *Factor Analysis* have been used extensively in *Marketing Science* (Lattin et al., 2002). One of these outcomes is the *Positioning Map*, a widely accepted *Model* that is considered to be *Normative* (Lilien et al., 2003; Sarvary and Elberse, 2005). This *Model* has been used both trying to explain when and why a new firm will find an advantageous competitive position (McNamara et al., 2003) and to how does a product can find an empty space in the *Market* where it can gain its initial foothold (Harvard Business Essentials, 2005; Schieffer, 2005). Usually obtained through *Factor Analysis* this model aggregates a variety of different attributes into 2 *Factors* (usually named *Positions*) and then pictures the firm's products or competitors in spheres inside the *Model*. The larger the sphere the larger the unitary sales of that particular firm or product are. Figure 2.19 describes the Positioning Map outlined in (p. 97) of Kotler's (1994). Usually the Positions depicted in the model refer to behavioral *Segmentation Constructs* that haven been obtained in *Marketing* research (Carpenter and Nakamoto, 1989), but it's not unusual to use different attributes such as the customer's mindsets (Goldsmith et al., 2010), the way communication has influenced the customer's evaluation of the product (Rangan and Bartus, 1995), the variety of attributes of a brand and how are they reflected in the customers (Aaker, 1995) or different firm's performance trajectories for defining a new entrant strategic positioning (Caldart & Ricart 2007; Markides 1997).

The lagging variable this model is trying to influence on is *Differentiation*, usually measured as the dependent variable (Caves & Williamson 1985; Carpenter & Nakamoto 1989; Poole & Van De Ven 2004; Moon 2010). This model describes how the best way to achieve *Differentiation* is through identifying unoccupied gaps where the product or company might be able to gain a foothold. The contingency is

added through the vectors⁸⁰ that depart from the center describing how the product has evolved in the minds of consumers, i.e. in Figure 2.19 Product A is significantly differentiated in terms of what it offers from the rest. The model indicates the dependent variable *Differentiation* of the model will only be successfully implemented if the Four “D” are successfully achieved: *Definition*, *Differentiation*, *Deepening* and *Disciplined Defense*. *Definition* leaves no doubt to the customer what your brand stands for and in what category is in. *Differentiation* measures the effectiveness of communicating a compelling point-of-difference (Liu & Tyagi 2011). *Deepening* is the proxy for measuring how your goals and values become more connected to consumers and; *Disciplined Defense* describes coordinated mechanisms that respond to competitor’s attacks without become too extreme (Schieffer, 2005).



Although the *Positioning Map* is the first *Contingent Model* reviewed, this *Model* is not purely *Contingent*. The reason is twofold; in the first place the data used to obtain the axis of the *Model* comes from the aggregation of the attributes⁸¹, hence, it’s inherently *Descriptive* data. The second is that the *Model* predicts that products or firms will be unsuccessful if they target a populated area of the map while they might be successful in targeting an empty space, this statement doesn’t really introduce the environmental variables that make the model contingent, and it doesn’t indicate neither if the trajectory

⁸⁰ The best way to picture that is visualizing the map without the axis.

⁸¹ Usually aggregated using a statistical technique.

of *Deepening* is actually achievable by any firm⁸². The possibility that the empty space is there for a reason, being that it's been tested already and that there were no customers (Dasu and Chase, 2010; Zanini, 2008) or that a vector pointed in that direction is *Competence-Destroying* relative to a firm hasn't been researched yet (Hodgetts 1999; Romanelli & Tushman 1986; Tushman & Anderson 1986; Linton 2002). Additionally the very nature of grouping attributes leaves the possibility of drawing myriad different maps with as many different combinations of product attributes as possible. A problem compounded when the distinction between the consumer's⁸³ and the business market is introduced⁸⁴.

The *Positioning Map* however provides a valuable hint that turns out to be instrumental for the formation of a contingent model: the way product or firms converge in trajectories and locations are indicating that every market has not only a rugged landscape (Porter & Siggelkow 2000) but also an unequal density or distribution of clients and value (Adner and Kapoor, 2006). This concentration of ways of creating, capturing and delivering value (Jacobides et al., 2006), is highly heterogeneous, like the *Segments* where they connect to form a nest inside the *Market Ecosystem* (Luo et al., 2009; Murmann and Frenken, 2006). The model that captures the *Market* information (Luo et al., 2009; Malerba, 2002) together with a determined space where groups of nested architectures interact is the *Value Network* (Christensen 1997a; Rosenbloom & Christensen 1994). Specifically a *Value Network* is "the context within which the firm identifies and responds to customer's *Needs*, procures inputs and reacts to competitors" (Christensen 1995). For example, in the case of the steel industry, where there are integrated and modular competitors⁸⁵, these groups of nested architectures, although they belong to the same industry they not only do not interact among them (DeSarbo et al., 2006) but also have completely different competitive dynamics (Crandall, 1996) and environmental influence (DeTienne and Koberg, 2002). As depicted in Figure 2.20⁸⁶ the *Value Network* can be visualized as a graph that is composed of three components (Funk 2009). The first component is time, the second is the consumer layers that are distributed through it and the third is the performance metric, these components have also been labeled *Context*, *Value* and *Business Model* (Akeesson, 2010). The origin of plotting consumer

⁸² It's seems that no matter where the *Deepening* vector is headed it's actually possible to advance in that direction.

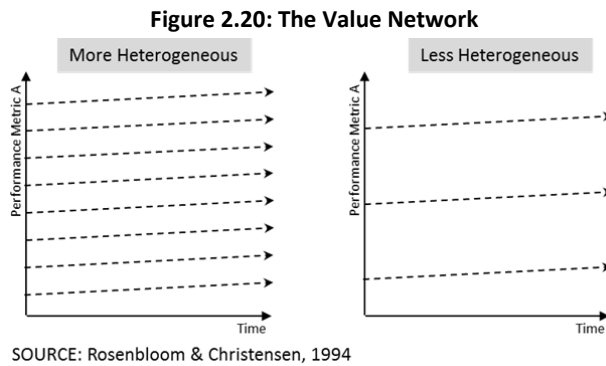
⁸³ B2B and B2C.

⁸⁴ To my knowledge most of the criticisms to the *Positioning Map* model described here haven't been addressed yet in the *Marketing* literature.

⁸⁵ An integrated competitor is *Interdependent*, which means it owns and operates all the pieces of the *Value Chain*. *Modular* competitors in contrast outsource most of the pieces of the value chain except one or two (Langlois & Robertson 1992).

⁸⁶ The two *Models* described in this Figure are both *Value Networks*, their difference lies in their customer population heterogeneity. These different types of *Value Networks* are explored in the next section.

layers vs. a specific *Business Model* that satisfies its *Needs* comes from both the observation that value is subjective (Sandström, 2010b) and that disruption is not incompatible with firms selecting close customers to obtain directions, as previous research indicates (Danneels, 2003). To check if the model has been built properly the *Value Network* must meet one particular requirement; consumers scattered in the top layers have to be more profitable for firms than consumers in the bottom layers. The measurement metric for consumer profitability in the *Value Network* is the consumer marginal benefit.



The Value Network model, although still largely unexplored (Zott et al., 2010), explains anomalies that the *Positioning Map* can't account for, such as the kind of interaction dynamics observed between firms (Von Raesfeld and Roos, 2008). Or the reason that some products and firms concentrate on specific locations (Walker et al., 1997) or when and why a new entrant will likely gain foothold in a new market (Christensen et al. 1998). The lower transaction cost inside each nest also explains some of the effects observed previously (Coase 1937; Williamson 1975). Additionally it effectively solves the problem of having the possibility of drawing more than one *Value Network*, because it's one-dimensional in terms of industry architecture (Jacobides et al. 2006; Jacobides 2005; Christensen 1992c; Christensen 1997a), however the first distinction among *Value Networks* lies in their taxonomy, which is levered through the heterogeneity of its customer base.

The Normative Marketing Frameworks (Circumstance-Based Categorization Schemes)

The first categorization scheme reviewed for the *Normative Models* was originated while trying to control for customer heterogeneity (Hatten and Schendel, 1977). In these models both the implications and the degree of complexity (North and Macal, 2007) varies depending on customer heterogeneity (Beshears et al., 2008). The two *Value Networks* depicted in Figure 2.20 represent this difference in

customer heterogeneity (Poole and Van De Ven, 2004) being the left hand side model more heterogeneous than the right hand side one. This difference has important implications for a variety of industry characteristics such as entrepreneurship, incumbent response or organizational architecture. And it is particularly relevant for identifying the construct that is being explored in this thesis. In terms of industry characteristics the degree of customer heterogeneity is directly related to industry profitability (Amit & Schoemaker 1993; Lievens & Moenaert 2000). New entrants also have more opportunities to gain foothold in the market if there are more consumer layers to target from the onset (Campo-Rembado and Taylor, 2008). Additionally a variety of consumers have also the possibility of evaluating a new product offering and determining their response (Subramanian, Raju & Zhang 2007a). Incumbent response also varies depending on heterogeneity. In this case heterogeneity acts as an enabler of additional options for incumbents, among them is the use of spillovers from the new technology to position its products in layers where it wasn't available before (Adner & Snow 2010) or using it to monitor consumer segments preferences towards a new technology (Adner and Levinthal, 2001; Adner, 1998). One more option for incumbents comes from changing their resource allocation in terms of the balance between exploration and exploitation activities as a result of the new entrant's initial foothold layer (Adner 2002; Coombs et al. 2009). A firm's organizational architecture is also a dependent variable of customer heterogeneity (Leiponen & Drejer 2007; Dess & Beard 1984) and it usually determines the type of organizational structure as well as in what customer layers the firm must be focused on (Filippaios et al., 2009). This choices (Casadesus-Masanell and Ricart, 2008, 2010) will determine not only which consumers to listen to in order to allocate resources (Adner and Zemsky, 2006; Martínez-Ros and Labeaga, 2009) but also the most appropriate *Business Model* architecture that maximizes the investment (Baldwin 2010). Finally previous research indicates that the *Job Construct* is the leading variable of customer heterogeneity (Anthony & Sinfield 2007; Christensen et al. 2007; Ulwick 2003b; Ulwick 2005; Anthony 2009; Bettencourt & Ulwick 2008). This thesis tries to untangle how the *Job Construct* impacts not only customer heterogeneity but also other variables considered key to the consumer, the firm and the new entrant.

At the *Circumstance* based level Roger's (1962) *Descriptive Categorization* scheme that was reviewed previously is also extensively modified. The resulting *Normative* framework introduces customer's

Circumstances into the model and measures their response using their behavior as a proxy (Simon 1957). The original aim of the study is the same; to find a hierarchy of consumer adoption of new technologies, but this time introducing the overwhelming profusion of options that result from hyper-mature categories with whom they have interacted for a long time and know deeply⁸⁷. Previous research indicates these new circumstances would still be five. The first one would be the *Connoisseurs*; these are customers whose main characteristic is a profound knowledge of the category and the different brands that populate it. They are particularly picky and are particularly effective in choosing the right product for exactly the right problem they are facing. The second segment has been labeled the *Savvy Opportunists*. They differ significantly from the previous segment in the sense that they are transaction-oriented⁸⁸. They might know the category just as well but they compete for the best offers (or bargains) and they systematically collect coupons, vouchers, etc. (Anderson & Dana 2009; Lattin et al. 2002). The next *Segment*, dubbed the *Pragmatics*, no longer knows the category as deeply as the two previous *Segments*. This *Segment's* behavior is heavily influenced by habits and routine. Customers that treat the category as a commodity and are indifferent to it are also included in this segment. The fourth *Segment* would be the *Reluctants*. These customers only buy when they have no choice, they are forced to buy for a determined reason and know nothing about the category. This lack of knowledge usually causes misunderstandings between the customers and the category which increases the reluctance of this *Segment* even more. Finally, the fifth segment is the *Brand Loyalists*. These customers have been buying from one brand of that particular category and they will stick to that brand irrespective of how good are the new offers or deals from the others. Usually this brand is not the best in the category as it's been there for a long time but still survives because of this super-loyal segment (Bryce and Dyer, 2007). This circumstance-based segmentation developed by Moon (2010) is not mutually exclusive and leaves an intriguing pattern. In the transition from the first to the second category the main difference is the customer's emotion. In the second to the third is knowledge of that particular category. In the third to the fourth is the *Occasion*⁸⁹, and finally in the fourth to the fifth is *Brand Affiliation*. This thesis tries to

⁸⁷ In some ways this study is fundamentally different from the previous one because at this stage customer's behavior tends to show a notable product fatigue as well as cynicism (Moon, 2010)

⁸⁸ In other words, there is no emotional implication for either the product or the category. This distinction is critical for the *Job Construct* because what has been researched previously indicates that *Jobs* have an emotional component attached into them (Christensen & Johnson 2009).

⁸⁹ This was described previously.

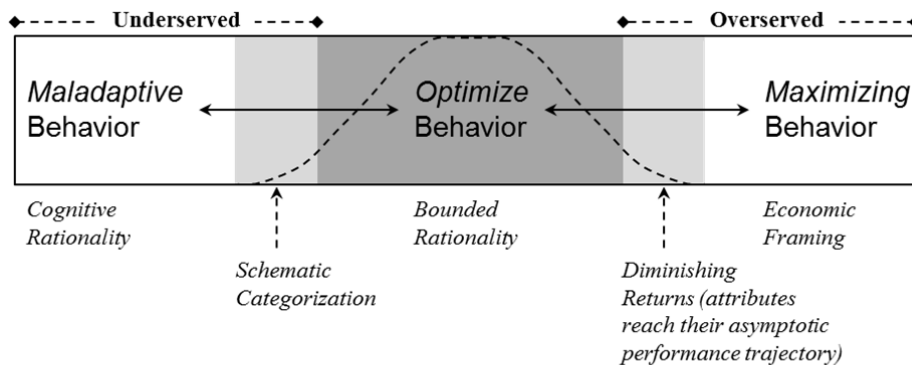
understand the *Job Construct* and its anatomy and while doing so visualize if this pattern is the result of having *Derivatives* (Wheelwright & Clark 1992; Wheelwright & Clark 1994) of a *Job* or different *Jobs*.

The last categorization scheme reviewed in this section has been identified in a variety of other literatures such as *Economics, Psychology, Human Resources, Technological Change* and *Marketing*. This categorization scheme is largely incomplete and intriguing. It basically describes a *Discontinuity* in the performance trajectory of all the attributes that comprise a product or service, but is a strange *Discontinuity* as it asymptotically flattens the main traditional performance attributes through which the customer evaluated the product or service in favor of a different cadre of attributes that until then had remained as either ancillary dimensions or that had not been even introduced before. It's a phenomenon labeled *Overserving*.⁹⁰ This phenomenon was first documented by Jacques Turgot, a minister in the government of Louis XV, who among its many obligations had to deal with food shortages. In 1767 he observed that if a farmer simply throws seed on a plot of land he will get only a very small crop. If he tills the soil just before seeding, he will get a much larger crop, and if he tills the land twice he might not double but triple its output. So the more the farmer works the soil the more he will progressively get a larger crop. But at some point the soil will become exhausted and each incremental unit of effort from the farmer will result in a decreasing amount of return. On the basis of that observation Turgot articulated the law of *Diminishing Returns* (Beinhocker, 2006). Much later, Herbert Simon (1956; 1955) observed that organisms can survive over extended periods of time by making sub-optimal choices in a defined psychological environment. These choices would be based on their rather simple perceptual mechanisms, which are still good enough to have them avoid making sub-optimal choices. With this observation, and contrary to the traditional *Economic Rationality*, Simon (1986) sets the discussion between two extremes; the *Maximizing* behavior, which has been postulated in economic theory vs. the *Optimize* behavior which ignites a new research field in *Psychology* oriented towards individual adaptation (Simon 1957). Another literature where researchers started to control for this categorization is *Organizational Behavior*, specifically in the line of research that deals with employee satisfaction (Herzberg 2003). As mentioned, the *Technological Change* field names this phenomenon *Overshooting* (Adner 1998; Christensen, Anthony, et al. 2004) while the *Marketing* literature refines this categorization scheme in two versions according to two different *Units of Analysis*,

⁹⁰ It is also known as *Overshooting*.

the *Product* and the *Category*. In the product category, those attributes that become asymptotically flat are dubbed *Hygienic Factors* (Shane 2009) and describe the basic attributes that satisfy the basic fundamental *Need* a product intends to satisfy. The category *Unit of Analysis* mentions that there are *Hyper Mature* categories, an indication that they have been present for a long time, that they have had hundreds of competitors and that the customer knows them inside out (Moon, 2010). Although this *Normative* based categorization scheme⁹¹ with (in total) three types of customers (*Underserved*, *Overserved* and *Nonconsumers*) has proven very helpful for practitioners when it comes to maximize *Return On Investment* on their *Resource Allocation*, it has proven elusive in marketing terms (Tellis et al., 2006). The reason is that the behavior of industries once underserved consumers represent a minority of the total amount of the population is fundamentally changed (Jacobides, 2005). This research has shown that once the aggregate market penetration threshold is high both the industry rules and the consumer behavior change (Bain 1959; Porter & Rivkin 2000; Tripsas 2008). The reason is that there is a disintegration force originated in the modularity of the different pieces of the architecture of the industry which produces waves of business model discontinuities that are extremely difficult to manage (Henderson, 1988; Schumpeter, 1939, 1942, 1954; Tripsas, 1997). Figure 2.21 describes this categorization scheme that has been adapted from Simon (1956). This figure describes the fundamental implication this categorization scheme has for both research and theory development.

Figure 2.21: Overserved Normative-Based Categorization Scheme



NOTE: This model has been built from Simon (1956).
It is not present in the article and has been extensively modified.

⁹¹ An *Attribute* based categorization scheme represents the grouping of *Constructs* in mutually exclusive and collectively exhaustive categories. A more exhaustive explanation that describes its role in theory building is provided in Appendix A.

Figure 2.21 describes how the Psychological *Optimize Behavior* and the Economic *Maximizing Behavior* are not the only cognitive responses. There is also the *Maladaptive Behavior* usually embodied in the *Cognitive Framing* literature (Kaplan 2004; Kaplan & Henderson 2005). Important elements of this categorization scheme are Simon's observation, that *Optimize Behavior* is the optimal (satisfactory) adaptive response and that performance trajectories that improve beyond this threshold start to *Overshoot* the customer. The *Underserved* categorization, on the other hand, describes the steep slope of the asymptotic performance trajectory and the way customers select it. The cognitive framing literature refers to those as *Schemas* which are labels or categories customers place on new information to help guide the process of interpretation (Alba and Hasher, 1983). The *Marketing* literature has traditionally attributed the causality of new product adoption to the *Needs Construct* (Bayus, 2005; Kotler and Trias De Bes, 2003; Ulwick and Bettencourt, 2007; Ulwick, 2003a). This thesis deals with the other extreme of this framework; for largely *Overserved* industries how do new customers transition from the *Maladaptive* to the *Optimize Behavior*? Assuming, as has been previously researched, that the leading *Construct* of new product adoption in *Underserved* industries is the *Need*⁹², this thesis analyzes whether if it's the *Job Construct* the leading variable in *Overserved* industries.

Normative Constructs in Marketing: Signs That Theory Building is at a Much Earlier Stage

Although in the *Technological Change* literature the most useful way to distinguish the *Normative Constructs* was separating them between unaltered, altered and newly appeared, the *Marketing Literature* is at a much earlier stage, especially when viewed through the lenses of the methodology on theory building described in Appendix A. Therefore it is more useful to unite the first two groups under one label named causal constructs.

Causal Constructs: The three constructs where most of the new marketing theories revolve around are the *Bounded Rationality*, the *Choice Model*⁹³ and the *External Impetus*. The *Bounded Rationality* construct seems to appear as a *Discontinuity* in customer's preferences data (Beshears et al. 2008; Simon 1955). It tends to signify a change in the customer's attitude, that transitions from over-analyzing alternatives, because from the customer's point of view the amount and complexity among them is

⁹² There are several lines of research in the marketing literature that indicate that the *Need Construct* may not be the fundamental driver of new product adoption (Dougherty 1992; Dunlap-Hinkler et al. 2010; Hair et al. 2010)

⁹³ This is introduced in the literature as a *Model*. As explained previously we have re-classified it based on its contribution. This *Model* introduces three *Constructs* (*Conjunctive*, *Disjunctive* and *Compensatory*) that predict how the consumer will react (Coombs 1951b).

understandable, to reducing the level of understanding that satisfies the few parameters that customers define ex-ante in order to adapt to the “real world” (Weber & Mayer 2010). Although this implication can also be made extensive to the company’s managers (Simon 1991) the literature of consumer preferences has been persistently controlling for this *Normative* construct, so in addition to the *Shortsightedness*, *Cognitive Biases* and *Framing Effect* in the customer’s perception (Simon 1997a), there are also biases like *Representativeness*, *Availability*, *Anchoring* and *Adjusting* (Kahneman and Tversky, 1979). Consumer’s behavior is therefore jointly determined by both normative preferences and other factors such as *Analytic Errors*, *Myopic Impulses*, *Inattention*, *Passivity* and *Misinformation* (Beshears et al., 2008). *Bounded Rationality* is then a construct that summarizes and integrates the goal specificity and the *Observed Formalization* (Scott, 1981) with a particular emphasis on the *Context* (Child 2009; Simon 1956).

Consumer’s behavior has also been studied from the literature of computer science. This is where the *Choice Model* was originated. Since many theories of consumer behavior involve *Discontinuities* (Maggitti et al., 2013), these discontinuities have been introduced in the marketing literature as part of a discrete-choice model where alternatives that pass the screen are evaluated using *Random Utility Theory* (Gilbride and Allenby, 2004). Alternatives that don’t pass the screen are discarded as they have a zero probability of being chosen. The evaluation of alternatives is based on three constructs. First the *Conjunctive rule*, that posits that alternatives that are not satisfactory on all requirements are discarded. Second the *Disjunctive rule* that separates each requirement when introducing it to consumers, if that particular requirement is passed then the alternative passes to the next round (Dawes, 1964). Third the *Compensatory rule*, a version of the *Conjunctive rule* where even if an alternative has a requirement that is not good enough it can still be selected based on how valuable the other requirements are to the consumer (Jedidi and Kohli, 2005)

Consumer’s search of products is influenced by product evaluations (Aviv, 2010). Product evaluations are at the same time influenced by how the requirements are introduced. For instance, outcomes are different depending on if the requirements are all introduced at the same time (*Conjunctive*) or one after another (*Disjunctive*). Therefore the *Choice Model* has a strong influence on the consumer’s *Bounded Rationality* (Stüttgen et al., 2012). The third causal construct reviewed in this section deals with

what's in the link between new product launch deliberate activities and new market success (Talke and Hultink, 2010), and specifically in the role of these deliberate activities on ruling out the previously identified adoption barriers. Previous work identifies the influence of these activities in the *Adoption Barriers* (Bagozzi & Lee 1999; Talke & Hultink 2010). The main conclusion from previous research describes how addressing the different stakeholders before introducing a new product has a positive effect on the adoption rate and hence on the *External Validity*. The *Marketing* literature is strongly connected to this *Construct* in the sense that research indicates the proactive tactical launch that includes the stakeholders that management should be considering in the *Marketing Mix* (Hsieh et al., 2006). Once these tactical activities have been introduced communication is key for helping consumers identify where they are and where would they like to be⁹⁴. *External Impetus* is measured using the following 4 proxies: *Adopt*, *Adopt Overcoming Resistance*, *Keep Decision Open*, *Resist*.

These two *Constructs* are extremely important for this thesis. Although their respective authors recognize they are both quite preliminary and unexplored (Simon 1997b). The *Bounded Rationality Construct* is, at the extreme, implying there is a new context specific *Circumstance*⁹⁵ that has the potential to significantly alter previous conclusions from several research fields. The best way to visualize this is by analyzing how inferior technologies that are involved in new product introduction tend to have more success over time (Acur et al., 2010; Sood and Tellis, 2010b), or how simplified products and services gain a rapid and widespread adoption when in other *Circumstance* they would have been adopted in the first place (Dunford et al., 2010).

Newly Appeared Constructs: The three newly appeared constructs are the *Value Perceived*, the *Complaints* and the *Outcomes* (Bettencourt and Ulwick, 2008; Ulwick and Bettencourt, 2008; Ulwick, 2009a). The *Value Perceived* construct is understood as a relative dimension from which customers categorize if the new offering is better or worse from the point of view of where they are standing, previous research indicates that there are 4 levers that influence this *Construct*⁹⁶; the *Content*, the *Commerce*, the *Context* and the *Connection* (Wirtz et al., 2010), the relativity concept is best understood with the following example. The amount of knowledge Business School students obtain from the Business School is often used by them to continue improving their managerial abilities. However this

⁹⁴ This comes from the *Goal-Setting* vs. *Goal-Striving Model* (Bagozzi & Lee 1999).

⁹⁵ That the previous literature on *Technological Change* has dubbed *Overserved* or *Overshooting*

⁹⁶ They have been named the 4C's as opposed to the 4P's.

improvement departs from the relative level of managerial abilities students already had prior to coming to the Business School, and henceforth they will be able to increase their after-school salary⁹⁷ (O'Brien et al., 2010). Other ways to measure customer value is adjusting for the type of customer or the type of purchase (Dolan, 1999), if the product has positive *Customer Externalities* (Schieffer, 2005; Tellis et al., 2006), if the customer thinks it's not going to be able to get it (Barney, 1986a) or that it may lose it (Kahneman and Tversky, 1982).

The *Complaints* construct is valuable and rare, as over 90% of unsatisfied customers never end up complaining (Schieffer, 2005). It however might indicate the absence of a very valuable or expected outcome or the manifestation that the outcome they were expecting to obtain was not delivered in the way they were expecting⁹⁸. Although complaints are rare, they also represent ex-post measurements that indicate how well the product was accepted. They are very useful for inferring how to gain market share in the future. The last construct, the *Outcome* indicates to the group of performance metrics that the adapted customers will base their decision on when deciding if they will adopt a new product offering (Ulwick 2009a; Ulwick 2005; Sutton 2007; Weber & Mayer 2010). *Outcomes* must be set by the customers and must be simple and straightforward (Ulwick, 2005). Additionally there must be a finite number of *Outcomes* (between 50 and 150) because, as previously stated, customer's perception is limited (Ulwick, 2002a). *Outcomes* in this stage tend to be instrumental for untangling the *Marketing process*⁹⁹ (Ulwick, 2003a, 2003b).

2.2 The Role of Organizational Design and Entrepreneurship in Corporate Sustainability

When it comes to understanding the difficulties that firms have in recognizing new growth opportunities, one of the most distortive factors is the *Organizational Design* itself (Lawrence and Lorsch, 1967). When research doesn't control for the *Organizational Design* it is difficult to ascertain unequivocally the relationship of cause and effect. This section is composed of two sub-sections. The

⁹⁷ Previous studies indicate that their after school salary can go up to \$24,000 if the Business School research is relevant enough.

⁹⁸ In the banking industry the statistic are the same, for every customer that complains there are about ten who don't (Dougan, 2004).

⁹⁹ The *Marketing process Dominant Design* today is the *Segmentation-Targeting-Positioning Framework* (STP) (Adner, 1998; Schieffer, 2005). This means scholars and practitioners both are using a *Model* that is based on one *Descriptive Construct*, one *Descriptive* categorization scheme and one limited *Normative* model. One of the reasons that justify the methodology described in this thesis is separating the factors that drive correlation from the ones that drive causality and pointing out how observing a "map" that described the state of the theory is very useful for pointing out areas of improvement and identifying the points from where *Variability* and *Error* sets in.

first is an empirical observation that describes how *Organizational Design*, rather than being *Contingent*, is often rigid and tends to mirror the firm's main *Product Design*¹⁰⁰, in other words, the product that brings to the firm the largest share of profits (Juran, 1960). The second section introduces a *Framework*, built from extant literature on *Organizational Design* and *Corporate Entrepreneurship* that it will be later used in the research study.

The Mirroring Hypothesis as the Underlying Assumption that Seals Corporate Rigidities

The literature on incumbent's rigidity in front of a threat is very substantial. It has been analyzed from the point of view of several research fields being the most prominent and *Explanatory* ones *Organizational Economics* (Nelson & Winter 1982; Porter 1996), *Organizational Learning* (Stevenson 1976; Levitt & March 1988; Schein 1990; March & Simon 1958), *Technological Change* (Wheelwright & Clark 1994; Leonard-Barton 1995) and *Psychology* (Kahneman and Tversky, 1982, 1984; Tversky and Kahneman, 1986). However, within the substantial literature on the incumbent's rigidities in front of a threat, there is an underlying assumption that remains solidly grounded in every *Construct*, *Framework* or *Model*: The *Mirroring Hypothesis* (Colfer & Baldwin 2010)¹⁰¹. It states that the organizational structure, although somewhat messy at the origin of industries due to the large degree of *Interdependence*, ends up mirroring the architecture of the product that is being manufactured or that is in development (MacCormack et al. 2004; Clark 1989; MacCormack et al. 2008). This hypothesis is quite tricky because when the organization is not facing an external threat this type of organizational architecture is very efficient and effective, and is actually the organizational structure that practitioners have been advised to adopt and that usually yields substantial results. The reason that this is such a desirable goal for the organizational design is threefold. First, because it helps modularizing the product(s) (Ulrich 1995; Simon 1962); second, because it is also useful for modularizing and compartmentalizing the organization (Von Hippel, 1990) and; third because it is the optimal structure to track communication needs over time (Conway 1968; Henderson & Clark 1990).

¹⁰⁰ Although the name of this section contains the words *Organizational Design*, the section is devoted to shaping the research question of this thesis, therefore it's not intended to elaborate on the different types of designs and how they have emerged over time (Eisenmann & Bower 2000; Chandler 1988; Chandler 1962) but to focus on the two issues described, that have a strong influence on this thesis research hypotheses.

¹⁰¹ The *Mirroring Hypothesis* is also known as both the *Conway's Law* in *Computer Science* (Conway 1968) and the *Socio-Technical Congruence* (Cataldo & Herbsleb 2008).

The *Mirroring Hypothesis* is very widespread in organizations today, irrespective of whether they are *Interdependent* or *Modular* in nature. The reason is that there is a strong relationship between the dependency structure of design components (the product itself) and the structure of organizational ties between designers. This is the reason that the *Mirroring Hypothesis* originated from the intersection of two literatures, the *Organizational Design* literature (Galbraith, 1977; Weick, 1989) and the *Product Design* literature (Alexander, 1964; Ulrich, 1995). In addition to these two literatures, the *Mirroring Hypothesis* is also consistent with the literature on industry development (Bain, 1959; Klepper, 1997) and specifically with the *Product* and *Process* innovation literatures (Utterback and Abernathy, 1975).

However the implications of the *Mirroring Hypothesis* are much more significant. It is also an assumption that lies at the heart of most of the *Descriptive* research that focuses on the failure of incumbents in front of a technological threat (Cabigiosu & Camuffo 2011; MacCormack et al. 2012).

From the internal point of view, *Architectural Innovation* (Henderson & Clark 1990) holds that it is a new product architecture what causes incumbents to fail, since the product is at the same time embedded in an organizational architecture that mirrors it. When March and Simon (1958) explored the origins of organizational inertia they observed that it was prevalent in an organization for a very strong reason. If there were no inertia the organization would be much more inefficient than otherwise. Additionally the construct *Competency Trap* (Leonard-Barton, 1995) is also aligned with March and Simon's view. However in this case the *Competency Trap* indicates a non-returning point in the degree of *Organizational Commitment* (Sull, 2005) that impedes the organization from adopting a particular initiative in response to an organizational threat. It is remarkable though, that the fact the organization reacts is mostly caused by the new entrant. It seems that only if the new entrant chooses an entry strategy targeted at the incumbent's most valued customers that that is what will cause a reaction (Christensen 1997c; Pfeffer & Salancik 1978; Bower & Gilbert 2005). This would normally cause the organization to alter its learning structure. A very specific structure that has been learned and assimilated both *Tacitly* and *Explicitly* (Nonaka and Takeuchi, 1995; Nonaka, 1994) over the years with the following two objectives. The first is to capture information that helps reinforce the current product(s) architecture. The second is to discard the information that doesn't do so by helping to shape the right organizational structure (Pettigrew, 1979). The main effect of a new entrant causing an

incumbent's reaction is the alteration of both the incumbent's organizational and *Cognitive Frames* (Kaplan et al. 2001). However, despite this radical internal change, the very same forces of *Inertia* and *Competency Traps* mentioned previously start their automatic resilient process that manifests itself through a slow motion process through which most of the new information introduced by the new cognitive frame gets discarded again. In no more than two or three years the organization has stuck back to its *Core* (Skarzynski & Gibson 2008) leaving plenty of room to the new entrant to continue its competitive march. Other reasons that try to explain incumbent's failure in front of a *Discontinuity* have emerged from a variety of research fields, among the most widely known are the *Architectural* nature of the new technology (Henderson & Clark 1990), the sources of *Inertia* inherent in the firm (March & Simon 1958), the *Competency Traps* resulting from deeply embedded beliefs about the way things work in a particular industry and its corporations (Leonard-Barton, 1995), the degree of *Commitment* that surrounds the firm and its stakeholders (Sull, 2005), the inability of the firm to modify its *Organizational Learning* structure (Pettigrew, 1979), the *Cognitive Frames* used by the firm to understand the industry (Kaplan et al. 2001; Barr et al. 1992), the difficulty of separating perception from action in the established firm (Bower & Gilbert 2005) and the difficulty in accepting this anomaly and instead describing this process as a rational choice where the established firm can't invest because of *Cannibalization* (Gilbert & Newbery 1984b; Reinganum 1984; Tirole 1988). The most effective way to visualize the *Mirroring Hypothesis* from the external point of view is through the performance trajectories of both the established firms and the new entrants (Dosi, 1982; Teece, 2008). Dosi observed that consistent with the literature on technological path dependency (Malerba, 2002; Ruttan, 1996) firm's performance is tightly linked to its technological dominant design. This view is also consistent with the Industrial Organization view of the firm (Bain, 1959, 1964), where the industry is created and contains the set of companies that compete within it. According to this view the performance of the established firms depend more on the structure of the industry than on the actions of its competitors (McGahan & Porter 1997). Hence it's industries that improve at acting as weak economic substitutes to satisfy consumers in very specific *Needs* (Rumelt, 1991; Sanchez and Mahoney, 1996). In order to accomplish this task industries contain within themselves a set of standards that represent the *Mirroring Hypothesis* (Jovanovic, 1982).

Colfer and Baldwin's (2010) research contains an empirical test of the *Mirroring Hypothesis*. In this project the authors analyzed 129 projects in search for the *Mirroring Hypothesis*. Each of these projects can be classified in the following three groups:

- 1) Development project within a single firm (22 studies)¹⁰².
- 2) Projects spanning two or more firms (72 studies).
- 3) Projects undertaken by open collaborative communities (30 studies).

The *Mirroring Hypothesis* received support in 72%¹⁰³ of the cases. However what's relevant is the breakdown. Among the projects within a single firm 21 out of 22 (96%) projects supported the *Mirroring Hypothesis*. In the case of projects spanning two or more firms 46 out of 72 studies (64%) supported it. Finally, in the case of open and collaborative communities, only 7 out of 30 cases (23%) supported the *Mirroring Hypothesis*. There are three reasons that explain these results. First is the degree of *Modularization* of the organizations studied; second is the *Value Network* or where the firm was nested inside the industry's architecture and; third the very nature of the projects that these companies were undertaking. Most of these projects pursue objectives that tend to be outside of the incumbent's nested hierarchy of subsystems (MacCormack et al. 2010; Alonso et al. 2008). For example, initiatives related to *Cross-Selling*, *Corporate Entrepreneurship* and *Corporate Venturing*.

Organizing the Response: Corporate Entrepreneurship & Venturing within the Organizational Design

Simon's (1962) contribution of the concept of *Architecture* has benefited extensively from the separation between *Modular* and *Interdependent*¹⁰⁴. *Interdependence* and *Modularization* represent two extremes of a continuum (Teece, 1986). Although apparently the degree of *Interdependence* or *Modularization* seems to be a deliberate *choice* (Casadesus-Masanell and Ricart, 2008, 2009) the empirical literature on *Organizational Design* and *Innovation* shows that most of the organizations that have helped to create an industry are fully interdependent and have a strong policy of keeping every critical activity and asset in-house (Abernathy & Clark 1985; Abernathy & Utterback 1978). There is a robust reason for that, when industries are at the brink of entering a period of high-growth (Klepper and Graddy, 1990; Klepper, 1997; Simons, 2005) consumers tend to be noticeably *Underserved* (Christensen

¹⁰² Numbers differ from the original paper because the cases that didn't address the *Mirroring Hypothesis* directly were not included.

¹⁰³ Numbers are different than the original paper because the group "contributors with rich ties" was considered as *Interdependent* in nature.

¹⁰⁴ The term *Integrated* is also widely used (Ulrich, 1995).

1997c), this forces companies to develop every critical component in house because there is no way outside corporations can provide components with better *Functionalities* (Chesbrough, 2003). However when organizations have succeeded in capturing most of the underserved consumers they start experiencing diminishing returns in their R&D activities (Christensen, Musso, et al. 2004). A fully adaptable organization would at this point disaggregate into several fully independent business units¹⁰⁵ but *Resource Dependence* explains this is not usually the case¹⁰⁶. As a result the *Interdependent* organization meets the *Mirroring Hypothesis* but struggles to survive in a world where its *Business Model* architecture is not as capable as before in attracting high margins (Christensen, Anthony, et al. 2004; Christensen & Raynor 2003a). On the other hand a cadre of disruptive competitors starts to emerge sequentially throughout the industry (Christensen et al. 1998), the main difference between them and the established firm is the fact that they are leveraging the power of *Modularity* in a much more effective way (Baldwin & Clark 2000). Then the problem aggravates because of the *Inertia*, *Competency Traps*, and the rest of factors outlined previously. The *Mirroring Hypothesis* seems to hold for *Interdependent* companies and for *Modular* companies that have found a way to become *Modular* inside an ecosystem through externalizing most of their *Competence-Destroying* activities (Tushman & Anderson 1986; Smith & Tushman 2005; Anderson & Tushman 1991). These companies are usually labeled *Ambidextrous* (He and Wong, 2004; Tushman and O'Reilly, 2004) and the innovation literature strongly supports this specific organizational architecture as a way of maximizing the firm's sustainability (Smith et al. 2010).

In Colfer and Baldwin's study the group that didn't support the *Mirroring Hypothesis* was the one formed of projects being undertaken by open collaborative communities. Only 23% of the cases supported it. Their research indicates that the publication date of the studies used for their research is recent. 95% of them were published after 1995 and, more specifically, 86% were published after the year 2000. Since most of the industries used as a research field for the empirical work were created more than 40 years ago it seems plausible to infer most of them will have suffered at least several waves of *Discontinuous* change originated from both external forces such as technology, regulation etc. and

¹⁰⁵ Colfer and Baldwin's (2010) research introduce the concept *Actionable Transparency* to account precisely for a group of organizations that although they had a fully modular architecture have created an ecosystem where both independent and dispersed contributors have made highly *Interdependent* contributions.

¹⁰⁶ *Economies of Scale* (Chandler 1977), leveraging the value of *Complementary Assets* (Teece, 1986, 2006) and the degree of *Fragmentation* of the industry (Hodgetts 1999; Porter 1980; Porter & Rivkin 2000) are some of the reasons that explain why management is so reluctant to disintegrate.

internal forces such as the *Industry's Life Cycle* (Perrons et al. 2004; Fine 1998) or the effect of new competitors in the ecosystem (Iansiti & Levien 2002; Huang et al. 2009). From the *Descriptive* side of theory building these industrial transformations describe a process where industries transition to another stage in the natural evolution of an industry (Hatten et al., 1978; Simons, 2005). However, from the *Normative* side, the fundamental cause that describes an industry's internal turmoil is the deliberate decision of the main incumbent firms of abandoning a low-margin business (Christensen 1992c), this process enables the implementation of *Discontinuous* technologies that end up both accelerating the rate of evolution of the industry and helping the established firms look more profitable in front of investors (Rosenbloom & Spencer 1996; Rosenbloom & Christensen 1994). Although this is the main effect there is another one that affects directly the *Mirroring Hypothesis*, the more these new entrants capture a larger share of the industry's current customers the more they alter the fundamental structure of the industry because of the way they are organized. The innovation literature describes this phenomenon with the concept *Disintegration* (Grove, 1996; Jacobides, 2005). In this process what is essentially happening is that a group of *Modular* competitors are taking over the industry because the established firms, although they still control the main *Complementary Assets* throughout their tightly-coupled *Interdependent Business Model* (Rothaermel, 2001b) can't find a way to be as profitable as the *Modular Business Models* (Johnson et al. 2008) even though they have tried very hard and have outsourced, reengineered operations and *Modularized* as much as possible (Grönlund et al., 2010). One of the main reasons for that comes from the empirical observation that shows the economics always look better for established technologies (Hill and Rothaermel, 2003). The ones that have fully depreciated their asset base (Christensen, Kaufman, et al. 2008). The fact that in the Colfer and Baldwin's study the secondary data used is so recent is an indication that this process is actually happening. Which means the colonization of *Modular* corporations that are taking over the ones that are *Interdependent* is well underway¹⁰⁷. In this situation the *Mirroring Hypothesis* no longer holds, because open collaborative communities tend to be created to solve problems that couldn't be solved before with closed *Business Models* (Chesbrough and Appleyard, 2007; Chesbrough, 2003, 2006). In this *Circumstance* most of the *Modular* competitors are not trying to achieve this objective but to compete

¹⁰⁷ In the case of this thesis a common example would be the modular competitor ING Bank. This bank has captured and, despite the economic situation, is still capturing a large portion of the industry's growth (Dunford et al., 2010)

on margins against each other due to the effect of the *Dissipation of Differentiability* (Christensen et al. 2002; Doganova & Eyquem-Renault 2009). Colfer and Baldwin's describe this way of competing through *Modularization* as sharing three characteristics (p. 33): "We identified three conditions common to all cases: (1) compatible motivations with no significant economic conflicts of interest; (2) frameworks supporting expectations of good faith; and (3) a shared understanding of the evolving design amongst the dispersed and independent contributors". A set of characteristics through which they have inductively come up with a new *Construct* named *Actionable Transparency*. This new *Construct* describes a situation where a group of *Modular* competitors that are situated in a high-growth industry have more interest in sharing forces (Garcia et al., 2007) and capturing more *Market Share* than in competing against each other. This type of industry renewal has also been identified in the innovation literature as competition among two nested architectures (Rosenbloom & Christensen 1994; Murmann & Frenken 2006). This process describes one *Interdependent* architecture where its components are tightly coupled (Danneels, 2003) according to a specific product architecture (and therefore meeting the *Mirroring Hypothesis*) that is being taken over by another architecture loosely coupled (Danneels, 2003; Sanchez and Mahoney, 1996) formed of *Modular* components with standardized interfaces between them (Arthur, 1989).

Outside the Nested Architecture: Cross-Selling, Corporate Entrepreneurship and Corporate Venturing

The two previous sections described how the result of the incumbent's outstanding performance causes an increase in their degree of *Commitment* (Sull, 2005; Sull et al., 1997) with its *Interdependence* which ends up so entangled in their structure that they just can't disaggregate to *Modularize* (Chesbrough, 2010). They maintain their *Interdependent* architecture meeting the *Mirroring Hypothesis*. According to the innovation literature that was described previously how in the *Value Network* of an industry there are groups of nested architectures that compete against each other. Although these groups of nested architectures tend to be grouped into *Clusters* (Porter 1980) they still maintain a loosely-coupled architecture inside the *Value Network* that not only favors them but also helps them continue their up market march (Baldwin et al. 2003). However, according to this view, these explanations should account for all the cases and in Colfer and Baldwin's paper there are 23% of cases of open collaborative communities where the *Mirroring Hypothesis* was actually clearly challenged. The answer to these cases

lies in the type of initiative undertaken. According to Colfer and Baldwin (2010) the sample of collaborative communities was comprised of studies that focused only on developed products (87%) and of studies focused on openly developed and commercialized products (13%). Henceforth no products that belonged to the R&D department or that were at their very early stages of development have been assigned to the collaborative groups. It seems that many open collaborative groups didn't *Modularize* neither labor nor knowledge (Baldwin & Clark 2006; Baldwin & Woodard 2008; Baldwin & Clark 2000). The reason appears to be that in open collaborative projects the role of *Modularization* depends on the size of the group and the project. As depicted in Figure 2.22 when both the collaborating group and the product development group are small *Modularization* is usually unnecessary as both the ad hoc means of coordinating and the *Actionable Transparency* are enough to complete the project (Gutwin et al., 2004; Mockus et al., 2000). Most corporate initiatives fit into this description and represent incremental improvements of the firm. When product development is small but the collaborating group is large problems of coordination arise almost instantaneously. This quadrant represents the first set of exceptions identified in the engineering and product design literatures. It is best described with the deliberate creation of a *Modular* system by a team or a firm (Mead & Conway 1980; Bell & Newell 1971), this methodology will help them remove dependencies between modules by establishing *Design Rules* (Baldwin & Clark 2000). However it is important to note in this case designers must have a prior knowledge of all implicit or potential dependencies. This is usually the case of *Corporate Venturing* initiatives, practitioners usually describe these kind of situations as cases where they understand the new initiative and what does it take to pursue it successfully while at the same time they observe incompatibilities between their current *Business Model* and the new initiative (Burgelman, 1988; Dunlap-Hinkler et al., 2010).

In the opposite case, when product development is large but the collaborating group is small, the use of a *Serial* task architecture is the most common response. Coordination problems are not present but the large number of tasks required to meet all the product development criteria acts as a strong incentive to *Modularize* the process into several stages. One of the most used models to *Modularize* the process is the *New Product Development (NPD) Funnel* (Wheelwright & Clark 1994; Wheelwright & Clark 1992), in this *Model* the product architecture is allocated to physical components and its linkages are ranked by

managerial importance (Ulrich, 1995). This quadrant describes a case where the firm enters a process by which teams within an established firm conceive, foster launch and manage a new business that is distinct from the parent company but leverages the parent’s assets, market position, capabilities or other resources, which is the standard definition of *Corporate Entrepreneurship* (Wolcott and Lippitz, 2007). The last quadrant – when both the product development and the collaborating group are large – represents the second set of exceptions to the *Mirroring Hypothesis*. In this case the most common organizational architecture consists of a self-organized “core” group that makes both large and small contributions and a “peripheral” group that makes only small contributions within the modular parts of the product development (Koch & Schneider 2002; Von Krogh et al. 2003). In this case the core contributors actually “brake the mirror” while the peripheral doesn’t. Entrepreneurial opportunities that happen outside the firm tend to fit this description and that is one of the reasons that the *Mirroring Hypothesis* doesn’t hold here. These are situations where no *Strategic Context* is needed when the very nature of the *Organizational Design* is supposed to provide it (Chakravorti, 2010; Stevenson and Jarillo, 1990).

Figure 2.22: Organizational Design and Growth Initiatives

| | | Product Development | |
|---------------------|-------|--|---|
| | | Small | Large |
| Collaborating Group | Large | Corporate Venturing Exception 1: Design Rules (Baldwin & Clark 2000) | Entrepreneurship High Interdependent Contributors Without Support |
| | Small | Incremental Improvement Modularization Unnecessary (Actionable Transparency) | Corporate Entrepreneurship Interdependency Required |

NOTE: This model has been built from Colfer & Baldwin (2010). It is not present in the article.

Colfer and Baldwin (2010) argue there are three conditions that explain when the *Mirroring Hypothesis* doesn’t hold:

1. Contributors had mutually compatible motivations and essentially no major economic conflicts of interest with respect to the design.

2. Contributors operated within frameworks that gave them reason to expect good faith and protected them from malicious or unintentional harm by co-contributors.
3. Contributors had common ground from which they shared design information and acted on the evolving design.

These three conditions have their respective equivalents in the literatures that are reviewed in this thesis. Regarding the first condition, the *Technological Change* literature describes accurately when the motivations of the established firms, both external and internal, don't represent a major economic conflict of interest. These situations are described as *Competence-Enhancing* (Tushman & O'Reilly 1997; Tushman & Anderson 1986)¹⁰⁸ and they fundamentally describe initiatives that are aligned with both the *Frames of Reference* of the firm (Kaplan 2004; Kaplan 2005; Kaplan & Tripsas 2008) and the company's organizational *Capabilities* (Teece and Pisano, 1994; Teece et al., 1997)¹⁰⁹. The second condition describes contributors that operated with *Frameworks* that gave them reason to expect good faith and no harm both in the short and long term, one of the main ways to cause harm is by blocking resources. If contributors didn't have this lack-of-resources problem, no matter if the initiative grows and demands more resources, this will mean the *Resource Allocation* (Bower, 1986; Burgelman, 2003) initiatives undertaken have *Impetus*. The *Impetus* construct has been described as a set of initiatives that normally start at the bottom of the organization but that end up making their way up to the top management attention and get both funded and planned. However organizations don't provide *Impetus* to initiatives that step outside of their *Business Model* (Bower & Gilbert 2005). When *Structural Context* defines the initiatives that gain *Impetus* there is a clear sign that both internal *Commitments* (reporting, *Competency Traps* (William Barnett & Hansen 1996), etc.) and external commitments (customers, capital needs, etc.) are clearly defined (Buenstorf and Klepper, 2010).

The third condition describes a phenomenon much broader. It describes how contributors share a common ground. Specifically Colfer and Baldwin indicate that this "common ground" refers to both how to codify and interpret product design information and what channels and protocols to use for

¹⁰⁸ Although not reviewed in this thesis the *Neoclassical Theory* extant literature also describes when the established firm has the incentives and motivations to undertake an initiative (Nelson and Winter, 1974, 1982). The literature on *Organizational Economics* also describes this phenomena (Rouse and Daellenbach, 1999; Stieglitz and Heine, 2007)

¹⁰⁹ Although the organizational capabilities framework comes from the *Strategic Management* literature it was included here under the *Technological Change* literature because of its impact on the role of *Complementary Assets* in front of a *Technological Change* (Teece, 1986, 2006)

exchanging and discussing design information (Clark 1996). In the example provided they introduce the sub-system of the car's windshield wiper (Mikkola, 2003) as an illustration of how one Tier 1 supplier had difficulties manufacturing the device for the Chrysler Jeep Cherokee. However the decision of what to outsource from your business model is a decision that affects the *Business Model* itself (Johnson 2010). Therefore this third condition is related to the *Business Model* literature in the sense that at both the internal and external level of the firm the design information is shared and acted upon. In the *Organizational Learning* literature there is an indication of when a *Corporate Entrepreneurship* initiative is going to be successful, the answer provided is related to the number of corporate initiatives that had been previously undertaken and the learning-by-error approach (Burgelman, 1983c). *Corporate Entrepreneurship* is a process that is prone to a lot of error, slack and competition of resources in case of being successful. However, despite all these factors it still has a higher success rate than the *Corporate Venturing* initiative, where the success rate of launching new businesses outside of the core is significantly smaller (Burgelman, 1983b, 1988; Gunther McGrath et al., 2006).

For the last half a century scholars have debated on the *Profitability* construct¹¹⁰ and its lagging role in some firms (Hoskisson et al., 1999). The findings that are related to the performance superiority of a group of firms have been researched both at the industry level (Bain 1959; Nelson & Winter 1974; Hannan & Freeman 1977; Porter 1981; Tirole 1988; Hannan & Freeman 1989; Freeman & Soete 1997) and at the firm level (Barney, 1986b, 1986c; Mahoney and Pandian, 1992; Newbert, 2007; Penrose, 1959; Rugman and Verbeke, 2002; Wernerfelt, 1984; Westphal et al., 2006). At the firm level, after both the *Interdependent* and the *Modular* constructs were clearly established (Langlois & Robertson 1992; Ulrich 1995; Sanchez & Mahoney 1996; Crandall 1996; Baldwin & Clark 2000; Christensen et al. 2000; Schilling & Steensma 2001; Staudenmayer et al. 2005), the *Attribute*-based categorization scheme of *Interdependency vs. Modularity* has been gaining prominence in the literature as a specific distinguishing characteristic of the incumbent vs. the new entrant (Poole & Van De Ven 2004; Bower & Gilbert 2005; Schilling 2000). Some scholars consider this distinction as the key leading variable that predicts if a particular firm will outperform its rivals (Lenox et al., 2009). *Interdependence* is at the same time the result of the increase of interactions of components of a particular product as it gets modified to

¹¹⁰ This is an example of a *Normative* construct. Profitability is the lagging variable of a definite set of leading variables that have the effect of delivering statistically significant higher results than the benchmark under a specific set of circumstances.

capture more consumers (Fleming and Sorenson, 2001) coupled with the efforts of other established firms that operate in the same market environment (Adner and Kapoor, 2010). Still the literature suggests that the further a firm steps outside of its core the less likelihood of success it will have (Leiponen and Helfat, 2009). It seems established firms develop the competence of establishing incremental technological improvements to grow but that the *Cross-Selling, Corporate Venturing* and *Corporate Entrepreneurship* initiatives that don't meet this criteria and break the *Mirroring Hypothesis* tend to be unsuccessful (Burgelman, 1988). The most widely accepted palliative solution to this problem has been challenging the new initiative assumptions early on (Gunther McGrath et al., 2006) and avoiding investing massively in the initiative at its inception. Unfortunately this palliative solution is not nearly good enough for neither practitioners nor scholars because the need to diversify effectively has never been greater than today¹¹¹. On average *Business Models* tend to stop growing after about ten years on average (Olson & Van Bever 2008) and when they do less than 5% of established firms regain growth rates of at least 1% above their own country's GDP (Wolcott and Lippitz, 2007).

Proposition 1: The Mirroring Hypothesis creates a product-centric Organizational Architecture that is incompatible with Competence-Destroying initiatives (such as Cross-Selling, Corporate Entrepreneurship or Corporate Venturing) that lie outside of the Core.

Since the *Mirroring Hypothesis* is the dominant organizational architecture in large established firms (Christensen 1992c; Leiponen & Drejer 2007; Dosi 1982) it's presence should be indicative for explaining why is it so difficult for banks to successfully implement *Cross-Selling* initiatives even though they have acknowledged their positive effect on profitability and customer retention (Cabral & Santos 2001). Additionally the effect of the regulation on the banking organizational architecture is critical. Since *Interdependence* reduces *Modularity* but doesn't eliminate it, the impact of technological innovation in every piece of the bank's *Value Chain* should provoke an increase in *Modularization* unless local regulation prevents that from happening (Davies & Green 2010). Previous innovation literature suggests greater upstream innovation challenges in complements that reinforce the established firm's

¹¹¹ Firms closer to the technological frontier are more likely to choose decentralization (Acemoglu et al., 2006)

competitive position by increasing the barriers to access and production while greater downstream innovation challenges in components tend to favor new entrants (Adner and Kapoor, 2010). Although the increase in *Vertical Disintegration* in the mortgage banking industry has created a variety of component innovation challenges neither established firms nor new entrants have benefited from it (Jacobides, 2005). What is the role of the regulator in the industry's organizational architecture? Specifically, what is the impact of the regulator on the *Mirroring Hypothesis* of the established banks in Spain and how does it prevent them from pursuing opportunities outside of their *Core*?

2.3 The Disconnect Between Literatures and the Role of the *Job Construct* in *Corporate Venturing*

At the very heart of the collision between these two literatures lies the following question: which *Construct Causes* the customer to predictably behave as the firm expects?¹¹² This question is really about deciphering if the *Need*¹¹³ *Construct* is always the best way to visualize the customer or the potential customer. If the *Need* doesn't change over time (Bayus, 2005; Ulwick and Bettencourt, 2007) there must be a reason that causes customer variability to increase over time (Bates and Ulwick, 2009; Frei et al., 1997; Ulwick, 2005) as it's been measured using the *External Impetus Construct* (Talke and Hultink, 2010). This is even more frustrating when customers are asked for these issues, because what they are really looking forward is to decrease customer variability¹¹⁴ (Lehrer, 2009).

In the search of what external factors cause this increase in variability after some time the traditional *Marketing Dominant Design of Segmentation-Target-Positioning* (STP) has been reviewed (Adner, 1998; Schieffer, 2005) in an expanded version depicted in Figure 2.23. As described, the main building block is the *Need* construct, on top of it the *Marketing Mix* is designed for that *Need*. Since most products are widely adopted from one portion of the population and the rest just buys them occasionally (*Derivatives*) the *Use Construct* comes next. Followed by the *Occasion*, which described the moment of

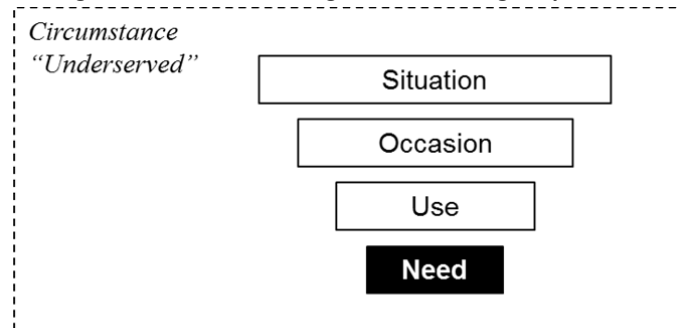
¹¹² In other words, is the *Need* the best *proxy*? Is it really the best way to understand the customer? Is it the one that yields the smallest error?

¹¹³ In this thesis, from now on, we will consider the *Need* the best way to *Describe* and *Predict* the behavior of a customer in the *Marketing* literature. The researcher is aware that this decision is somewhat controversial because there is ample evidence in the *Marketing* literature itself that the limitations of this *Construct* are remarkable. Some have been carefully described (Gilles 2006; Stern 1989). The reason that we are doing this is twofold; first because it's still the *Dominant Design* in the *Marketing* literature; secondly because this thesis' *Unit of Analysis* is not the *Need Construct*, therefore the implications of having this *Construct* falsified in the future will have a marginal impact in the results of this particular research.

¹¹⁴ Research in Psychology indicates customers experience relief and increases in dopamine if they get what they are looking for and feel they have made the right choice (Lehrer, 2009).

consumption and finally a cadre of exogenous factors that normally remain idle but that when they active they drive customer behavior¹¹⁵.

Figure 2.23: The Marketing Dominant Design Expanded



SOURCE: Kotler, 1991

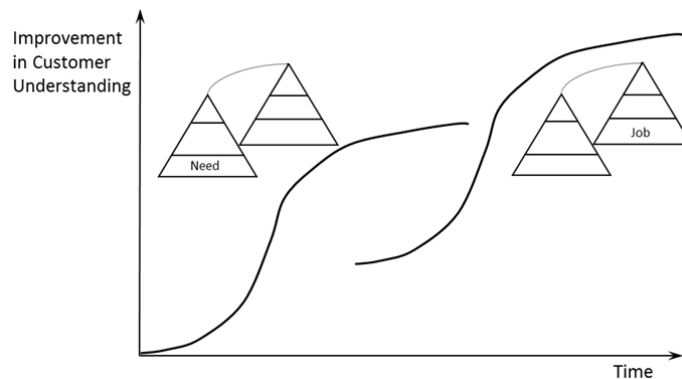
However most of the research undertaken to obtain these constructs was done in the 1950s and 1960s¹¹⁶ (Claycamp and Massy, 1968; Haley, 1968) and although it has been significantly refined and improved (Berstell and Nitterhouse, 1997, 2001) there is a *Circumstance* that was present in most of the industries at the time: in most of them the average product didn't meet the average customer performance demand, a *Circumstance* usually labeled *Underserved* (Barnard 1938; Christensen, Musso, et al. 2004; Chesbrough 2006; Chesbrough 2003). This underlying *Circumstance*, critical for the type of *Constructs* that drive *Causality* in customer behavior, has suffered a profound *Discontinuity* that is being observed in empirical observations as a continuous change in consumer attitude (Berstell and Nitterhouse, 1997), after the beginning of the 1970s customers started accepting lower performing products (Sood and Tellis, 2010b), and this trend continues today driven by one of the factors that causes consumers to be widely *Overserved*, the knowledge of the different product *Categories* and *Brands* (Moon, 2010). This fundamental change in *Circumstances* has profound implications for the *Marketing Dominant Design* described above. Being the *Need Construct* accepted in this thesis as the main building block (again, only for the *Marketing* literature) of customer understanding it is now important to highlight an underlying assumption previously undetected. The *Need Construct* might be the best proxy for *Underserved* industries but its increasing variability might mean that in *Overserved* industries there must be another fundamental building block that, as a proxy, is more precise than the

¹¹⁵ An example of this *Dominant Design* in action would be to be hungry (*Need*) and have cereals every morning (*Use*) in the morning at home (*Occasion*) because you are in a hurry to get to work (*Situation*).

¹¹⁶ And in most of them the authors used longitudinal data from the previous 30 years, a factor that compounds the inherent problems of this previous research.

Need Construct. We hypothesize that this is the *Job Construct*. It explicitly refers to specific situations where the customer is in front of a problem and starts looking for a product or service that it can “hire” to get this problem solved in the minimum amount of time, energy, expense and effort (Christensen & Raynor 2003a; Anthony 2009). Academics and practitioners alike are suspicious about this construct that has only been hypothesized yet but that could potentially explain several anomalies both in the *Technological Change* and *Marketing* extant literatures. Figure 2.24 describes how the *Need Construct* is the most effective *Normative Construct* for *Underserved* industries but that the *Job Construct* has been detected occasionally as a newly appeared *Normative Construct* (Bagozzi & Lee 1999). Especially in those research papers that are not based on the correlation of sales of products or services with the attributes of the purchase (Duncan 2006; Christensen 2010; Ulwick 2005; Anthony & Sinfield 2007; Berstell & Nitterhouse 2005; Christensen & Raynor 2003a; Christensen et al. 2007; Sinfield & Anthony 2007; Bagozzi & Lee 1999).

Figure 2.24: The Discontinuity of the Need and the Job Constructs in the Theory Building Methodology

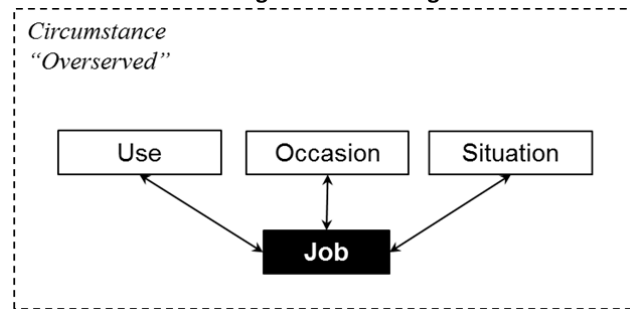


This *Discontinuity*, undetected by the firm’s formal mechanisms is helping new technologies find new *Business Models* to encroach to (Schmidt and Druehl, 2008; Schmidt and Van Mieghem, 2005). That’s one of the reasons that it tends to favor new technologies -- that are more *Job*-targeted -- to gain rapid foothold. This is the case of most of the “Steve Jobs era” Apple products¹¹⁷, the case of the appearance of worse technologies that are more prone to be adapted to a specific *Job* than the most sophisticated technology and also the case of the rapid firm turnover of industries with a short cycle time (Perrons et al. 2004; Fine 1998; Cooper & Kleinschmidt 1994). Both the changes in the way companies’ segment

¹¹⁷ It’s also the case of many high-technological intensive products oriented to a particular job such as the CT Scanner (Barley, 1986).

customers and the transformation a particular industry suffers when the established firms' performance is so good that causes *Underserved* consumers to be a small portion of the market have a direct impact on the sustainability of established firms. This phenomenon requires established firms to abandon their penetration strategies in favor of capturing more *Share of Wallet* per customer, a *Discontinuous Business Model* evolution that is remarkably difficult to achieve, and a central point of this thesis. Additionally, as depicted in Figure 2.21, this *Circumstance* change is causing a customer's *Maladaptive Behavior*, that results in erratic decision making with a significant increase in *Customer Variability* (Moon, 2010). The unaltered performance trajectory of the firms causes customers to over-hear the firm's message and decide for themselves, a *Bounded Rationality* type of problem that usually delivers a sub-optimal choice (Christensen et al. 2005; Thompson et al. 2005). This thesis deals with identifying how the *Job Construct* anatomy is and with understanding how the rest of the pieces of the *Marketing* dominant design are affected by it. A situation described in Figure 2.25.

Figure 2.25: A Different Marketing Dominant Design based on the Job Construct



Proposition 2: In Overserved industries there is a normative proxy that is more precise than the Need Construct to predict Customer behavior. This proxy is the Job Construct and it has a particular anatomy that influences heavily the rest of the fundamental pieces of the Organizational Design. It not only influences them in their behavior but also in their order.

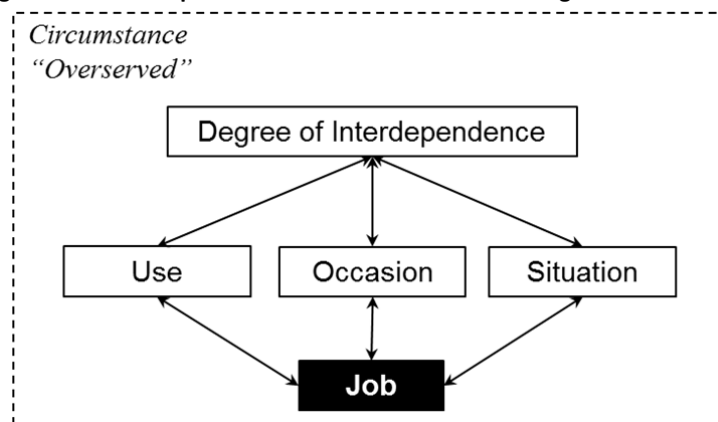
The Role of the *Job Construct* in *Corporate Venturing*

The implications of both the *Need* construct and of the *Marketing* literature in general in the literature of *Organizational Design* are profound (Henderson 2006; Gilbert 2001; Christensen 1997c; Claycamp & Massy 1968). Some of the factors that affect the firm's response to an external threat seem to be based on *Cognition* (Kaplan et al. 2003), *Inertia* (Hannan & Freeman 1984; Barnett & Pontikes 2008; Romanelli

& Tushman 1986) and *Organizational Rigidities* (Leonard-Barton, 1995). Although *Maladaptive* responses to external threats have been researched, especially those that limit response due to opportunity framing (Gilbert 2001) the impact on *Corporate Venturing* is still erratic and on many occasions provides returns on investment that the firm wasn't even looking for (Gunther McGrath et al., 2006). This is one of the reasons of the strong cyclical nature of *Corporate Venturing* initiatives (Burgelman and Välikangas, 2005; Chakravorti, 2010). One of the main factors that drive successful *Corporate Venturing* initiatives lies in the ability of middle managers to conceptualize strategic implications of the initiatives in more general system terms (Burgelman, 1983b)¹¹⁸. It is at this stage where the switch from the *Underserved* marketing *Dominant Design* depicted in Figure 2.23 to the *Job*-based one described in Figure 2.25 has profound implications for *Opportunity Recognition*, *Strategic Context* and *Structural Context*, as the new information that the *Job Construct* provides is instrumental for providing hints on the type(s) of organizational structures compatible with the new initiative (Snow et al. 2011).

According to the previous literature that *Inductively* hints on the existence of the *Job Construct* (Christensen et al. 2007; Barret 2006), and combining the theories of *Organizational Design* and *Marketing* there is a new layer to Figure 2.25 and brings us Figure 2.26. The *Job Construct* as profound implications on *Organizational Design* and specifically to *Corporate Venturing*.

Figure 2.26: The Implications of the Job Construct on Organizational Design



This situation is still more relevant for *Interdependent* companies, which tend to suffer a higher dispersion of profits compared to those that are *Modular* in nature (Lenox et al., 2009). Therefore *Interdependence* acts like a patent protection mechanism on the industry's growth rate. It provides a

¹¹⁸ Providing *Strategic Context*.

high *Appropriability* regime at the expense of generating sobering rigidities that are very difficult to overcome when it comes to capturing value outside of the *Core* (Cacciatori and Jacobides, 2005).

Proposition 3: The Needs Construct and its corresponding (Underserved circumstance) Dominant Design is incompatible with Corporate Venturing as it doesn't provide enough information for managers to eliminate uncertainty. It introduces a significant variability in the Corporate Venturing initiatives that gain Impetus. The Job Construct and its corresponding Dominant Design is not only compatible with Corporate Venturing but also provides enough information to develop the Strategic and Structural Contexts.

2.4 Theoretical Background Conclusions

In conclusion, we hypothesize that there exists what has been previously *Inductively* described in the extant literature as the *Job Construct*. It lies at the intersection between the *Technological Change* and *Marketing* literatures and has a strong impact on the literatures of *Organizational Design* and *Entrepreneurship* (Bhupatiraju et al., 2012). Until now this construct has been *Inductively* observed but hasn't been empirically¹¹⁹ isolated. The appearance of this *Job Construct* is becoming more and more evident as markets become more and more *Overserved* (Berstell and Nitterhouse, 2001, 2005). Corporate sustainability is in most of the cases the lagging variable of strong growth. From the 87% of companies whose growth stalled between 1955-2006 only 46% of them were able to recover within 10 years after they had stalled, and from this 46% only 7% ultimately recovered strong growth (Foster & Kaplan 2001; Olson & Van Bever 2008; Anthony, Johnson, Sinfield, et al. 2008). These results lead to the conclusion that both internal and external forces affect significantly the organizational renewal process. Internal limitations are causing today that *Interdependent Business Models* be almost always incompatible with initiatives such as *Cross-Selling* or *Corporate Venturing*, they cause a *Maladaptive* response inside the organization that usually hampers the initiative, a *Maladaptive* response originated by the lack of information managers are using today to evaluate which new initiatives gain *Impetus*. Additionally the new *Job Construct* rearranges the different pieces of the firm's *Marketing* model and

¹¹⁹ As mentioned before there are individuals such as Mr. Jobs or Mr. Ford who had a personal "ability" for grasping which next new thing would gain traction.

the way scholars understand the *Marketing Dominant Design* today (Kotler, 1994; Lilien et al., 2003). It does so basing its information on a *Circumstance* based change that alters fundamentally the customer's perception of the product. Without this change the customer, due to his *Bounded* rational limitations would continue picking sub-optimal choices. Finally the *Job Construct's* anatomy reaches outside of the boundaries of the *Marketing* and *Technological Change* literatures yielding strong implication on the *Organizational Design*¹²⁰ (Tushman et al., 2010). An organizational form that the new initiative must adopt to deliver on what the customer is expecting (Ansari & Krop 2012; Hoang & Rothaermel 2010; Ahuja et al. 2008). This new piece of information is critical for middle managers to provide both *Strategic* and *Structural Context* to the firm and henceforth reignite growth throughout initiatives such as *Cross-Selling*¹²¹ or *Corporate Venturing*, most of which today have over a 90% failure rate (Nielsen 2010; Christensen 2010).

¹²⁰ How the organization adapts internally to these changes (*Corporate Venturing*, alliances, acquisitions, joint ventures, etc.)

¹²¹ For the purposes of this dissertation *Cross-Selling* describes initiatives non-related to the *Core* activity of the firm that seek to obtain additional net revenue (new products, services or *Business Models*)

Chapter 3: The Development of the Spanish Retail Banking Industry. A History of Commercial, Financial and Technological Innovation

Banking is necessary; banks are not.

-- Bill Gates¹²²

The Spanish Retail Banking Industry was chosen as a place to test and do research on the anatomy of the *Job Construct* and how it affects the decision making processes when it comes to launching new *Corporate Ventures*. Although the selection of this industry was made for a variety of reasons the main one is the uniqueness of this industry in trying to tackle the *Cross-Selling* challenge. Retail banks in Spain rank among the most technological intensive companies in the world. Their current *Business Model* based on the *Bancarization Dominant Design* started to show symptoms of exhaustion in the late eighties. Banks nonetheless were prone to respond and quickly invested in data mining facilities to start gathering customer information. Despite the enormous investment and a variety of very expensive resources deployed over a number of years results are still modest (Tornabell 2010; Everis 2010; Mitchell & Onvural 1996; Kane 2005). This chapter describes the main characteristics of the Spanish Retail banking industry¹²³ with an emphasis on the decisions and historical facts that have a direct implication with this thesis¹²⁴.

In 2009 the Retail Banking Industry in Spain was a €60 billion business¹²⁵¹²⁶. Sources of revenue included interest, commissions, return on equity investments and gains on financial assets and liabilities (see Table 3.1).

¹²² <http://www.hindu.com/2011/03/17/stories/2011031754650200.htm> accessed March 2011.

¹²³ This longitudinal review and description of the retail banking industry is partial and specifically tailored to the *Cross-Selling* challenge. Most of the financial analysis that would normally be included in a historical review of banking has been largely overlooked. The reason is that what's important for this research is only the *Cross-Selling* problem and the initiatives that gained *Impetus* within banks to achieve success on that challenge. Other effects resulting from the different regulatory policies both from the Spanish Government and the European Union have not been included neither just for the same reason.

¹²⁴ The researcher thanks in particular some people from Banco Santander who were very helpful in the development of this chapter.

¹²⁵ Anuario Estadístico de la Banca en España (Asociación Española de Banca 2009).

¹²⁶ The entire financial system is approximately twice as much. Including all the players is well over €100bn. However in this thesis we are only considering the retail banking institutions because they are privately owned, and this has a direct implication on the way resources are invested and on the initiatives that gain *Impetus* (Bower & Gilbert 2007; Bower & Gilbert 2005). Banks account for about half of the entire Spanish retail financial system (Guillen and Tschoegl, 2008; Parada et al., 2009). The largest players in the other half are the savings banks which at the time of the writing of this dissertation are being either dismantled or transformed into fully fledged banks because of the financial crisis.

Table 3.1: Spanish Retail Banks Sources of Revenue¹²⁰

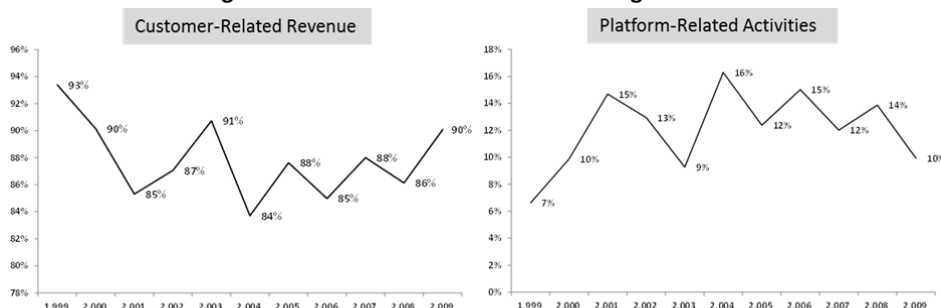
| Thousands of Euros (€) ('000) | 2,009 | % of Total | CAGR 1999-2009 |
|---|-------------------|-------------|----------------|
| Interest and Similar Income | 45,845,020 | 76% | 7% |
| Fee and Commission Income | 7,783,680 | 13% | 4% |
| Return on Equity Instruments | 5,308,011 | 9% | 13% |
| Net gains on Financial Assets and Liabilities | 606,684 | 1% | 1% |
| Net Exchange Differences | 580,123 | 1% | 18% |
| Other Operating Income | 472,800 | 1% | 20% |
| Total | 60,596,318 | 100% | 7% |

SOURCE: Anuario Estadístico de la Banca en España.

Asociación Española de Banca, 1999-2009.

Over the last 10 years the industry's *Compounded Annual Growth Rate* (CAGR) revolved around 7% fueled by, among other factors, the adoption of the Euro, the declining interest rate (Euribor)¹²⁷ and the adjusted inflation rate¹²⁸. Although on average 80% of revenue still comes from customer-related revenue¹²⁹ the share that comes from platform-related revenue¹³⁰ is steadily increasing (see Figure 3.1). There are 2 reasons that explain this trend in the revenue mix. First the progressive reduction in commissions that is caused by the ever increasing competition¹³¹. Second the profitability of platform-related activities¹³², which tend to have higher gross margins than the traditional retail banking activity¹³³ (Demsetz, 2000).

Figure 3.1: Revenue Mix on Retail Banking Activities



SOURCE: Anuario Estadístico de la Banca en España. Asociación Española de Banca, 1999-2009.

¹²⁷ www.euribor-ebf.eu

¹²⁸ www.ine.es

¹²⁹ Customer-Related Revenue = Interest Gains + Commissions.

¹³⁰ Platform-Related Revenue is income derived from the interaction with an external platform, i.e. stock exchanges, securitizations, treasury debt obligations, etc.

¹³¹ In 2007 alone, Banco Santander launched the campaign “zero commission campaigns” to win market share. That decreased its price levels by 65%. Other banks had no option but to follow suit, reducing their prices between 15% and 60%. This move alone reduced the fee cuts in account management by 81% only in that year. In conjunction with the progressive reduction in payments fees, which were reduced by 15% that year, the overall prices for banking in Spain dropped by 31% which drove down the entire banking costs of the Eurozone area down by 1.8% (Cap Gemini, 2007).

¹³² Especially the one adjusted for risk, because most of these platforms not only provide higher margins but also an effective way to transfer balance-sheet risk.

¹³³ In the year 2009 this trend was temporarily halted because of the financial crisis, that hit severely the platform-based business (Berz et al., 2009).

This overly dependence on interest rate for profitability leaves the entire Spanish banking system too exposed to interest rate hikes (Business Insights, 2008). Besides the platform-related activities¹³⁴ the other way to counteract this exposure to interest rates is through the -- for the moment unfulfilled -- promise of *Cross-Selling* (Cabral & Santos 2001; Frei et al. 1998; Walter 2009).

In the year 2007 only one Spanish retail bank was in the list of the Top Ten Global Retail Banks listed per growth and profitability (Business Insights, 2008). As Table 3.2 describes, Banco Santander's Cost-to-Income ratio is among the highest in the industry (Parada et al., 2009). Still, at a global level it's a quite fragmented industry whose organic growth is clearly unbalanced toward developing economies. In 2006 the world retail banking market size was €1,280 billion. Although it's expected to become a €1,900 billion industry by 2017 most of this growth is expected to happen in developing economies (Cap Gemini, 2008).

Table 3.2: World Top Ten Banks Growth and Profitability

| | Revenues (\$bn) 2007 | Operating Margin 2007 | Revenues Growth (CAGR) 2003-2007 |
|------------------------|-------------------------------------|--------------------------------------|---|
| Citigroup | 70.0 | 19.7% | 9.1% |
| Bank of America Corp. | 55.6 | 32.3% | 22.2% |
| HSBC Holdings | 54.9 | 12.4% | 21.6% |
| JP Moran Chase & Co. | 41.3 | 30.8% | 25.7% |
| Royal Bank of Scotland | 37.8 | 28.6% | 8.3% |
| Banco Santander | 33.0 | 56.3% | 24.3% |
| Wells Fargo | 31.0 | 26.2% | 7.3% |
| BNP Paribas | 29.7 | 29.5% | 21.3% |
| Wachovia Corp. | 26.8 | 41.2% | 15.8% |
| Société Générale | 23.4 | 31.3% | 17.2% |

SOURCE: Business Insights, 2008.

At the country level there are three possible types of financial systems, *Market-Centered*, *Bank-Centered* and *State-Centered*. Their differences are grounded on what role will the government let financial institutions play (Guillen and Tschoegl, 2008). There are international agreements on the criteria under which a platform is considered a financial institution. Besides the license and the reporting duties the fundamental criteria that distinguishes a financial institution is its ability to hold deposits from citizens

¹³⁴ Which have their own set of problems derived from *Agency Costs*.

that bear no direct relationship with the entity. In Spain there are several types of financial platforms that can hold these deposits. These are banks, savings banks, credit cooperatives, subsidiaries of foreign banks, the “Instituto de Credito Oficial” (ICO)¹³⁵, and electronic money holders¹³⁶¹³⁷.

Of all these entities the ones that have the obligation of providing credit using the money captured from deposits are the banks, the savings banks, the credit cooperatives and the subsidiaries of foreign banks.

Table 3.3 describes their evolution measured per number of entities in selected years.

Table 3.3: Evolution of The Number of Financial Entities in the Spanish Financial System (Selected Years)

| | 1,995 | 2,000 | 2,005 | 2,009 |
|---|-------|-------|-------|-------|
| Spanish Banks | 112 | 89 | 74 | 65 |
| Foreign Banks Operating in Spain | 58 | 52 | 65 | 88 |
| Savings Banks | 51 | 48 | 47 | 46 |
| Credit Cooperatives | 97 | 92 | 83 | 81 |
| TOTAL | 318 | 281 | 269 | 280 |

SOURCE: Statistics Bulletin, Banco de España (Table 4.45)

<http://www.bde.es/webbde/es/estadis/infoest/htmls/capit04.html>

Table 3.3 describes how foreign banking subsidiaries have been progressively taking over the Spanish banking system landscape while domestic institutions tend to merge becoming large financial conglomerates. The result of these mergers¹³⁸ is shown in Table 3.4, and illustrates how the largest banks in the country are still Spanish because of the result of these “defensive” mergers.

The decision making rationale is fundamentally different in each of these institutions. Spanish banks are privately owned entities that were born private and have shareholders which demand a hurdle rate on profitability (Guillen and Tschögl, 2008; Pfeffer and Salancik, 1978). That puts substantial pressure on management on a year-to-year basis. Foreign banks operating in Spain only observe this shareholder’s pressure tangentially, while some of them don’t even feel this pressure for profits at all because their presence might be due to investment banking activities or providing service to particular segments of consumers that otherwise would be left unattended (e.g. UK citizens living in the south of Spain).

¹³⁵ This is the Spanish Financial Agency. <http://www.ico.es/web/contenidos/5/4/1017/index.html> accessed may 2011.

¹³⁶ <http://www.bde.es/clientebanca/entidades/pueden.htm> accessed may 2011.

¹³⁷ Electronic money holders represent a new category that can issue electronic money that is accepted by group of companies as a means of payment. Neither of these companies can be the one that issues the virtual currency. At the moment there is only one institution in this category. An example of this category would be the new “Facebook Currency”. <http://www.bde.es/clientebanca/entidades/pueden/electronico.htm> accessed may 2011.

¹³⁸ BBVA is the result of the mergers of 30 banks while Banco Santander comprises 36 banks (data from 1947 till June 2010) (Asociación Española de Banca, 2009).

Table 3.4: Key Financial Data of the 60 Largest Banks Operating in Spain (in 2009, thousands of euros)

| | | Customer-Related Revenue | | Platform-Related Revenue | | Net Exchange Differences | Other Operating Income | TOTAL |
|----|--------------------------------------|-----------------------------|---------------------------|------------------------------|---|--------------------------|------------------------|------------|
| | | Interest and Similar Income | Fee and Commission Income | Return on Equity Instruments | Net gains on Financial Assets and Liabilities | | | |
| 1 | Santander | 12,353,544 | 2,024,152 | 3,030,670 | (1,361,571) | 124,693 | 112,510 | 16,283,998 |
| 2 | BBVA | 11,666,164 | 2,008,783 | 1,773,550 | 96,971 | 258,753 | 81,863 | 15,886,084 |
| 3 | Banco Popular Español | 5,152,304 | 833,857 | 51,426 | 273,009 | 48,744 | 52,933 | 6,412,273 |
| 4 | Banesto | 4,258,583 | 691,198 | 50,652 | 209,953 | 28,573 | 22,763 | 5,261,722 |
| 5 | Sabadell | 3,144,246 | 507,685 | 90,294 | 457,805 | 47,918 | 31,810 | 4,279,758 |
| 6 | Bankinter | 1,657,272 | 237,869 | 135,790 | 366,192 | 25,275 | 33,227 | 2,455,625 |
| 7 | Banco Pastor | 1,217,654 | 176,339 | 36,026 | 317,083 | 4,628 | 25,468 | 1,777,198 |
| 8 | Bardays Bank | 1,161,588 | 199,641 | 21,905 | 23,474 | 1,367 | 764 | 1,408,739 |
| 9 | Banco de Valencia | 875,771 | 104,983 | 6,992 | 28,327 | 2,589 | 10,873 | 1,029,535 |
| 10 | Deutsche Bank S.A.E. | 631,942 | 210,645 | 3,309 | 2,883 | 17,601 | 27,420 | 893,495 |
| 11 | Citibank España | 403,987 | 93,815 | 12,952 | (29,954) | 1,427 | 13,983 | 497,542 |
| 12 | Banco Guipuzcoano | 415,114 | 47,231 | 7,694 | 8,754 | (189) | 4,062 | 482,666 |
| 13 | Banca March | 342,406 | 58,310 | 29,778 | 4,456 | 8,921 | 5,878 | 449,749 |
| 14 | Cetelem | 318,447 | 84,594 | | | | | 403,041 |
| 15 | Finanzia Banco de Credito | 302,090 | 25,645 | 427 | (120) | | 5,801 | 333,843 |
| 16 | Banif | 208,374 | 100,263 | 67 | 10,222 | 1,461 | 2,224 | 322,611 |
| 17 | Dexia Sabadell | 315,179 | 15,195 | | (12,199) | (95) | | 318,080 |
| 18 | Banco Caixa Geral | 226,690 | 24,120 | 214 | 3,016 | 327 | 5,150 | 259,517 |
| 19 | Banco Gallego | 209,982 | 21,943 | 1,815 | 10,153 | 371 | 4,082 | 248,346 |
| 20 | Banco Cooperativo Español | 192,900 | 11,465 | 4,126 | 3,157 | 249 | 1,069 | 212,966 |
| 21 | General Electric Capital Bank | 130,199 | 4,811 | 27,252 | | | 2,329 | 164,591 |
| 22 | Banco Industrial de Bilbao | 1,483 | 52 | 7,693 | 90,565 | | | 99,793 |
| 23 | Inversis | 13,771 | 49,687 | 2 | 19,806 | 4,488 | 359 | 88,113 |
| 24 | Urquijo Sabadell Banca Privada | 59,169 | 20,509 | | 4,741 | 933 | 91 | 85,443 |
| 25 | Allfunds Bank | 1,299 | 81,097 | | 27 | 84 | 717 | 83,224 |
| 26 | Bankoa | 67,530 | 10,881 | 377 | 48 | 123 | 1,153 | 80,112 |
| 27 | J.P. Morgan Chase | 47,686 | 32,562 | | (475) | (391) | 4 | 79,386 |
| 28 | Bancofar | 74,564 | 1,925 | 74 | (700) | | 740 | 76,603 |
| 29 | Halifax España | 63,515 | 2,771 | | | | 799 | 67,085 |
| 30 | The Bank of Tokyo-Mitsubishi UFJ | 60,450 | 3,970 | | 42 | 1,706 | | 66,168 |
| 31 | Servicios Financ. Mapfre-Caja Madrid | 57,743 | 1,244 | 2,456 | | | | 61,443 |
| 32 | RBC Dexia Investor España | 31,770 | 13,872 | 328 | 3,665 | 1,063 | 615 | 51,313 |
| 33 | Altae Banco | 29,816 | 15,226 | 69 | 4,511 | 636 | 285 | 50,543 |
| 34 | UBS Bank | 16,628 | 24,083 | | 3,817 | 1,163 | 3,338 | 49,029 |
| 35 | Banca Pucyo | 40,773 | 3,861 | 379 | 1,221 | | 213 | 46,447 |
| 36 | Credit Suisse AG | 8,527 | 28,933 | | 3,615 | 2,039 | 1,494 | 44,608 |
| 37 | Fibanc | 12,063 | 19,776 | 9,351 | 280 | 24 | 1,263 | 42,757 |
| 38 | Banco Caminos | 32,006 | 4,011 | 59 | 3,207 | (9) | 984 | 40,258 |
| 39 | Banca Echeverría | 29,594 | 4,547 | 369 | 258 | (19) | 279 | 35,028 |
| 40 | Banco PYME | 24,070 | 7,912 | 419 | 1,376 | 111 | 746 | 34,634 |
| 41 | EBN Banco de Negocios | 18,964 | 3,912 | 645 | 9,576 | 62 | 574 | 33,733 |
| 42 | Banco Madrid | 22,407 | 6,969 | 2 | 1,420 | 14 | 2,541 | 33,353 |
| 43 | BNP Paribas | 12,139 | 12,436 | 235 | 5,746 | 440 | 1,033 | 32,029 |
| 44 | Microbank de La Caixa | 20,116 | 180 | | | | 9,513 | 29,809 |
| 45 | Bank of America | 24,250 | 3,251 | | 216 | 192 | | 27,909 |
| 46 | Finantia Sofinloc | 18,730 | 1,901 | | 4,103 | (43) | 41 | 24,732 |
| 47 | Aresbank | 10,620 | 6,192 | | (288) | 146 | 1,657 | 18,327 |
| 48 | Privat Bank Degroof | 2,414 | 8,222 | 313 | 1,604 | (1) | | 12,552 |
| 49 | Banco Depósitos | 9,891 | 9 | | | | | 9,900 |
| 50 | Marocaine du Commerce Extérieur | 3,634 | 2,358 | 26 | 71 | 1,235 | 1,636 | 8,960 |
| 51 | Banco Alcalá | 1,864 | 93 | 132 | 5,536 | | 5 | 7,630 |
| 52 | Self Trade Bank | 2,134 | 4,462 | 106 | (35) | 374 | 6 | 7,047 |
| 53 | Banco Europeo de Finanzas | 2,578 | 818 | | 459 | | 2 | 3,857 |
| 54 | Banco de la Nación Argentina | 611 | 1,229 | | | 92 | 628 | 2,560 |
| 55 | Banco do Brasil | 1,897 | 146 | | 270 | 217 | 1 | 2,531 |
| 56 | Promoción de Negocios | 518 | | | | | | 518 |
| 57 | Banco Occidental | 269 | | 37 | | | | 306 |
| 58 | Banca Liberta | 210 | 18 | | | | | 228 |
| 59 | Banco Albacete | 105 | | | | | | 105 |
| 60 | Banco Alicantino de Comercio | 27 | | | | | 1 | 28 |

NOTE: Santander includes Santander Consumer Finance, Santander Investment and Open Bank. Although Santander owns Banesto I left Banesto in the table because of its relevance for this thesis and for the Spanish retail banking market. BBVA includes BBVA Banco de Financiación, Depositario BBVA and Uno-e Bank. Banco Popular includes Popular Banca Privada, Popular Hipotecario and Bancopopular-e.

SOURCE: Anuario Estadístico de la Banca en España, Asociación Española de Banca, December 2009

Savings banks decision making rationale on the other wasn't only based on shareholder profitability but also on a difficult balance between the non-profit institution associated to it and the dominant political

party that predominates in that particular Spanish region. They don't have shareholders and their pressure for profits is marginal as their view on operational risk and lending criteria. The Credit Cooperatives group has completely different priorities because their mission is to provide lending to their shareholders. Therefore the pursuit of profitability and pressure on profits is also absent.

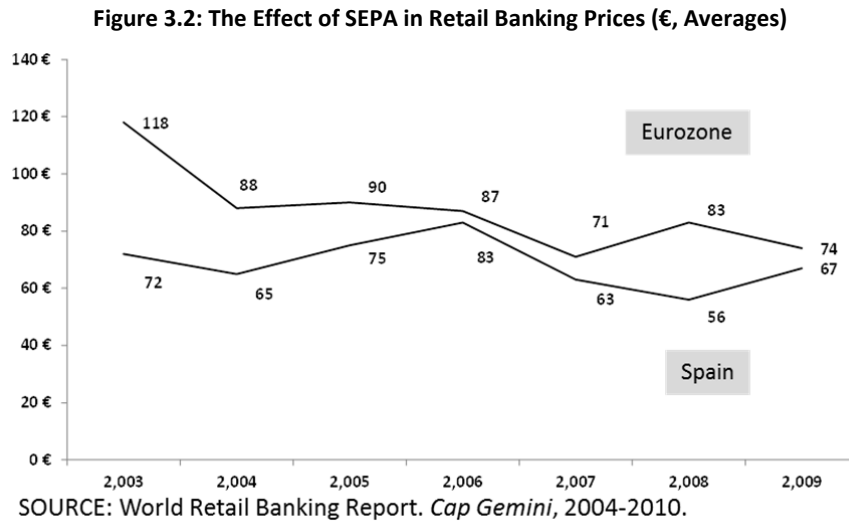
3.1 External and Internal Forces that Shape Competition in the Retail Banking Business

Disintermediation is the one global trend that is profoundly affecting the way to make profits in the retail banking business (Jacobides, 2005). For example, the appearance of the mortgage securitization sector unleashed a new wave of growth based on transferring risks that left no choice to banking executives but to pursue it (Moon, 2010). The reason is that -- in case they didn't -- they were exposing themselves to having their competitors capture such a disproportionate share of profits that they might hamper their own bank sustainability (Jacobides, 2002; Pfeffer and Salancik, 1978). This happened at a time when the use of technology lowered the mortgage origination costs (Jacobides, 2001a, 2001b). This change in the banking competitive landscape, usually labeled *unbundling* is consistent with empirical research in other industries and is also consistent with the process described previously in Figure 2.4 (Christensen et al. 2000; Langlois & Robertson 1992).

At the European level, the main trend that is progressively increasing retail banking competition is the pricing convergence that results from the enactment of the *Single Euro Payments Area* (SEPA). The aim of the SEPA is to standardize electronic payments in the Eurozone in such a way that consumers can operate at the same price with any European bank (Cap Gemini, 2004). If this initiative succeeds the efficiency gains that banks will obtain will come from the price reduction banks will charge to each other for transacting in different countries¹³⁹. The European Commission intends to replace national instruments for credit transfers and direct debits with the SEPA standard. Although economies of scale in banking are somewhat elusive (Mitchell & Onvural 1996; Tschögl 1987) the first effect this initiative has had in European banks has been an overall reduction in prices for payments, which has dramatically increased the competitive pressure while forcing banks to reduce the overall banking costs.

¹³⁹ <http://www.ecb.int/paym/sepa/html/index.en.html> accessed April 2nd, 2011.

In 2004, two years after the introduction of the Euro the retail banking industry prizes were still homogeneous inside countries and heterogeneous between them. That year the average price of the cheapest bank in the Eurozone was €9, while the highest was €133. Figure 3.2 describes the evolution of prices for both the Eurozone and Spain (Cap Gemini 2010; 2009; 2008; 2007; 2006; 2005; 2004).

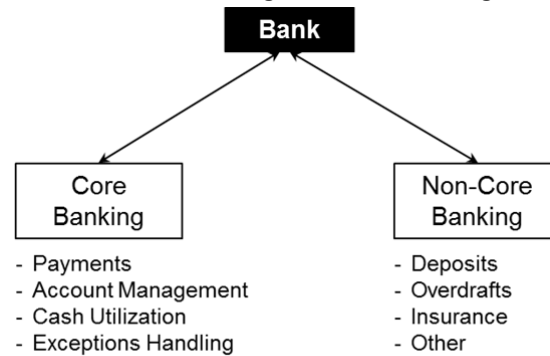


The average CAGR on retail pricing for the Eurozone is -7% while for Spain it has been -1%, the reason is that Spanish banks were already in the second quartile in terms of pricing for the Eurozone. However this apparently minor reduction in pricing masks the shift in the pricing model Spanish banks had to undertake to maintain their competitiveness with the rest of the European banks and particularly with the local savings banks.

Traditionally the categorization scheme banks used to classify the industry per income preferences is the *Core Banking vs. Non-Core Banking* activities. As a result banking products tend to be divided into 2 groups: *Core Banking* and *Non-Core Banking*. The *Core Banking* products include payments, account management, cash utilization and exceptions and handling. The *Non-Core Banking* Products include deposits, overdrafts and insurance (Cap Gemini 2009; 2008; 2007; 2006; 2005; 2004). Figure 3.3 describes what banks have usually considered as not only their revenue model but also as the product-centric view of the banking industry. This way of categorizing the industry has two distinguishing elements that predominate in any type of combination of pricing and that comes from bundling these products. The first is the country where the bank is headquartered, it is usually the case the type of

competition or the country's regulation has caused banks to earn more revenue in one of the levers described.

Figure 3.3: Traditional Retail Banking Income-Based Categorization Scheme



SOURCE: World Retail Banking Report. *Cap Gemini*, 2004.

The second element to consider is related to the uniqueness of the lever to grow from. Banks have usually developed hybrid models that capture revenue from each of the levers, instead of sourcing their income from only one. Depending on the revenue scheme chosen banks have developed products that were given away for free, products that are being sold in bundles or stand-alone products. Table 3.5 lists the most frequent products and services associated with each lever of income.

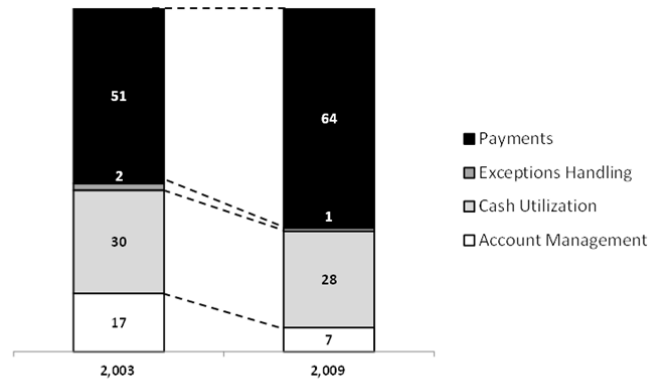
In the case of Spain, as mentioned previously, the aggregate pricing level hasn't changed in the same proportion as it has had in the European Union, but the shift in the revenue mix has been modified noticeably. Spanish banks had to adapt themselves to a new environment where on top of unusually low commission levels – reducing notably the income obtained from the Account Management lever – a new European regulator had to be complied, a regulator that not only had the Spanish economy or banking industry in mind but also the entire European Union's. As Figure 3.4 describes Spanish banks partially compensated this backlash with revenues from payments, which, as Figure 3.5 depicts, initiated a divergent trend in their revenue mix compared to that of the European Union's average.

Table 3.5: Main Products and Services of the Retail Banking Industry

| | |
|--|---|
| <p><u>CORE DAY-TO-DAY BANKING NEEDS</u></p> <ul style="list-style-type: none"> - <u>Account Management</u> <ul style="list-style-type: none"> - Current Account - Online Banking - Call Center - <u>Cash Utilization</u> <ul style="list-style-type: none"> - Cash Deposit at Desk - Cash Deposit at ATM - Withdrawal at bank's ATM - Withdrawal at Bank's ATM - Withdrawal at Other Bank's ATM Network - <u>Exceptions Handling</u> <ul style="list-style-type: none"> - Debit Card Stop Payment - Cheque Stop Payment - Document Search - Banker's Draft (Cashier's Check) - <u>Payments</u> <ul style="list-style-type: none"> - Cheque - Debit Card - Credit Card - Branch Internal Wire Transfer - Internet Internal Wire Transfer - Branch External Wire Transfer - Internet External Wire Transfer - Standing Order (Regular Amount Transfer) - Direct Debit - Internet Direct Debit | <p><u>SAVINGS</u></p> <ul style="list-style-type: none"> - Certificates of Deposit - Mutual Funds - Other Savings Vehicles <hr/> <p><u>CREDIT</u></p> <ul style="list-style-type: none"> - Overdrafts - Consumer Credit - Revolving Credit - Mortgages - Loans <hr/> <p><u>OTHER PRODUCTS & SERVICES</u></p> <ul style="list-style-type: none"> - Insurance - Real Estate - Other |
|--|---|

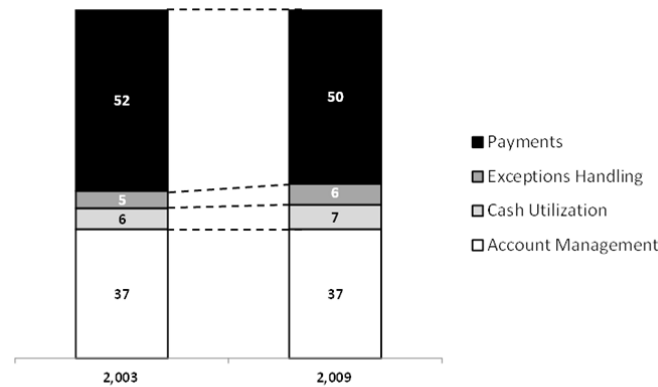
SOURCE: World Retail Banking Report. *Cap Gemini*, 2004-2009.

Figure 3.4: Evolution of the Revenue Mix of the Spanish Retail Banks (percentages)



SOURCE: World Retail Banking Report. *Cap Gemini*, 2004, 2009.

Figure 3.5: Evolution of the Revenue Mix of the European Retail Banks (percentages)

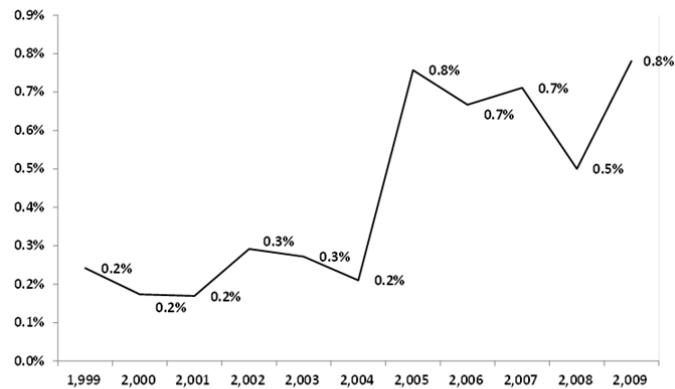


SOURCE: World Retail Banking Report. *Cap Gemini*, 2004, 2009.

However, although the shift in the revenue mix is remarkable, when looked through the lenses of *Resource Allocation* the most surprising effect is what didn't happen. Despite investing billions of euros in customer intelligence and CRM (Business Insights, 2008; Winer, 2001) the income derived from other products and services, the clearest measure of *Cross-Selling* a business¹⁴⁰, especially because it includes insurance, has increased minimally. As Figure 3.6 depicts it went from 0.2% in 1999 to 0.8% in 2009, a 20% CAGR (Asociación Española de Banca 2009; 2008; 2007; 2006; 2005; 2004; 2003; 2002; 2001; 2000; 1999).

¹⁴⁰ There are three dominant ways through which current banking customers adopt new products. The first is through *Bundled Selling*, where, essentially one product is sold and a cadre of complementary products, sometimes necessary and sometimes mandated by law are included, for example, banks tend to add a new client into their portfolio with a current account, a credit card and a direct debit package. This would be the case of products that are complementary but not required by law. The second case is *Tied Selling*, where more than one product is required by law, for example mortgages, in this case the customer is also mandated to maintain an insurance of the asset at hand. There is another version of the second case some banks tend to practice dubbed *Forced Selling* where the customer is obliged to acquire more than the usually two tied products for the bank to finalize the sale. This case has been observed thoroughly in Europe in the last decade with mortgages. There are two reasons that explain this banking behavior. The first reason is the overall client risk the bank is acquiring with this new customers, easily mitigated though the profitability obtained with multiple products. The second is the increase in competitive pressure banks suffered at the beginning of the decade. This pressure was compounded with a "deposits war" and with a strong incentive created by the European Central Bank to offer lowered prices mortgages. Banks found themselves in the need to include more products in the mortgages bundle to maintain industry-average profitability. The third way through which banking customers adopt new products is *Cross-Selling*. In this thesis it is recognized that there might be *Cross-Selling* in the purely financial banking business, a good example would be the proliferation of the online brokerage using the cell phone that has been growing at a double digit rate since the beginning of the decade. However this should be analyzed on a case by case basis, not at the aggregate industry level used in this chapter. It is written "the clearest measure of cross-selling" nonetheless because this account captures almost purely the non-financial and non-banking related products that the bank happens to have in their portfolio and the ability of the banking sales force to sell them to their current customers.

Figure 3.6: Evolution of Other Operating Income 1999-2009 (percentages)



SOURCE: Anuario Estadístico de la Banca en España.
Asociación Española de Banca, 1999-2009.

This result nonetheless doesn't differ much from other industries, such as distribution and telecommunications (Stringefellow et al., 2004; Winer, 2001), where *Cross-Selling* initiatives have been mainly based on elaborate *Segmentation* schemes that categorize customers in *Segments* based on their profitability. Despite these results, well over 75% of managers plan to maintain or increase their investments in CRM systems (Fournier and Avery, 2011).

Internal Forces that Shape Competition in the Retail Banking Business

The Spanish retail banking industry has always prioritized mainly its products (Cano, 2012). In banking, as in most kind of services (Bessom & Jackson 1975), the product is the process (Frei et al., 1998) thus innovation and growth in banking tends to be associated with organizational changes and process improvements. When analyzing radical change the innovation literature has been mostly focused on product innovation (Steffenson McElheran, 2010a) except in two cases. The first inspects processes that, although radical in nature, represent a fundamental improvement in the traditional performance attributes through which consumers evaluate them (Tushman & Anderson 1986; Sull et al. 1997). The second case represents radical departures from the fundamental technological principles, either mechanic or scientific, required by a firm, such as the diesel vs. steam engines. In retail banking these two types of process innovations are fairly common. The first type is usually associated with customer service, and the performance attributes that banks usually measure are *Reliability*, *Responsiveness*, *Assurance*, *Empathy* and *Tangibility* (Dougan, 2004). A very notorious example of the second case is the

Securitization in the commercial banks borrowing subsystems that helped banks transfer risks to third party entities (Boot and Marinc, 2008; Frame and White, 2009; Ryan et al., 2010; Vives, 2010).

When it comes to product innovation, the Spanish retail banks, rather than developing new products, tend to favor incremental innovations that improve on or that level off the competitor's offers. In this case (by far) the more enduring and somewhat controversial innovation has been the way retail banks remunerate deposits from new clients¹⁴¹ (Campa and Garcia Cobos, 2008).

Additionally both product and process innovation in the Spanish retail banks have one common characteristic. Their aim is to capture the customer from the competition and "own it"¹⁴², ideally becoming their sole and unique provider of financial services. A somewhat controversial objective¹⁴³ that has been present in the Spanish retail banks since its very own inception. The reason is that at the time, after the industry shakeout industries suffer at their inception (Markides & Geroski 2004) a *Dominant Design* emerged, which in this case implied being extremely effective in both *Creating* and *Capturing* customers, and banks were extremely effective at that. This *Dominant Design* has been called *Bancarization*¹⁴⁴ (Morales and Yáñez, 2006). The problem comes from being so effective that the number of customers that were left and therefore had to be attracted to the industry is today basically none¹⁴⁵ (Guillen and Tschoegl, 2008; Kubis-Labiak, 2005) and banks, because of the difficulties associated with organizational change described previously haven't changed their way of competing, in essence, they haven't changed their *Dominant Design* and continue *Bancarizing* customers by pulling from the only lever they have left, the *Capture* customers¹⁴⁶ (Cap Gemini, 2004; Morales and Yáñez, 2006). The result of all these market dynamics is that, despite the overwhelming evidence depicted in

¹⁴¹ Spanish banks call this competition "Guerra del Pasivo" (*Passive War* or *Deposit War*). This term refers to the interest rate on deposits banks offer to new clients for opening a savings account. Banks call it *Passive* because of where deposits are located in the balance sheet.

¹⁴² They actually use that word. They want to "own" the customer.

¹⁴³ Ideally the more you "own" a client the more profitable the client becomes. Especially over the long-term. However, in the case of some clients and especially in the case of SMEs "owning" the client also means "owning" all its associated risk too, which could affect significantly the profitability and risk exposure for the bank.

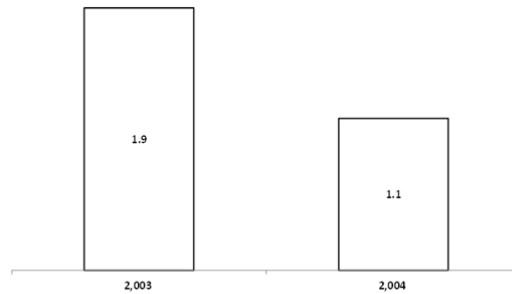
¹⁴⁴ *Bancarization* is also called *Bank Usage*. This term basically describes the transition from one citizen of a given country from having no bank account to having at least one. When a person opens a bank account for the first time in the banking industry this is referred to as *Being Bancarized*.

¹⁴⁵ Although banks are well aware of that, they continue to increase the competitive pressure to *Capture* customers through continuous promotions, such as iPads, TV, luggage sets, etc. (Cinco Dias, 2011a)

¹⁴⁶ This situation is quite similar in most of developed economies. The Spanish case is not fundamentally different in this regard compared to any other developed economy except in the case of pricing. The *Passive War* described previously is particularly acute in the Spanish market. This has caused the Spanish banking prices to be relatively competitive throughout history and has favored a particularly proactive lobbying from the Spanish institutions in favor of regulating the banking compliance in such a way as to help the banks provide a better service to its customers and become more efficient. Initiatives such as separating the paper checks for their electronic meaning (a process called *Truncation* in the banking lingo) was established in the early seventies in Spain and is just one of many examples of this particular industry trend (<http://www.bde.es/clientebanca/glosario/t/truncamiento.htm> accessed April 2011).

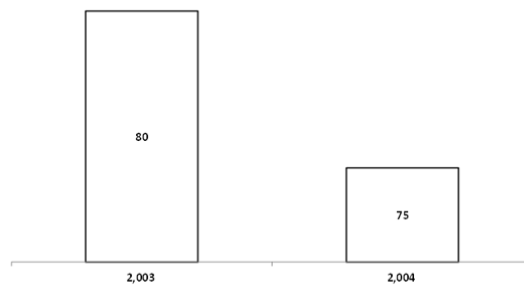
Figures 3.7 and 3.8 where the number of bank accounts per citizen and the number of banks are shown, the way of competing in the Spanish banking industry has been twofold. First through opening as many branches as possible, an approach that *plateau* in the year 2000, as Figure 3.9 depicts. This trend has continued until today, in 2010 banks had to close 1,267 branches (El Economista, 2011a). Second, trying to capture each other's clients through a variety of promotions and, once the new client has signed, trying to sell them as many products as possible so that the customer would be eventually forced to close the bank account he held in the former bank.

Figure 3.7: Bank Accounts per Citizen in Spain in Selected Years



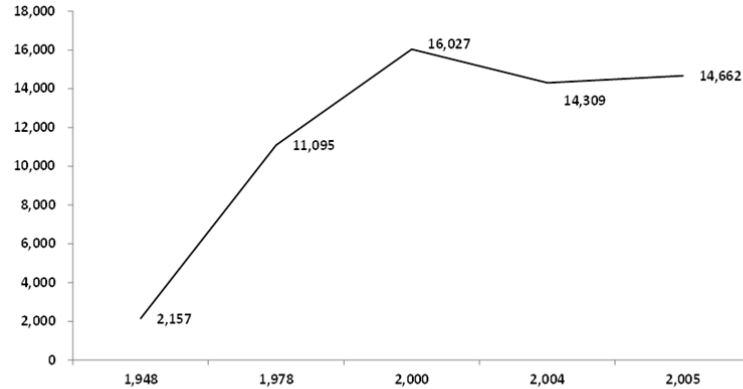
SOURCE: Morgan Stanley Latin American Banks Video Tour. March 2005

Figure 3.8: Number of Banks in Spain in Selected Years



SOURCE: Morgan Stanley Latin American Banks Video Tour. March 2005

Figure 3.9: Evolution of the Number of Bank Branches



SOURCE: Indicadores de Eficiencia en Banca. Asociación Española de Banca. 2006.

In order to understand the phenomenal work Spanish banks have successfully accomplished in Spain and how it has incidentally also created one of the main sources of their rigidities let's untangle the main attributes that constitute the *Bancarization Dominant Design* (Xue et al., 2011). The standard definition of *Bancarization* is: "Establishing stable and profound relationships between banking institutions and citizens over a number of regulated financial services." (Morales and Yáñez, 2006). There are three measurements (*Attributes*) that are commonly used to measure the *Bancarization* progress in any given country (Ruiz, 2007):

1. *Depth*: This measures the importance of the financial system on a country's economy. Its two main indicators are the percentage of total deposits and total credits over GDP.
2. *Coverage*¹⁴⁷: This measures the effectiveness of the financial services channels in providing financial services for every segment of the population. Its main indicators are the number of office branches or ATM machines per 100,000 habitants or the total number of credit cards or payments methods.
3. *Usage*: This measures the number of banking transactions of a country. A measurement particularly critical for the country's growth.

Bancarization is instrumental for a country's growth while at the same time very profitable for financial institutions. Figure 3.10 depicts the *Bancarization* indicators for Spain as well as several other Latin

¹⁴⁷ In Spain *Coverage* is measured only partially because a significant number of non-financial companies control large portions of the financial industry, e.g. motor manufacturers control 56% of the motor finance market, non-financial services companies control 7% of the credit card market, and non-traditional players distribute 12% of general and long-term insurance (Spencer 2010).

American economies. The two main conclusions from these tables are how *Bancarized* the Spanish economy is compared to other economies and that this data is from 2004 which indicates these figures already suffered a significant improvement due to the Spanish bank's internationalization that was engaged several years before (Guillen and Tschoegl, 2008; Guillen, 2000; Ruiz, 2007).

Figure 3.10: Measures of Bancarization of Spain and Selected Latin American Economies

| DEPTH: (data from 2005) | | | | |
|--------------------------------|--------------------------------|---------------------------------|-----------------------------------|----------------------------------|
| | GDP Capita (\$) | GDP Capita (PPP) | Deposits / GDP (%) | Credits / GDP (%) |
| Spain | 27,226 | 26,320 | 91 | 119 |
| Argentina | 4,799 | 11,456 | 16 | 9 |
| Brazil | 4,320 | 8,258 | 35 | 31 |
| Chile | 7,121 | 11,937 | 57 | 66 |
| Colombia | 2,656 | 6,501 | 34 | 46 |
| Mexico | 7,298 | 9,357 | 18 | 14 |
| Peru | 2,841 | 5,170 | 75 | 17 |
| Venezuela | 5,026 | 4,664 | 22 | 11 |

| COVERGAGE: (data from 2004) | | | | |
|---------------------------------------|--------------|---------------|---------------|--------------|
| | Spain | Mexico | Brazil | Chile |
| Number offices per 10,000 citizen | 9.55 | 0.75 | 1.33 | 0.96 |
| Number accounts per citizen | 1.8 | 0.3 | 0.4 | 0.1 |
| Number ATMs per 1,000 citizen | 1.2 | 0.2 | 0.7 | 0.2 |
| Number Debits Cards per 1,000 citizen | 1,322 | 338 | 607 | 200 |
| Number Credit Cards per 1,000 citizen | 517 | 80 | 233 | 176 |

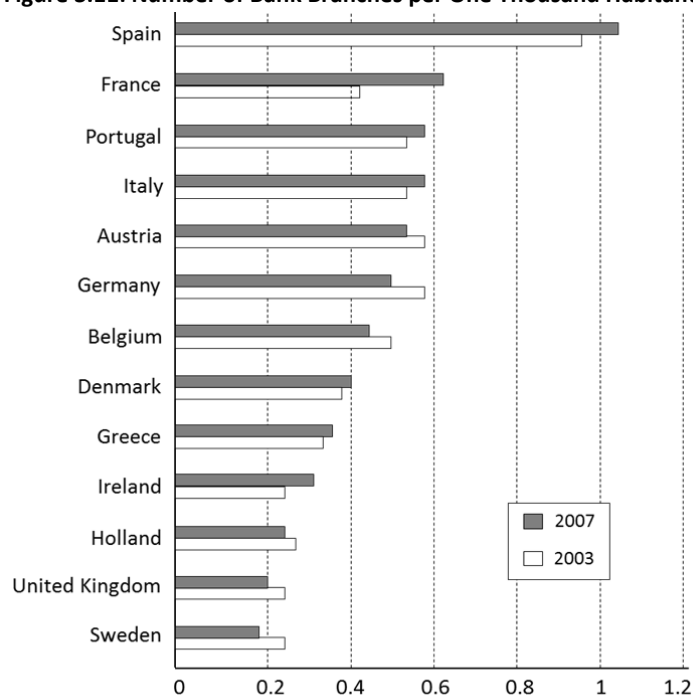
| USAGE: (data of 2004) | | | | |
|---|--------------|---------------|---------------|--------------|
| Number of Transactions per Citizen | Spain | Mexico | Brazil | Chile |
| Cheque | 4 | 6 | 137 | 19 |
| Debit and Credit Card Payments | 25 | 13 | 8 | 4 |

SOURCE: La Bancarización en Latinoamérica. Banco de España 2007.

As Figures 3.9 and 3.10 describe, Spanish banks have traditionally focused their resources on *Coverage*. This especial emphasis of investing their resources in branches and ATMs makes Spanish banks stand out in this area not only compared to developing economies but also, as Figure 3.11 depicts, to developed economies¹⁴⁸.

¹⁴⁸ Also in the European Union, where some European countries are still at their respective early *Bancarization* stages (Kubis-Labiak, 2005).

Figure 3.11: Number of Bank Branches per One Thousand Habitants



SOURCE: Banco de España 2007.

Usage, the other *Bancarization* metric, represents the current banking challenge, not only in Spain, but in every other developed economy where *Bancarization* has reached over 99% of the population. It's a challenge because it's more difficult to capture value from consumers through usage than through branch *Penetration*¹⁴⁹. The way banks untangle the customer usage respective to their *Business Model* is through two metrics.

- *Number of Products*: This metric indicates the number of products the customer has purchased and is currently using from the bank (Bessler et al., 2007; Furness, 2004).
- *Share of Wallet*¹⁵⁰: This metric indicates the percentage of the customer's total financial assets that are being managed by the bank (Dodd & Favaro 2006; Spencer 2003).

These metrics are lagging variables but are very accurate proxies of banking profitability¹⁵¹. In order to act upon these metrics, banks deploy their resources on three levers:

1. Multichannel integration

¹⁴⁹ In other words, the *Appropriability* (Frame and White, 2009) of customers through usage has a higher variability than opening a branch. This means that banks can try to sell new products or services to their current customers and find that the customer goes to another bank to purchase that product.

¹⁵⁰ *Customer Loyalty* correlates poorly with *Share of Wallet* (Keiningham et al., 2011).

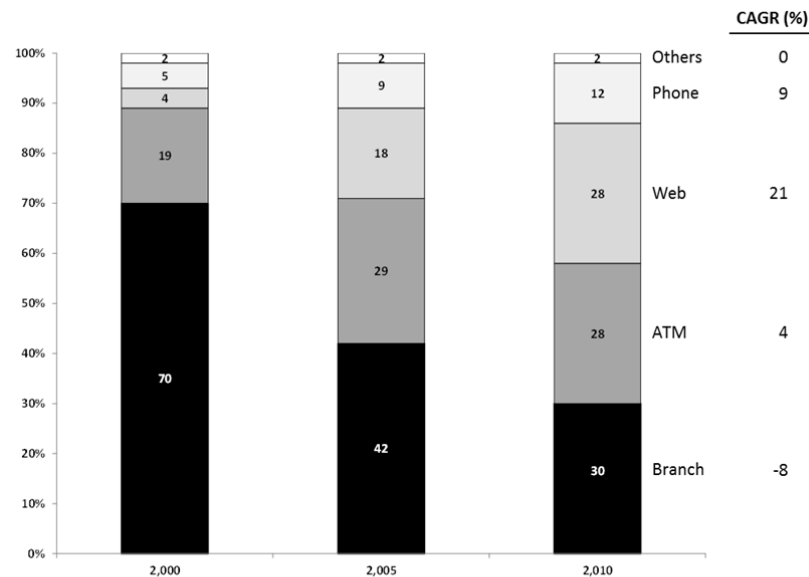
¹⁵¹ The last proxy would be *Efficiency*. Differences in banks come from operating efficiencies. Although there is a consensus they never account for more than 8% in unitary costs they are directly related to bank's size (Walter, 2009).

2. Transaction Volume
3. Cross-Selling

Multichannel Integration

There are several benefits associated with reaching your customers through more than one channel (Zhang et al. 2009). Research indicates that the best financial performance retailers are multichannel (Kilcourse and Rowen, 2008), that customers who use a retailer’s multiple channels buy more (Ansari et al. 2008), that multiple channels increase customer loyalty¹⁵² (Neslin and Shankar, 2009) and that customers acquired through different channels vary behavior (Villanueva et al., 2008). As a consequence banks have been introducing progressively new channels while trying to give them more relevance in relation to the branch (Gemes et al., 2007). Figure 3.12 depicts the evolution of the distribution of services¹⁵³ to clients per channel.

Figure 3.12: Distribution of Services Among Channels (%)



Services: day-to-day banking transactions such as cash withdrawals, cash and check deposits, wire transfers, printing bank statements, ordering check books, providing technical assistance, resolving incidents and complaints, and locating documents.

SOURCE: CapGemini interviews with 41 retail banks (CapGemini 2006).

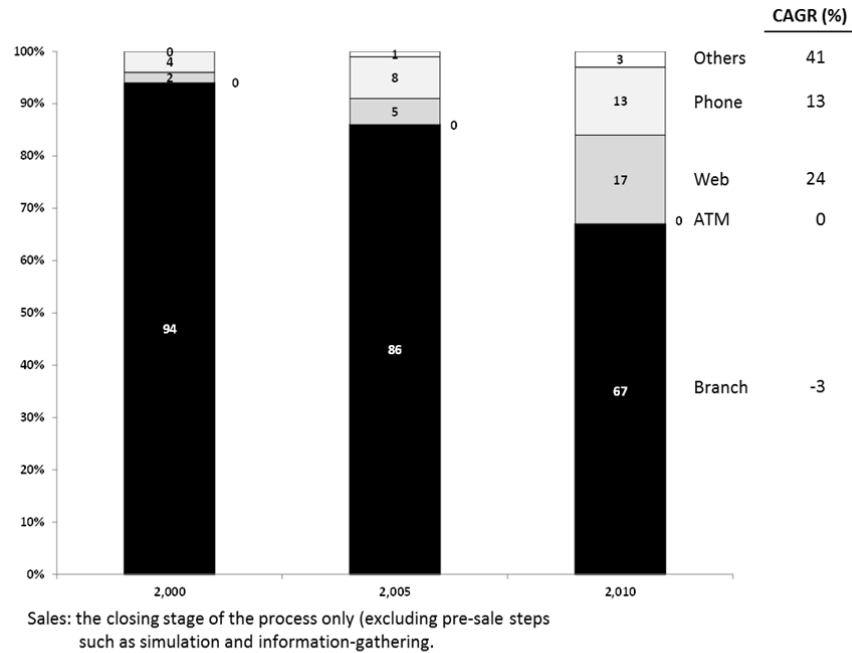
Although these figures are from an aggregate of 41 banks the dilution of branch influence is not as profound when it comes to sales per channel (Figure 3.13). The reason is that established firms have

¹⁵² However other research indicates that increased usage of a retailer's Internet channel decreases loyalty (Gensler et al., 2007).

¹⁵³ Services such as: day-to-day banking transactions, such as cash withdrawals, cash and check deposits, wire transfers, printing bank statements, ordering check books, providing technical assistance, resolving incidents and complaints and locating documents.

difficulties adopting new technologies (such as the internet) for sales processes, while they see clearly the incentives in terms of efficiency and reach in operational processes (Steffenson McElheran, 2010b). For example, the CEO of BBVA Compass acknowledged recently that although only 5% of their sales come from the internet they still plan to increase the *Resource Allocation* on that channel because they view it as a growth opportunity (Gupta and Davies-Gavin, 2011).

Figure 3.13: Distribution of Sales Among Channels (%)



SOURCE: CapGemini interviews with 41 retail banks (CapGemini 2006).

The problem with multichannel adoption is that of an *Inverse Selection Bias* (Bidmead et al., 2007). The more multichanneled a bank becomes the more the profitable clients stop coming to the branch (Cap Gemini, 2006). So over time only the “wrong”¹⁵⁴ or least profitable clients go to the office. In addition, because of the installed base of bank branches, the relative cost of those assets if not controlled can lead the bank to a severe mismatch between *Resource Allocation* and *Customer Profitability*¹⁵⁵ (Cap Gemini, 2006). So even though in services the product is the service there is a clear decoupling process inside the product aspect of the service between *Servicing* and *Selling*.

¹⁵⁴ Branch managers usually call the “wrong” customer the one that has a low profitability and that at the same time give a substantial amount of administrative work.

¹⁵⁵ With the advent of the internet, in the early 2000s a highly differentiated retail bank in Spain decided to close massively a significant number of branches while trying to migrate the entire business to the internet. Before reaching 30% of the process the bank was forced to undo the entire initiative.

In Spain, both the decoupling process between sales and service and the dilution of branch penetration are incipient¹⁵⁶. As explained above Spanish banks have walked through the path of *Penetration* by opening branches comparatively much more than other developed economies. Although this process is indeed slowly advancing in Spain the real shift described in this section has not been observed yet¹⁵⁷ (Mass, 2005; Sieber and Valor, 2007; Tornabell, 2010; Vives, 2010).

Transaction Volume

Customers who have a high transaction volume tend to be associated with faster internet banking adoption (Xue et al., 2011). At the same time the larger the number of transactions per channel is also associated with higher customer retention and profitability (Campbell & Frei 2009). Although the traditional comparative advantages in relationship banking have been diluted by transaction-oriented approaches to customer retention and monetization the fundamental incentives regarding transactions have remained unaltered for banks: They still want the largest number of transactions at the highest margin *per* transaction as possible (Boot and Marinc, 2008). These incentives are translated into several forms of business practices in the industry, such as originating several transactions for a mortgage (Jacobides, 2001a), or leveraging the monetization model to the payments *Segment* (Cap Gemini, 2008) or even developing fully fledged transaction-driven retail banks¹⁵⁸ (Furness, 2004).

One of the ways that the regulators are influencing the cost structure of banks is by *Modularizing* the transaction standards. This usually creates new boundaries that might increase, reduce or migrate the different *Transaction Costs* (Baldwin 2007). In the case of Spain, where the Bank of Spain regulates established firms, they are still quite *Interdependent* (Vives, 2010), this lack of *Modularization* drives the banking entities costs upwards. The effect of these costs per transaction forces banks to discard new products, services and *Business Models* that might bring additional transaction-based revenue to the bank (Christensen et al. 2011).

¹⁵⁶ For instance, Mr. Ángel Cano, CEO of BBVA, foresees that branches are destined to have a new role, and that BBVA intends to reduce “substantially” the number of branches in the near future mainly because of technological substitutes. The offices that remain will become a “meeting point” between the bank and the customer (Cano, 2012).

¹⁵⁷ In the forthcoming sections we will describe the variety of incentives that cause Spanish banks to try to continue using the branches intensively.

¹⁵⁸ Such as Swedbank or Deutsche Postbank.

Cross-Selling

There is a positive relationship between the number of products and the *Share of Wallet*¹⁵⁹ (King 2010; Smith et al. 2010). This is due to the one process that impacts both metrics at the same time and that has much more influence on usage than both multichannel integration and the number of transactions, this process is usually named *Cross-Selling* and stands for the ability of a company to make the current customer adopt (purchase) new products (Walter, 2009)¹⁶⁰. Irrespective of whether the relationship between these products and the ones the customer previously owned is either direct or indirect (Shah & Kumar 2012).

Historically, banks have tried to do *Cross-Selling* since the very moment they “capture” a new customer. There are three ways through which they have tried that. First, branch practices, for instance moving more staff from the back-end to the front-end in order to try to increase their effective sales force¹⁶¹ (Cantwell, 1987; Champagne, 2000; Cocheo, 2000). Second, advanced CRM systems, that is not only very effective at capturing information from the different banking channels but also at processing it (Radigan, 1993). Third, Mergers and Acquisitions (Glasgall and Rossant, 1999), particularly in case neither of the other two alternatives yielded any result (Business Insights, 2008; Stringefellow et al., 2004; Winer, 2001).

The possibility of *Cross-Selling* arises when banking customers who are not experts in the industry for whatever reason must *Cross-Purchase* another financial or non-financial product (Moon, 2010; Walter, 2009). In this situation customers usually face a large number of the imperfections inherent in every industry as well as their own personal cognitive limitations¹⁶². In this case both search and contracting costs gain relevance. Customers can at the same time adopt a variety of tactics for finding and purchasing the product that they are looking for. Figure 3.14 describes how the customer's *Willingness-*

¹⁵⁹ Additionally, profits margins on the second product that is sold to the customer are two-to-three times higher than the first sale while retention increases by 60% (Burand, 2001).

¹⁶⁰ One of the most frequent attributes of *Cross-Selling* when applied in bundles is the *Pure Bundling* vs. *Mixed Bundling*. In *Pure Bundling* products can only be acquired inside the bundle while in *Mixed Bundling* products can also be acquired separately (Derdenger and Kumar, 2012).

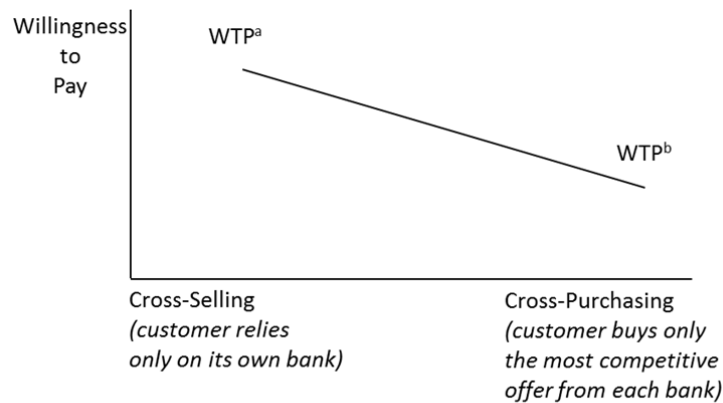
¹⁶¹ A particularly common practice among retail banks that are specially focused on products (Van Iwaarden, 2001).

¹⁶² Recent research shows that the bank's real risk of losing this battle is higher than expected because 51% of customers who had no choice but to use the incumbents interface switch to a competing website as soon as it was available (Murray & Häubl 2012).

to-Pay (WTP) decreases as the customer not only becomes more knowledgeable of an industry but also as external search costs for products decreases because of the internet¹⁶³.

Although in countries such as the US, France or Germany more than 40% of customers use the internet to compare products *Functionalities* and *Pricing* before the purchase (Mckinsey Global Institute, 2011a; Van Steenis, 2000) the situation in Spain at the time where this thesis is being written is closer to the left hand side of Figure 41¹⁶⁴, with clients concentrating in one bank therefore increasing the *Cross-Selling* opportunities¹⁶⁵, the models banks use to *Cross-Sell* are based on the *Customer Life Cycle Dominant Design*. According to this *Model* customers tend to acquire financial products in the same order (Li et al., 2005; Paas and Kuijlen, 2001; Paas, 2009) and in the case of young customers they might even offer these products in that order and defer payment (Paas, 2001).

Figure 3.14: Cross-Selling vs. Cross-Purchasing as the Extremes of a Continuum



NOTE: This model has been built from Walter (2009). It is not present in the article.

The *Customer Life Cycle Dominant Design* (usually named *Sequentially Ordered Products* in the banking industry) has served as the building block for the commercial design of a substantial number of banks (Li et al., 2005). These banks have used categorization schemes that control for age, gender and many other variables (Li et al., 2005). These *Models* have also gained accuracy by reducing their time span so they became capable of detecting which product the customer will want to buy next. They subsequently tried to send an offer to the customer hopefully before the competitor does (Knott et al., 2002). To

¹⁶³ For example, websites that compare the performance of a particular financial product that is offered by several banks.

¹⁶⁴ 25% of people from Sweden search for banking products online while in the US that figure is 6.5% and in the UK is also 6.5%. In France and Spain it's less than 4% (Keeley, 2000). In Spain in 2009 only 9% of online users bought a financial service using the internet (that number includes insurance and banking products) (Urueña et al., 2010).

¹⁶⁵ Although there have been dozens of start-ups focused on the banking *Cross-Purchasing* business none has grown enough yet to challenge this dominant design. It's expected this situation will change in the near future (El Economista, 2011c).

continue correcting for anomalies banks have used these *Models* to develop new *Segmentation* techniques that might reflect more appropriately the consumer's behavior (Kamakura et al., 1991). A process that has both enlarged substantially the number of fields included in the customer database (Lau et al. 2004; Kamakura et al. 2004) and increased measurements of branch *Cross-Selling* efficiency (Nash and Sterna-Karwat, 1996).

Spanish retail banks¹⁶⁶ have widely adopted the *Sequentially Ordered Products* methodology described above. However after some time they introduced one new key variable: *Customer Profitability*¹⁶⁷ (Jarrar and Neely, 2002). That re-arrangement of priorities has adopted many forms but there is one that was particularly adopted in Spain and that has been used extensively for both current and new "captured" customers; which is the mortgage (Wilson 1996; Wang et al. 2008). Mortgages in Spain have evolved from a single product with a relatively short life span to a product that is relevant in the entire customer's life cycle and critical for both analyzing the customer remaining share of wallet and determining the product(s) he might buy from the bank at a certain level of risk (Cocheo and Bielski, 2007). Additionally mortgages have become instrumental for customer retention (Pasher 1998; Thomas 1999), and have proved instrumental for selling insurance (Jordan, 1984). Banks have transitioned to selling long-term mortgages with the expectation that this long-term relationship with the client will give them plenty of opportunities for making the client more profitable while at the same time increasing customer satisfaction (Arbore and Busacca, 2009; Verhoef et al., 2001). In order to accomplish these two objectives at the same time banks are investing in technologies capable of providing "instant" tailored offers to its customers (ABA Banking Journal, 2007).

Irrespective of controlling for the *Customer Life Cycle Model* or not, the *Cross-Selling* literature is quite broad and has two particular characteristics. The first is that most empirical studies on *Cross-Selling* are based on survey data obtained from multiple industries (Harrison and Ansell, 2002), which makes generalization difficult (DeLong, 2001), this type of research usually delivers *Descriptive Frameworks* and *Models* (Wilson & Loerzel 2004). The second characteristic is that it usually surpasses the boundaries of its field, so a significant portion of the research on *Cross-Selling* is at the intersection of a variety of subfields, such as *Organizational Behavior* (Kuenher-Hebert, 2004; De Simone, 2001), *Technological*

¹⁶⁶ Same as many other retail banks in developed economies.

¹⁶⁷ Most banks in developed economies have also made this switch.

*Change*¹⁶⁸ (ABA Banking Journal, 1979), *Financial Services* (Hellmann et al., 2007), *Marketing* (D'Agostino, 2000), CRM systems (Kamakura et al., 2003), service quality research (Crosby et al., 1990), communication (Van den Poel and Leunis, 1998) or a corporate culture problem (Laux and Walz, 2007). Each of these research sub-branches (or any combination of them) has its own recipe of success and its own explanations of why *Cross-Selling* is still such a challenge (Liu & Cai 2008). It's remarkable that the "traditional" way of assessing risk, which is considering the "soft" information branch personnel used to capture from the customer, has been progressively discontinued in favor of a more sophisticated cadre of systems. This process however has not only been erratic in most banks but also has caused the number of defaulted loans to soar significantly (Canales & Nanda 2008; Canales & Nanda 2011; Spencer 2003; Udell 2008; Schieffer 2005; Degryse et al. 2007).

As Table 3.6 describes¹⁶⁹ (RBI International, 2009), the Spanish retail banks have become quite successful at transitioning between the client's sources of hard and soft information. They have also become proficient at combining that information with the *Customer Life Cycle* using the mortgage as the base product (Hesse, 2009). This achievement has represented a significant increase in profitability due to *Cross-Selling*. Which has had two direct benefits, the first is the positive effect on their cost-income ratio, the second is an extraordinary pressure on improvements in their *Cross-Selling* capabilities because of the nascent convergence in the way of competing towards *Cross-Selling*. For example, if the Retail and Private Clients division of Hypo Vereinsbank lowers its *Cross Selling* effectiveness on its most profitable clients by 50% their total business profits would fall by 57% (Van Steenis, 2000). Therefore banks need to engage in sustainable *Cross-Selling* practices not only to add granularity to their aggregate *Cross-Selling* initiatives but also avoid generating negative reactions from consumers (Gunes et al., 2010).

However, these numbers don't reflect the "pure" *Cross-Selling* capability of any particular bank. The reason is that they are the lagging variable of a predetermined model that results from the combination of the different alternatives depicted in Figure 3.15¹⁷⁰. On top of the two ways of organizing their

¹⁶⁸ For example, the Santa Clarita National Bank uses photo slides of customers to *Cross-Sell* while they are in the teller line. This practice is quite common both in Europe and the US.

¹⁶⁹ The number of products per customer is information that is quite sensitive for many banks. Therefore that kind of information is not made public. This table only lists the number of products per bank from reliable sources. Whenever banks publish their average number of products per customer questions related to both counting methods and consistencies arise.

¹⁷⁰ The three different types of *Cross-Selling* alternatives shown are not considered industry practice *per se*. In April 2010 in a personal interview with the CEO of one of the 5 major banks in Spain he said (*verbatim*): "*Bundled-Selling is Cross-Selling*".

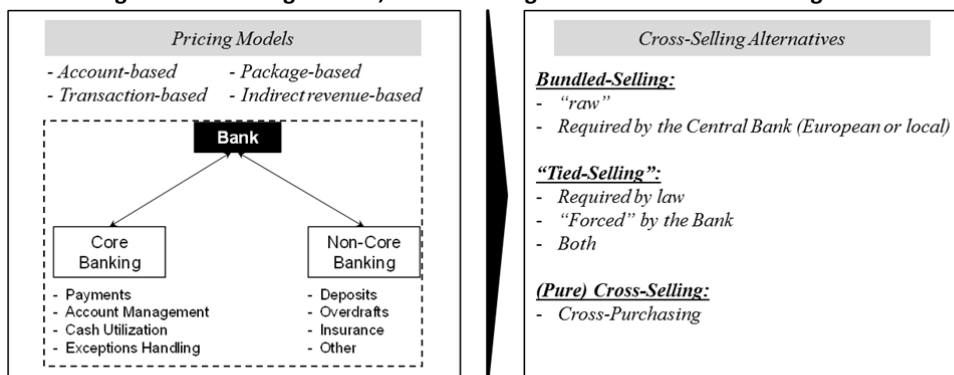
income stream¹⁷¹ banks have four ways to control for their revenue sources plus three systems to augment the number of products per customer (King 2010; Dougan 2004; Canales & Nanda 2008; Cap Gemini 2004; 2008).

Table 3.6: The Most Effective Cross-Sellers in the Retail Banking Business

| | Country / Region | Average Number of Products per Customer |
|----------------------|------------------|---|
| Bankinter | Spain | 6.34 |
| Wells Fargo | US | 5.81 |
| Komerční Banka | Czech Republic | 5.70 |
| Bradesco | Brazil | 4.70 |
| BBVA | Spain | 4.70 |
| Swedbank | Sweden | 4.50 |
| Millenium BCP | Portugal | 4.06 |
| Royal Bank of Canada | Canada | 4.00 |
| BBVA Bancomer | Mexico | 3.60 |
| KBC | Belgium | 3.60 |
| UniCredit | Italy | 3.40 |
| Hana Financial | South Korea | 3.40 |
| Garanti | Turkey | 3.34 |
| Türk Ekonomi Bankasi | Turkey | 3.33 |
| Allied Irish Banks | Ireland | 2.70 |
| Nordea | Scandinavia | 2.66 |
| Commerzbank | Germany | 2.20 |
| Deutsche Postbank | Germany | 2.15 |
| BMO Bank of Montreal | Canada | 2.14 |
| Standard Chartered | pan-Asia | 1.40 |
| Average | | 3.69 |

SOURCE: Spain's Bankinter Tops Worldwide Cross-Selling League. *Retail Banker International*, April 30th, 2009.

Figure 3.15: Pricing Models, Product Categorizations and Cross-Selling Alternatives



SOURCE: World Retail Banking Report. *Cap Gemini*, 2004-2009.

SOURCE: Dougan 2004, Barron & Staten 1995, Khar & Dhar 2010.

These different *Cross-Selling* alternatives vary per country and are heavily influenced by the bank's revenue model (Cap Gemini, 2004). An explanation of each follows:

¹⁷¹ That, as mentioned previously, is at the same time heavily influenced by the country of origin and the bank's business model.

Bundled-Selling:

The principle of *Bundled-Selling* is very intuitive in banks with a *Package Based* business model (Cap Gemini, 2004). There are two types of *Bundled-Selling* practices, the first type (*Raw*) is mainly driven by a deliberate decision of trying to capture customers that are about to begin their relationship with the bank and that they are going to start with several products, e.g. in 2006 Banesto captured 533,000 customers with their “Flat-Fee Account” (COTEC, 2006). Each of these customers had an average of 6.0 products at the beginning of their relationship with the bank. The second case of *Bundled-Selling*, the one required by the European or local banking regulation, is mainly driven by the regulatory concern of edging customer’s risk in the banking initiatives dedicated to capturing new customers¹⁷², in this regard there are banking regulators that when they are inspecting banks consider more appropriate in terms of risk if the client has a variety of products each with a different degree of risk exposure, i.e. in the year 2006 Banesto captured 750,000 customers with its “Pay-roll account”, each of these customers had on average 8.0 products¹⁷³¹⁷⁴ (Banesto, 2007).

Tied-Selling:

There are cases where the requirement for a collateral asset or product doesn’t come from the banking regulator but from the government itself. In that case it’s the law that requires a certain customer to acquire two products “tied” to each other. One of the most common examples of *Tied-Selling* happens in the mortgage products. In Spain it’s mandatory all banking consumers that have a mortgage must have at least fire insurance for the asset that is being repaid. This insurance must last at least as long as the mortgage¹⁷⁵. Unfortunately the incentives these laws provoke have occasional deleterious effects for consumers. After some time, and due mainly to the natural evolution of the exploitation of current banking practices, banks tend to “force” on the tied product additional products that, although not required by law, the bank is introducing to the client as a requirement to get their mortgage. This forced

¹⁷² Another example of the banking regulator intervening to prevent banks from engaging in unbearable amounts of risk because of their commercial initiatives is the previously mentioned *Passive War* (or *Deposits War*).

¹⁷³ In this lines we are not implying that regulations mandate banks to engage in *Bundled* offers, We are merely indicating that the more products a customer has the better that particular customer risk is edged. Banking authorities are aware of this and therefore, while inspecting a bank, they react differently in front of this situation.

¹⁷⁴ In the last decade Banesto has engaged in very effective marketing strategies where a hedonic product is given either for free or with a large discount in exchange for capturing the entire business activities of the customer. Customers have been very eager to accept this offer because of the strong psychological effects of this particular marketing activity (Khan and Dhar, 2010). Other Banks offer a variety of products that include sheets, kitchen ware, TVs, etc. (De la Cruz and Bustillo, 2010).

¹⁷⁵ Ley 41/2007, de 7 de diciembre, por la que se modifica la Ley 2/1981, de 25 de marzo, de Regulación del Mercado Hipotecario y otras normas del sistema hipotecario y financiero, de regulación de las hipotecas inversas y el seguro de dependencia y por la que se establece determinada norma tributaria (this is the Spanish law that introduces this particular requirement).

product-introduction into current or new customers has become an extended practice in the banking industry in Spain particularly since the early 2000 and until the recent economic crises. There are two reasons that explain this practice¹⁷⁶. First the inverse relationship between the customers' associated risk and their profitability. Second, the potential threat banks have had with the mortgage product of being commoditized by regulators¹⁷⁷ (Webb 2009).

A gray area both in regulation and industry practices arises when the banking practices crosses the limits of forced-selling to enter into the realm of *Coercion*. Competitive pressures in the banking industry can become so intense that loan officers sometimes engage in sales techniques that transition from being persuasive to being coercive. This is the case when both *Tied-Selling* plus *Forced-Selling* collide in a particular banking practice¹⁷⁸. However it's fair to say in the case of the Spanish banking industry this has only happened marginally and on a case by case basis (Barron and Staten, 1995).

Pure Cross-Selling:

In this thesis we consider "Pure" *Cross-Selling* all the different customer propositions that increase the customers (or non-customers) *Willingness-to-Pay*. In other words instances that generate a purchase reaction from *Cross-Purchasers*¹⁷⁹. *Cross-Selling* can be done while using financial and non-financial products. One example of *Cross-Selling* would be the *Broker Online* product. This is an application developed and launched by Bankinter that helped customers buy and sell shares in a number of stock markets using their cell phone¹⁸⁰. Another example of *Cross-Selling* is the ATM machine that expedites travel insurance in the Madrid airport. The Bank that launched this service (Bankia) sells the insurance per day (1.90 euros per day). This machine was installed and tested for four months, in this time this ATM managed to sale more than 9% of this particular product's yearly sales (García, 2011).

¹⁷⁶ Because of the crisis banks have noticeably stopped this practice (Calavia, 2011).

¹⁷⁷ In the problem of losing margin on mortgages is compounded because of the deposits war. At the end banks ended up compensating for that via commissions (Cinco Días, 2011b).

¹⁷⁸ An example of that is when customers ended buying an insurance when they thought it was a deposit (Del Pozo, 2008). *Bancassurance* is still the most common *Cross-Selling* initiative (Furness, 2004).

¹⁷⁹ Another way to picture what is considered as *Cross-Selling* is eliminating the other cases described above.

¹⁸⁰ Citigroup has also recently used the phone to upsell to clients. The eruption of the volcano *Eyjafjalla* in 2011 (located in Iceland) provoked the closing of all western Europe major airports, Citigroup detected which customers were abroad (using their payments information) and immediately sent them an SMS message indicating their credit limit had been increased so they could finance their stay until they could make it back (Expansión, 2011).

3.2 The Limits of Consumption in the Retail Banking Business and the Emergence of the Internet as a New sales Channel

The *Cross-Selling* practices explained in the previous section describe the historical evolution of the “personal selling effectiveness” trend that emerged in the retail banking industry in the eighties¹⁸¹ (Berry & Kantaka 1990). These practices became more formalized after the banks realized that is more cost-effective to retain and cultivate an existing customer than to attract a new one (Bussmann et al., 2011; Daruvala et al., 2012a). Banks realized that product-based practices were causing that many of its customers were never exposed to the full range of products and services available. Banks reacted accordingly initiating a transition from pure product-based firms to customer-centric organizations (Ritter, 1993). This change however brought to light two organizational challenges that banks are still trying to solve appropriately today¹⁸². The first is providing to customers the same service experience irrespective of the channel the customer decides to interact with. The second one is becoming more *Market Driven*, instead of *Driving Markets* (Matsuno and Mentzer, 2000; Narver and Slater, 1990). Banks observed how the very same moment they stopped pushing intensively for sales throughout their channels sales almost automatically fell sharply (Kamakura, 2008).

The increasing trend of platform-based revenue that retail banks experienced after the eighties helped them to transition their channel strategies from the *Buy to Hold* model (Figure 3.16), where banks financed long-term loans with short-term deposits to *Originate and Distribute* where banks became intermediaries between customers and financiers (Roldán Alegre, 2008). In this new context banks made significant efforts to provide customers with a fully comprehensive multichannel strategy (Gupta & Davies-Gavin 2011; Spencer 2002; Cap Gemini 2006; Spencer 2003).

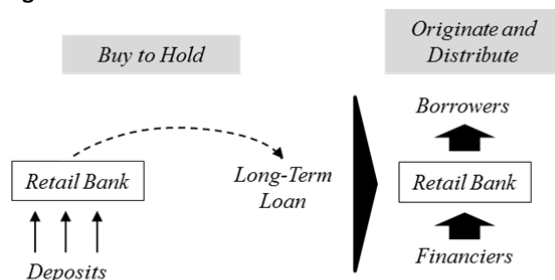
Although banks were expecting that new self-service and more technology-intensive channels would take over traditional channels the reality is that although self-service channels increased customer retention they didn't replace traditional channels. Instead new channels were becoming complementary and more costly (Campbell & Frei 2009). One of the reasons of that is the nature of the inherent limitations each new additional channel brings to the customer (Grewal et al. 2002).

¹⁸¹ Deregulation also played a significant role at the time in fostering competition.

¹⁸² This is one of the main reasons banks have been massively investing in technology (Leigh & Tanner 2004).

Unfortunately, when it comes to channel strategy in the retail banking industry, the rigidities inherent in the previous platform (*Buy to Hold*) have been added into the new platform (*Originate and Distribute*). The last of these initiatives is a classic *fuite en avant* where banks are now investing massively to make all the channels interdependent between them. Their objective is that if a client initiates the purchase of a financial product in one channel it might as well finish the purchase in any other channel at his convenience¹⁸³ (Lacaba Velasco, 2011).

Figure 3.16: The Transition of the Retail Bank Platform



NOTE: This model has been built from Roldán Alegre (2008). It is not present in the article.

On the other hand, the problem of not being proactive in selling financial products is of a different nature. Spanish banks have developed strong capabilities at transforming people who never had a bank account into full customers¹⁸⁴ (Guillen and Tschoegl, 2008). However, in a country like Spain, where banking penetration is close to 100% (Cinco Días, 2010), that has 95% of adults regularly using financial services (Honohan, 2008) and where 51% of the banking customers are satisfied with the service (Cap Gemini, 2010; El Economista, 2011b) the banking industry represents a category that has reached a point where customers are unable to perceive the differences in product performance (Moon, 2010).

Customers view a product's performance outcome in relation to both financial and non-financial outcomes, and it's mainly determined by the product *Innovativeness* in new service development¹⁸⁵ (Calantone et al., 2006). In such a mature industry there are six distinct service *Innovativeness* types. The one with the highest degree of *Innovativeness* is the *New-to-the-Market* product. The second is the

¹⁸³ At the time of this writing this new initiative is still in its very early stages. This initiative is only about one year old and it's expected to be successfully implemented in a number of years because it not only requires massive investments and channel adaptation from the banks but also needs significant changes in the current banking and governmental regulation.

¹⁸⁴ In section 4.4 we explain the *Bancarization* in the Spanish retail banking industry.

¹⁸⁵ A particular financial product's degree of *Innovativeness* and its financial performance have an almost inverted U-shaped relationship (Avlonitis et al., 2001).

New-to-the-Company services. Third comes *New Delivery* processes; fourth *Service Modifications*; fifth, *Service Line Extensions* and the least innovative is service *Repositioning* (Avlonitis et al., 2001).

Recent literature on innovation indicates that when customers are overly satisfied, also known as *Overshooting* (Christensen, Anthony, et al. 2004) this indicates that the criteria for evaluating a product's performance outcome has shifted again. In the case of retail banking the current most important product features customers demand are *Convenience, Speed* and *Price* (Keeley, 2000). Until now banks have relied on a large customer base to protect themselves against higher quality alternatives, but the experience of ING Direct in Spain (Parry et al., 2012), and considering the European regulation, that keeps opening up the market in favor of leveling the playing field for retail banking in the Eurozone coupled with new research that indicates this shelter is not always effective and that it has started to generate new initiatives among some Spanish banks (Tellis et al. 2011). One of the most prominent initiatives that retail banks are adopting is improving their research on *Lead Users* (Belz and Baumbach, 2010). Another initiative is letting non-banking firms offer new services to their entire customer base¹⁸⁶ (Oliveira and Von Hippel, 2011).

The Emergence of the Internet as a New Sales Channel

The branch as a distribution channel still predominates in the retail banking distribution landscape (Spencer 2003; King 2010). As mentioned in the previous section, although the banks have been adding different channels as soon as emerging technologies enabled them (telephone, etc.) it wasn't until recently that they switched their policy from merely adding channels to integrating them (Markides & Charitou 2004; Spencer 2003). This policy was triggered because of the emergence of the internet (Callaway & Hamilton 2008). Half of the Spanish banking customers (46.5%) use the Internet regularly as a banking channel. This makes Spain the 8th country in online banking penetration (Media Metrix, 2010). Since internet banking adoption is correlated with more deposit accounts (Xue et al., 2011) this apparent success has two significant connotations. The first is related to the innovation literature while the second represents one of the *Propositions* described in this thesis. The first connotation is related to how incumbents behave in front of a new technology. They usually introduce it as an *Incremental*

¹⁸⁶ As a result of this initiative 55% of today's computerized commercial banking services were first developed and implemented by non-banking firms. Also, 44% of today's computerized retail banking services were first developed and implemented by individual users (Oliveira and Von Hippel, 2011).

innovation and that usually means they use it to become more efficient (Steffenson McElheran 2010a; 2010b). The second connotation comes from the difference banks and customers have had when adopting the internet for conducting regular transactions on their bank account compared to their resistance to embrace the internet as a new sales channel. This resistance has been happening while at the same time ING Direct – a pure internet bank – reached the 115,000 clients threshold just in its first year of operations and still remains the most recommended bank in the country (TNS, 2010). Spanish banks on the other hand have tried a variety of approaches to increase online sales, most of them clearly unsuccessful (Bernal Jurado, 2002). At the moment they have shifted their strategy and are developing initiatives targeted exclusively at young consumers¹⁸⁷, hoping that this segment of consumers will be more receptive to their sales approach. Why is it that in such a mature market, where customers know exactly the products, where they also know each product performance characteristics and where they can easily compare between banks while at the same time banks have all their means, resources and the customer base to sell to their existing (or new) customers using the internet, that banks and customers don't seem to be able to transition from operating to buying and selling?¹⁸⁸

However the first symptoms of *Cross-Purchasing* are starting to become self-evident and have triggered a stream of *Descriptive* research that tries to explain this phenomenon. Although Spanish customers are over 20 points more satisfied with their banks than the European Union's average and over 30% of clients usually spend more than 5 years with a bank¹⁸⁹ at an average of 3.9 products per customer, almost a quarter of them have become active at changing their bank recently (Expansión, 2010). Despite the switching costs that this decision entails (De Matos et al., 2009). Internet banking is not just one additional channel; it's now a requirement if banks are to retain the loyalty of their existing customers while enabling *Cross-Selling* initiatives (Galbreath, 1999). To tackle this challenge successfully banks need to pass through the traditional *Descriptive Segmentation* schemes (Cerno and Pérez Amaral, 2004) and get themselves acquainted with customer's views on topics related to how to deal responsibly with money¹⁹⁰ (Raich, 2008).

¹⁸⁷ The Facebook generation (Lindbergh et al., 2008).

¹⁸⁸ The research methodology includes a clinical comparison of what does the operations *Job Construct* look like compared to what the buying financial services online *Job Construct* looks like. This is connected to Propositions 1 and 3 from the previous chapters.

¹⁸⁹ And 43% of customers spend more than 10 years with the same bank.

¹⁹⁰ This is mainly for banking to the consumer, not for banking to companies where the understanding of financial products (Jonsson, 2008) and the company's *Needs* are different (Rader Olsson, 2008). Also, at the time of this writing, banks are receiving quite a lot of bad press because lending restrictions are causing an upsurge in company closures (McCabe, 2009).

However banks still consider the internet channel only as an incremental innovation (p. 76) (COTEC, 2006) while the product development unit has been established to handle both *Incremental* and *Radical* initiatives¹⁹¹. Despite recent literature on bank marketing that indicates the web banking store layout affects deeply not only online consumer behavior but also user acceptance of web banking design and new product introduction (Vrechopoulos and Atherinos, 2009).

3.3 Factors that Inhibit Cross-Selling in Retail Banking and the Retail Banks Response

When it comes to engaging in innovative practices large established firms usually suffer from both *Path Dependence* and *Lock In* (Desyllas and Sako, 2013). Both these problems can be clearly revealed from the outset or remain hidden acting as innovation deterrents (D'Este et al., 2011). Before reviewing a variety of initiatives retail banks have engaged in order to tackling *Cross-Selling* through the internet there is a factor described in both the literatures of *Innovation* and *Organizational Design*: the role of *Core Capabilities* and how when *Circumstances* change become *Core Rigidities* (Leonard-Barton, 1992). There are a number of *Rigidities*¹⁹² inherent to the current retail banking *Business Model*, although the majority of them come from either the bricks-and-mortar world or from the historical banking regulation. Some of them are reviewed here and would still be present if the challenges banks have to face would be of some other nature different than that of the internet (Thwaites, 1992).

Using the Branch as a Sole Channel (Branch Aggregation)

The pace of technological change and the current crisis are the driving forces behind the fundamental transformation of the retail bank branches. A myriad combinations are being tested and implemented such as having *mixed offices* (offices shared with other businesses), changing their schedules, selling non-financial products, sharing the branch director, exploring different ways to exploit more efficiently the branch customer's portfolio, etc. (TATUM, 2011). However these changes have a problem, in retail banking, when it comes to profits, service variability is significantly more important than service quality (Frei et al., 1997) and most of these initiatives are not only untested but also have the potential to erode dramatically the profitability of the branch.

¹⁹¹ According to the source this is only on average, the most advanced banks have probably changed this viewpoint already.

¹⁹² This section doesn't imply by any means that banks were poorly managed. Most of the decisions that resulted in these *Rigidities* were not only sound but also the right the decision given the information decision makers had at the time. *Rigidities* come from projecting the life of an investment in a linear way in a world where non-linear or discontinuous functions are the norm (Schreyögg and Kliesch-Eberl, 2007).

This problem gets compounded when customers adopt additional self-service channels (ATMs, telephone, internet, etc.) the reason is that empirical work on customer behavior in retail banking indicates self-service channels substitute traditional channels instead of complementing them (Frei & Edmondson 2006; Campbell & Frei 2009). This not only increases the inverse selection problem for the branch network described previously but also reduces profitability and at the same time (and as previously mentioned) liberates branch resources that become idle therefore putting an enormous amount of pressure on fixed costs (Cap Gemini, 2006).

Again, banks are reacting to this challenge with a *fuite en avant*. There are two major initiatives banks have engaged in to solve the enormous pressure of the financial sustainability of the branch network. The first initiative is exemplified by Banco Santander. They have explicitly stated they understand this situation as a way to embrace even more strongly their branch strategy (that mainly consists on making the branch the center of every initiative) while investing even more aggressively in capturing more *Economies of Scale* from the network¹⁹³. They consider this strategy far more superior than that of *Monoliners*¹⁹⁴. Which have higher volatility of earnings, higher exposure to cyclical market conditions and higher client acquisition costs (p. 9) (Sáenz, 2008). The second initiative is exemplified by Sanford Weill of Citigroup and his concept of *Financial Supermarkets*. He figured that he would reach the bank's maximum level of efficiency if he "owned" the customer and became their sole provider of credit cards, checking accounts, wealth management services, insurance, stock brokerage, etc. all under one roof as if it were a supermarket¹⁹⁵ (Christensen et al. 2011).

The Role of Fixed Costs in the Current Decision Making

There is a large body of innovation literature devoted to understanding how the incentives to continue investing in small increments of current assets usually overwhelms the incentives to create something entirely new (Foster & Kaplan 2001; Foster 1986). In the case of retail banking these *Incremental*

¹⁹³ They actually go as far as to claim that no bank in the world has been able to really capitalize on the "real" *Economies of Scale* of their respective branch network.

¹⁹⁴ A *Monoliner* is a term mostly used in the banking industry. It is used to describe a business model architecture that is fundamentally *Modular*. It focuses on one piece of the value chain and outsources or minimizes the investment in the rest. ING Direct or Cofidis, two very successful retail banking business model in Spain, are *Monoliners*. *Modular* architectures, such as the *Monoliner*, have been extensively researched in the literatures of *Organizational Design*, Innovation and Computer Science, and they have direct implications for Proposition 2 of this thesis. Where the *Organizational Design* treated as a lagging variable seems to have an effect in the anatomy of the *Job Construct*.

¹⁹⁵ At the time of this writing Citigroup's "financial supermarket" initiative has already failed. This was tried before in Spain with identical results. It turns out customers' need each product at a different point in time and that just aggregating all these offerings saturates the customer and provokes confusion. Additionally it rarely reduces sales costs.

Incentives are quite strong due to the limited options retail banks have at their disposal every time a new customer-related channel emerges. Retail banks not only need to provide the most convenient services to their current customers but also can't prevent themselves to be contacted through a channel that is both demanded by their current customers and offered by the competition (Berger, 2009). In this sense retail banks have very limited options, and as multichannel-related fixed costs continue to soar in a slowly but implacable manner, their options become continuously more limited. This problem is compounded because of the principal-agent theory and its relentless focus on EPS¹⁹⁶ as a driver to shareholder value creation (Christensen, Kaufman, et al. 2008).

The Hubris of Data-Based Management

As mentioned before, since the advent of the mainframe and later the minicomputer, banks started to capture large amounts of information from their customers¹⁹⁷. Between 2000 and 2005 the worldwide retail banking industry spent \$220 billion implementing CRM Solutions. This created a \$50 billion market that has a 16% growth rate. Although the financial crisis was a heavy hit for this market the investments in capturing and analyzing data are currently reaching pre-crisis levels (Maklan et al., 2011).

Companies such as Amazon.com are becoming role models for retail banks in data-based practices. The case of Amazon.com is paradigmatic for retail banks because they reported 30% of sales were due to its recommendation engine¹⁹⁸. A clear indication of how *Cross-Selling* works the way it is defined in this dissertation¹⁹⁹ (Mckinsey Global Institute, 2011b; Redman, 2008).

The De-Adaptation of the Legal & Compliance Functional Unit

The relationship of each and every one of the Spanish retail banks with the Bank of Spain has always been extremely difficult²⁰⁰. There were times where the power of the bank of Spain was so overwhelming banks had no option but to adapt to its rules and regulations. These strong incentives caused banks to overreact in that sense developing over-adaptive practices to cover themselves up.

¹⁹⁶ Earnings per Share.

¹⁹⁷ At the time of this writing the author is aware of a Spanish bank that has 350,000 fields of information *per* customer.

¹⁹⁸ For some unexplainable reason 100+ years old banks think they can copy an online retailer from another country just because it's doing what they would like to do. The innovation literature explains how this process of copying best-practices is quite deleterious to established firms (Kahn et al., 2012).

¹⁹⁹ Amazon.com didn't bundle, threaten, coerced or tied none of these sales. *Cross-Purchasing* customers were reached at the right time, in the right moment, with the right information and in such a way that it increased their *Willingness-to-Pay*.

²⁰⁰ The Spanish retail banks had to deal with the Spanish republic, a civil war, a dictator, the monarchy, the entry into European Union, the dismal economic situation of the country, inflation, etc.

The most evident indication of this tumultuous past is the power and influence the legal and compliance functional units still retain in the banks (COTEC, 2006). These departments are many times preventing from being commercialized new and sophisticated financial products just because there is no piece of legislation dealing with them or any other legal or fiduciary reason.

New banks (or new entrants in the Spanish retail banking market) don't have this history behind them and they usually deal with a Bank of Spain that is now more "European" (Davies & Green 2010). At the time of this writing this is an advantage they still enjoy.

Regarding *Proposition 1* of this thesis, the market research includes a specific section devoted to understanding how the legal and compliance functional unit contributes to the entire bank's organizational rigidity.

Beyond Multichannel Integration. The Rise of Multichannel Fusion

"At the moment banking customers are unable to start the purchase of a financial product in one channel and end it in any other channel" (Lacaba Velasco, 2011). This statement reflects a classical *fuite en avant* of companies that face significant sustainability challenges. They frame every problem that might arise as a technological problem²⁰¹. There is no doubt that with the right investment (and the subsequent changes in the regulatory framework)²⁰² banks will be able to provide this service (Rivero Duque, 2008). But the real questions are: 1) Are customers really demanding this service? and; 2) Will this increase the *Cross-Selling* success rate or the customer's *Willingness-to-Pay*?

This example of *Cramming* is particularly dangerous in the sense that pursuing such a level of channel integration drives banks to get trapped into new significant rigidities (Dougherty and Hardy, 1996). While it also gives its executives the false sense that they are engaging in incremental improvements such as mobile personalization (Spencer 2002).

Notice that *Cross-Selling* (as explained above in the Amazon case) is about understanding how to identify *Cross-Purchasers* and present to them the information in such a way that increases their *Willingness-to-Pay*. This banking initiative on the other hand is having a customer finish the purchase regardless of the channel. A completely different value proposition (Demil and Lecocq, 2010).

²⁰¹ In the Innovation literature this way of reacting in front of threat has been labeled *Cramming*. (Christensen & Raynor 2003a)

²⁰² Some of these regulatory changes are already planned (Furness, 2007).

The Imbalance Between the Operations and Selling Capabilities

"A segmentation that uses our marketing-related customer data and that boils it down to a list of customers is useless". With these words Mr. Miguel Ángel Laso, the head of Banco Santander's Consumer Unit, explains how segmentation in banking is today not nearly good enough (García Martín, 2005)²⁰³.

As depicted in the previous section, in the year 2000 about 90% of the online banking transactions were made either in the branch or in the ATM. In the year 2010 this figure has been reduced to 60%. Online transactions took over (28%). However, when it comes to sales, in the year 2000, 94% of sales were made in the branch, and that figure is now (2010) 67%. If we don't include ING Direct in these numbers the branch sales in 2010 would still be well over 80%. What explains this difference? Why customers don't seem to have any problem operating outside of the branch but seem to be unable to purchase new products and services unless inside the branch?

A clinical comparison provides part of the answer. At the operations level banks have been outsourcing heavily their processes to companies such as Atos Origin, Accenture, etc. (Furness, 2004). This has helped them significantly improve their productivity and operating efficiency²⁰⁴.

At the sales level nonetheless, the opposite is true. Retail banks consider that their selling capability is a key competence and have kept it in-house. Bank's strategy were based on in-sourcing any new technique available to improve their selling capability. This is the reason that, as previously explained with the CRM case, public available data shows between 2000 and 2005 about 75% of companies failed to meet the expected return on their CRM investments (a slack of more than \$150 billion) (Coombs 1951).

Proposition 2 of this thesis indicates there is a *Job Construct* that is the best proxy for predicting customer behavior (and therefore sales). Maybe the "operations outsourcers" (IBM, Atos Origin, etc.) for some reason "felt" the *Job* quite accurately when it comes to banking processes, and especially in

²⁰³ Paradoxically customers report exactly this behavior in the financial institutions webpages. Customers complain the information banks display is oriented towards trying to sell them more products instead of being oriented to satisfy their most frequent demands. When it comes to selling, banks cram too much information forcing customers to read a lot and ultimately to stop the purchase process. Finally customers complain the information is not only too dispersed but also doesn't separate between current and new customers (Usabilia, 2011).

²⁰⁴ This has also caused them lose *Differentiation* between them as the same subsystem provider assisted a few banks making them look quite similar. This thesis doesn't cover this commoditization threat in the retail banks operations management.

those cases where customers operate directly²⁰⁵. In any case, it seems that the operations *Job Construct* is obtainable and that the sales *Job Construct* is obtainable too. In the forthcoming chapter of this thesis the plan is to obtain them both to not only isolate them and understand their anatomy but also identify the causal factor that causes retail banks sales to produce so much slack.

Restricting services to Force Customers to Go to the Branch

The first case of this section dealt with using all banking channels to the ultimate goal of bringing more customers to the branch. So the branch personnel could finalize the sale there. This last case deals with banks that, because either their *Sunk Costs* or their *Dominant Design*, restrict or block the other channels so they end up having no option but to go to the branch. This threat-induced reaction in front of a threat has also been studied in the innovation literature and especially in the sub-line that deals with management cognition. In cases where there is opportunity the reaction might not be developed, but in cases where there is a threat the reaction is *Maladaptive* (Gilbert 2005). This example of *Maladaptive* reaction is particularly easy to observe in banks because of the number of *Functionalities* per product. For example, if a customer has to issue receipts to its clients it now has to go to the office exclusively for that in almost all banks, while the process of issuing receipts is as easy to configure as the transference product.

Another reason that explains this rigidity comes from the branches. There is literature on innovation and new product development that explicitly states that the adoption network is critical for a new product to succeed (Chiesa & Frattini 2011; Cooper & Kleinschmidt 1987). There have been cases in the retail banking industry where the banking unions have forced the bank to stop certain innovation initiatives and policies in their respective channels in order to “protect” the employees jobs.

Spanish Retail Banks Response to Selling Through the Internet

The Spanish retail banking industry is characterized by two factors. One purely local and another shared with the banks of the rest of the world. The former is the *Deposits War*. This strenuous pressure on capturing deposits using *Pricing* as the sole lever is affecting severely the bank's profitability (Cinco Días, 2008; Simón, 2011). The latter is the failure to understand that the banking role in a developed society

²⁰⁵ It's not the purpose of this dissertation to know if the outsourcers came up with the *Job Construct* because of luck or deliberately. Proposition 2 includes a clinical comparison between the operations and the sales *Jobs Constructs* just for the research design purposes.

(Ahlstrom, 2010) has suffered a severe *Discontinuous* change, from intermediaries between savers and creditors to a multi-sided platform that obtains funding from both public and private sources²⁰⁶ and needs to lend these funds in the form of credits but in such a way as to being able to resell the profits as funds to another bank (Bowers et al., 2010; David, 2009). This *Discontinuity*²⁰⁷ is completely new to the banking management that, mostly overwhelmed by their lack of understanding of this new form of competition, and frustrated to see how the old mechanisms are no longer being effective does very little more than put more pressure to their banking organizations²⁰⁸ (Jacobides, 2009). One of the lagging variables that shows this kind of pressure is the industry's investment in technology (McAughtry, 2009). In 2010 alone the retail banking industry investment in technology over sales was 3.2%, the investment of the rest of the Spanish industries was a meager 1.8% (Lacaba Velasco, 2011). The most widespread initiatives retail banks are championing to become more attractive as an investment in this new scenario are the following²⁰⁹.

Exploitation Strategy: Growth Through Cross-Selling

As mentioned, banks strategies to growth through *Cross-Selling* vary widely and include the branch, arm-length selling initiatives and fully independent business units (Anthony, Johnson & Sinfield 2008). Inside the branches banks are putting more pressures in *Bundled, Forced* and *Tied Selling* (Duncan 2001). While outside the office they are using cell phones and ATMs to develop arms-length selling initiatives (SAP, 2005). An example of a fully-fledged *Business Model* is the case of BBVA's Dinero Express²¹⁰ (p. 111-2, COTEC 2006).

Exploration Strategy: Understanding The Rise of the Cross-Purchaser

Same as in the airline industry, where established airlines adopted the new entrants model of selling flights over the internet, banks are using *Models* from other industries to improve their commercial offerings (Koderisch et al., 2007; Netessine et al., 2006). There are two quite prominent examples of these practices. First; the introduction of pre-approvals. *Monoliners* specialized in consumer finance introduced pre-approvals as a way to speed up their processes. Retail banks reacted to this threat using

²⁰⁶ Almost all of these funds travel across borders in packages. This is the output of the *Securitizations*.

²⁰⁷ Or change in the industry architecture.

²⁰⁸ That's why the term *fiute en avant* has been used so extensively throughout this chapter.

²⁰⁹ We have grouped them by the banks' ability to explore and exploit leaving a third section where we explain how banks invest in subsystems and specifically in CRM initiatives (Tushman and O'Reilly, 2004; Tushman et al., 2010).

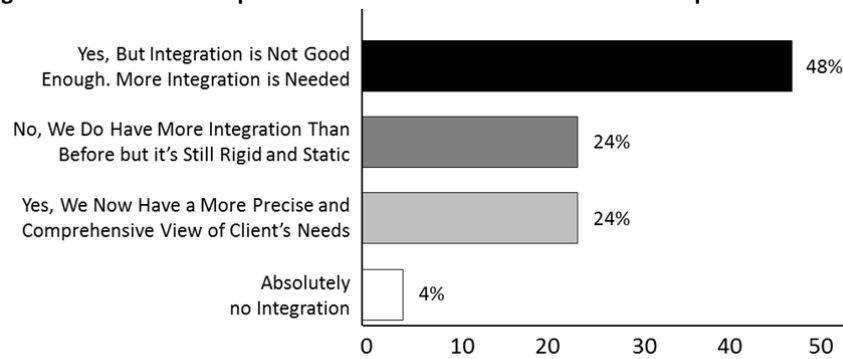
²¹⁰ This is a fully independent banking *Business Model* focused exclusively on immigrants. If it wouldn't be owned by BBVA it would be considered a *Monoliner*.

new risk calculation metrics. Banks calculated the associated risk for a personal loan to a client and obtained how much would they loan to that particular person according to its risk profile. They then sent him a letter notifying to the customer that in case they wanted to actually formalize the loan that would be the sole requirement to get the cash. Second the emergence of comparative web sites²¹¹. Again *Monoliners* introduced website comparison as a way to show to customers that only an independent company can provide non-biased advice. Comparison web sites haven't caught on yet in Spain but they have a double digit growth rate and the *Cross-Purchasers*²¹² are using them intensively.

Subsystems Strategy: Overemphasizing the CRM Initiative to Become Customer-Centric

The banking subsystems strategy can be divided between those initiatives are focused on improving operating efficiency and those focused on understanding the client better²¹³. Previous research on new services launches identify *Marketing* as the weakest area²¹⁴ (Beard & Dougan 2004). The portion devoted to understanding the client better is at large dominated by firms specialized in CRM²¹⁵ (Reinartz et al., 2004). As figure 3.17 depicts, retail banks consider that CRM integration has improved but that it's not yet nearly good enough (48%) compared to what they expect from it in the near future, and especially when the output has to be embedded in new products or new channel features (Sisquellas and Molina Garcia, 2009).

Figure 3.17: Has CRM Implementation Steered Customer Relationships With the Bank?



SOURCE: Sisquellas & Molina Garcia 2009

²¹¹ Some of the most common are: www.moneysupermarket.com, www.fool.com, www.moneyextra.com, www.moneyexpert.com, www.comparador.com, www.comparativadebancos.com. The leader is www.iahorro.com has over 540,000 clients and over 40 banks and savings banks operating in its platform (El Confidencial Digital, 2011).

²¹² The *Cross-Purchasers* in Spain are still a minority of the total banking customers.

²¹³ Some software providers claim they can not only *explain* customer behavior but develop it (SPSS, 2010).

²¹⁴ Sometimes it's even largely omitted. Additionally pre-commercialization and port-analysis is usually performed in less than half of the companies studied (Drechsler et al., 2013).

²¹⁵ *Customer Relationship Management*.

As previously mentioned, over 75% of CRM initiatives fail (Maklan et al. 2011; Coombs 1951). Retail banks²¹⁶ have responded acknowledging what previous research indicates (Band, 2003). That these results are due to a “narrow view of CRM” which has caused that the potential benefits of CRM to be limited (Peppard, 2000). A widely adopted reaction to these preliminary results has been to “expand” the CRM investment to each area of the bank²¹⁷ (García Martín, 2004). Banks understand this comprehensive view of CRM as a necessary steps to become more *Customer Centric* (Everis, 2010).

One very widespread categorization scheme often used to become more customer centric is separating between *Transaction Selling* and *Relationship Selling*²¹⁸ (Atuahene-Gima, 1995). There are four *Relationship Selling* typologies; *Physical*²¹⁹ *Personal*²²⁰, *Physical Impersonal*, *Remote Impersonal* and *Remote Personal* (Business Insights, 2001). Banks CRM strategies are mainly focused on bringing *Personal* customers to the branch while creating a different brand to attract *Impersonal* customers over the internet (Dougan, 2003). Research on CRM indicates its implementation success is contingent on both the organization’s *Business Model* (Acharya and Olive, 2002) and the degree of implementation of each of the three CRM areas (Spencer 2003):

1. CRM infrastructure: Channel integration: Single operational customer database that captures information from all the channels.

2. Operational CRM: Sales, marketing and service (front-end applications for traditional channels and web-channels).

3. Analytical CRM: Data warehousing (ETL²²¹, data quality checking), data mining tools (profitability analysis, segmentation, churn analysis) - integration of analytics with operational customer database.

We believe the case of CRM implementation²²² has been unfortunate. A very extensive extant literature introduces a large number of *Descriptive* factors that once operationalized as *Contingent* variables are bound to predict CRM success (Peppard, 2000; Reinartz et al., 2004; Stringefellow et al., 2004; Winer,

²¹⁶ And their suppliers (Accenture, IBM, Atos Origin, etc.)

²¹⁷ As a result, CRM providers expect the CRM market to continue growing substantially in the near future. One of the main arguments they use to sell their CRM platforms to retail banks is developing a model of an "ideal bank" and comparing how current banks compare to that model (Doyle, 2002).

²¹⁸ *Transactional Marketing* is usually used to capture customers while *Relationship Marketing* is used to keep and satisfy customers (Dougan, 2004).

²¹⁹ Presence in the bank.

²²⁰ Client is well known because it has a high *Share of Wallet* in the bank.

²²¹ *Extract Transform Load*.

²²² This applies to both retail banks and in the case of many other industries.

2001). While instead, as explained in Appendix A, these variables explain CRM variability but don't predict its causes²²³. It is believed there are three factors that predict CRM success. The first is the categorization scheme that distinguishes between an intermediary bank and a multi-sided platform bank. The second is the development of different banking practices specifically designed for the *Cross-Purchasers* (Furness, 2006). The third is based on implementing only specific portions of both the CRM software and its processes depending on the *Organizational Design* of the bank. This can either be a *Monoliner* or a fully *Interdependent* organization.

3.4 Research Setting Conclusions

In conclusion, at the time of the study the Spanish retail banking industry is facing three extremely difficult challenges – all at the same time. The first is the emergence of the internet (and mobile devices), which represent the first time the industry faces a commercialization channel that has the potential to take over the branch. The second is a fundamental *Business Model* transformation that must make banks transition from pure intermediary players to a multi-sided platforms that are attractive enough to create, capture and deliver value to both public and private funds. The third is dealing with the current Spanish financial economy that, at the time of this writing, shows signs of presenting weak economic growth rates for the coming years. Global retail banks also face these challenges. If retail banks maintain their current *Business Model* their average ROE²²⁴ will fall to 7% from its current level of 11%, while their cost of equity is projected to be more than 9% in the near future (Daruvalla et al., 2012b).

In the last decade Spanish retail banks have witnessed how financial platforms are becoming more profitable than their current banking practices. How the progressive integration into the European Economic Zone is commoditizing their traditional sources of income and how the *Payments* revenue stream, by far today the most profitable one, is slowly but inexorably shrinking because of the EU regulation.

Additionally, the over-development of the branch as a means of gaining market share is becoming exhausted as a growth lever (as well as becoming an even more expensive alternative). Multichannel

²²³ As described in Appendix A *Descriptive* analysis has no *Prescriptive* power.

²²⁴ *Return on Equity*.

integration – again prohibitively expensive – casts many doubts of its effectiveness. The internet, although very successful for operating with the banks doesn't seem to be accepted as a sales channel and banks are aware that the first to solve this puzzle has the potential to seriously alter the status-quo.

New market trends such as the emergence of non-financial institutions, *Monoliners* and *Cross-Purchasers* are also new phenomena that need to be assimilated in the industry. Some of these players act at the fringes of the financial services industry and in some cases operate – quite successfully – with no regulation at all.

Massive amounts of investment in operating efficiency and CRM processes still represent the most widespread alternatives that are being implemented today. On top of that, extremely difficult corporate rigidities – most of them developed in a previous era – prevent retail banks from adopting truly innovative solutions.

At this time a new way to understand the customer, one that is capable of maximizing the returns from *Cross-Selling*, identifying opportunities for public and private funds and determining the right *Organizational Design* is badly needed.

Chapter 4: Clinical Methodology

I would not give a fig for the simplicity this side of complexity, but I would give my life for the simplicity on the other side of complexity.

-- Oliver Wendell Holmes, Jr.²²⁵

Developing a new *Construct* implies being particularly specific about its definition, clearly delimitating its boundaries and mapping its association with existing constructs (Bono and McNamara, 2011). Despite the widespread use and importance of theoretical *Constructs* in management theory there is still a notable absence of an open discussion about them in the field of management. In this research design we emphasize *Construct Clarity* to make sure the definitions are accurate and the relevant contextual *Circumstances* remain coherent throughout the semantic relationship (Suddaby, 2010). The *Job Construct* lies at the intersection of the *Technological Change* and *Marketing* literatures and more specifically at the *Construct* level that both these literatures have been researching over time. Therefore separating between *Deductive* research and *Inductive* outcomes is instrumental for understanding not only the new contributions of this research but also the resulting *Construct* as a newly formed entity.

Figure 4.1 provides an illustrative example of a fully formed *Construct* that captures both *Exogenous* and *Endogenous* variables, that separates between *Inductive* vs. *Deductive*²²⁶ research and – most importantly – that distinguishes between *Causal* and *Attribute* based variables²²⁷.

Matching both the research question and the research design is instrumental for developing a complete model specification (Bono and McNamara, 2011). Figure 4.1 describes the elaboration of *Attributes* as a process of the research design. During this process both *Inductive* and *Deductive* codes become *Concepts*²²⁸. Only statistically significant *Concepts* become *Sub-Constructs*²²⁹. These *Sub-Constructs* act as the building blocks of the different *Attributes*. However not all *Attributes* are alike. Some of them are

²²⁵ http://en.wikiquote.org/wiki/Talk:Oliver_Wendell_Holmes,_Jr. Accessed April 2011.

²²⁶ The literatures reviewed in previous chapters are included in the *Deductive* portion of the study.

²²⁷ In this research variables are controlled for being *Exogenous* vs. *Endogenous*, *Inductive* vs. *Deductive* or *Attribute* vs. *Causal*.

²²⁸ For that we use correlation analysis.

²²⁹ We hereby name *Sub-Construct* what in other literatures is named *Observation*. We prefer the former term because the latter is used in a variety of instances.

elicited in such a way that *Cause*²³⁰ the phenomenon to occur while others need to be present but their presence doesn't imply that the phenomenon will occur²³¹²³². This distinction between *Causal* and *Hygienic* attributes lies in their degree of *Interdependence* to exogenous factors (Bazerman 2005; Christensen 2006). Attributes that are highly dependent on external factors *Cause* the phenomenon to occur while the rest behave as *Hygienic*. Researchers' concern for *Context* appears more and more frequently on the literature, some authors even acknowledge that *Context* is so central that it should become a distinctive feature of organizational scholarship (Whetten, 2009). This research process ensures *Context* is extensively considered across both the qualitative and quantitative portions of the research, thereby preventing – or at least not contributing to – the generalized lack of *Context* oriented qualitative research (Bamberger, 2008).

Although this research uses a number of deductive variables obtained through previous research its purpose is to bring to light a new – yet unseen – new *Construct*. That makes it a fundamentally *Inductive* research (Ketokivi and Mantere, 2010). The nature of a research²³³ with that purpose is iterative and describes a cyclic learning journey. In these instances methodological fit, defined as the internal consistency among the elements of a research project, has a particularly relevant role (Edmondson and McManus, 2007). The methodological *Multi-Method* model that *Inductively* combines an extremely granular data gathering process – needed to develop the *Construct* – and then uses it to be tested together with the previously mentioned *Propositions* is the *Qualitative – Quantitative Sequential Multi-Method Model* (Tashakkori and Teddlie, 2003). There are precedents in previous theory development where researchers intentionally varied the inputs and blended the processes to contrast the selectivity of their projections and distinguish different constructions and inferences (Cornelissen and Durand, 2012).

The methodological *Multi-Method* used combined with the *Multicase* design helps to follow a 'replication logic' where a set of cases is treated as a series of experiments, each case serving to confirm or disconfirm inferences from another (Yin 2003). Qualitative data has a variety of characteristics that

²³⁰ A large majority of research pieces previously reviewed in this thesis don't specifically control for *Contingency* and *Causality*. In this research design we separate these two concepts. *Contingency* is related to how the resulting model varies when at least one of the control variables is modified. *Causality* is related to attributes whose variance is better explained by exogenous factors, rather than by endogenous operationalized factors.

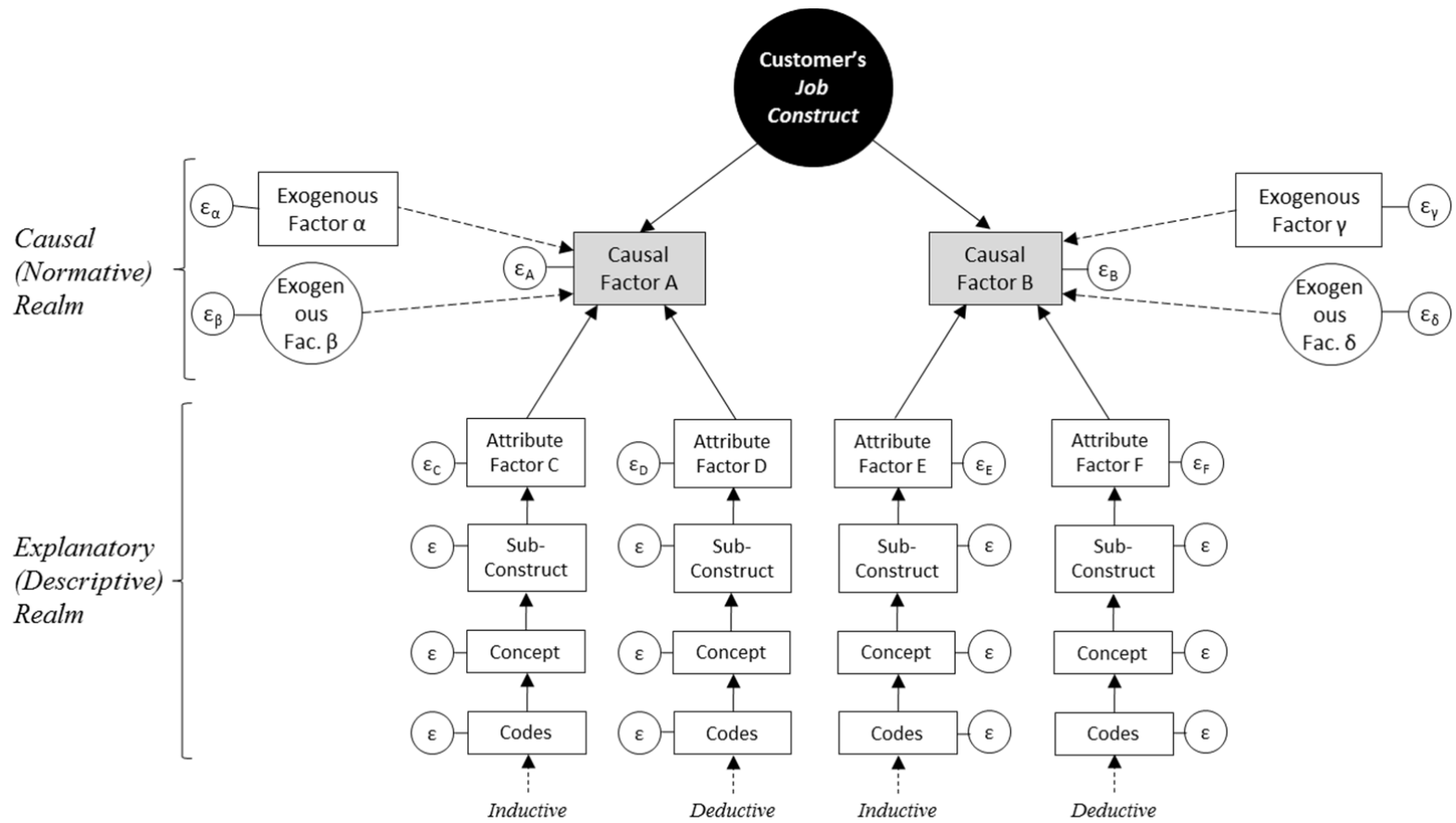
²³¹ Attributes that behave in such a way have been identified in the literature and are commonly described as *Hygienic Factors* (Herzberg 2003).

²³² Several studies cite different types of *Causality*. In this research we focus on statistical *Causality* (Doreian, 2001).

²³³ In terms of the methodological fit theory the purpose of this thesis is to develop a *Nascent Construct*.

are particularly useful for the purposes of this research, some of them are that data comes from the participant's perspective (not the researcher), occurs in natural settings, focuses on understanding the dynamics present within single settings and is flexible and must be adapted to the situation (Eisenhardt, 1989). However there are no standard procedures or analysis for doing so (Lee et al. 1999). The *Multicase* research design is based on *Qualitizing* data (Fielding & Lee 1998; Lee & Forthofer 2005). Which translates into using qualitative data transformed into numerical codes that can be analyzed statistically (Miles & Huberman 1994). My purpose with data *Qualitization* is threefold. First; capture as much *Descriptive* and *Context* information as possible (Glaser, 1978), in this sense qualitative research is particularly useful for exploratory analysis (Strauss, 1987), especially for the context-related data obtained (Audretsch, 1995; Child, 2009). Second maximize the use of a *Multi-Method* design (Campbell & Fiske 1959). Specifically we use the foundational basis of *Grounded Theory* (Glaser and Strauss, 1967) together with *Cluster Analysis* (Bailey, 1983) to increase the *Internal Validity* of the model (Campbell 1957). Third we use the elicitation tactic of the *Repertory Grid Technique* (RGT) (Fine & Elsbach 2000) that is specifically designed to produce a map of an individual's *Knowledge Construction System* (Loef, 1990) to design the interviews, develop *Constructs* from qualitative data (Krippendorff, 1986), calculate the distance between *Constructs* and cluster them using additive tree structures (Sattath and Tversky, 1977).

Figure 4.1: Research Question – A Structure to Visualize the "Job" Construct



4.1 Research Design and the Choice of Case Study Methodology

Following Yin (2003) we use an Embedded (multiple units of analysis) Type IV multi-case design particularly oriented to develop a rich theoretical framework²³⁴ (Siggelkow, 2007). The objective is to state the conditions under which the construct will appear while keeping the flexibility to cross-experiment designs. In this research process we use a sensitizing strategy as a portion of the *Multi-Method*²³⁵ design (Tashakkori and Teddlie, 2003). Figure 4.2 describes the methodological separation between the qualitative and the quantitative parts of the study (Niaz, 1997). The architecture of the study is *Modular* in nature with the objective of using a *Multi-Method* in a way that increases its complementary strengths while minimizes its non-overlapping weaknesses (Leonard-Barton 1990; Brewer & Hunter 1989). Although this methodological approach takes a *Grounded Theory* orientation (Lee 1999) it should not be considered a *Grounded Theory* research (Fendt & Sachs 2008). Instead it should be considered a new way to research on a problem under the assumption that the research problem holistically comprises all constraints of its solution (Haig, 2007). The reason for that consideration is fundamentally based in that some of the *Grounded Theory* methodological techniques have been deliberately replaced in favor of quantitative techniques, especially in areas where the use of qualitative methods have been either more controversial (Suddaby, 2006) or more subject to researcher bias (Strauss, 1987). Scholars should consider this research design a *Multi-Method*²³⁶ research that is *Modular* in nature and where qualitative techniques have been replaced for quantitative techniques when possible (Fendt & Sachs 2007). This substitution strategy has increased both the *Robustness* and the *Internal Validity* of the research (Glaser, 1998, 2001, 2003). Figure 4.2 depicts the application of this *Model* used as the *Research Design* for the process of *Construct* formation. The qualitative portion of the *Research Design* is specifically oriented to maximize *Construct* validity²³⁷ (Bagozzi et al., 1991), for that objective both *Triangulation* (Jick, 1979) and multiple indicators have been included in the *Research Design* (Boyd et al., 2005). Selected cases can enable the creation of more complicated theories than

²³⁴ Scholars familiarized with the works of Yin (2003; 2002) might consider this research as a Type III Holistic (single *Unit of Analysis*) type of research. However, the purpose of this portion of the research is to visualize the *Job Construct* in three research settings (multiple-case designs). *Context* embedded research uses the *Context* as the primary explanatory variable (Tsui, 2004). Considering the influence of the research settings on the *Job Construct* a Type III type of research would not meet the consistency required in the *Unit of Analysis* (Cheng et al., 2009). A Type IV Embedded treats each *Job Construct* instance as a different *Unit of Analysis* when it comes to visualize the three different *Job Constructs* in each of the three research settings.

²³⁵ 11% of the articles published in the Academy of Management between 2001 and 2010 were based on qualitative data. Six of them received the *Best Article Award* (Bansal & Corley 2011).

²³⁶ It's considered a *Multimethod* because data is shared in each methodology.

²³⁷ The extent to which an operationalization measures the concept it is supposed to measure.

multiple cases. The reason is that case researchers can fit their research results to exactly the many details of a particular case (Eisenhardt and Graebner, 2007).

Since there are precedents in qualitative research of studies that weren't accurate enough at explaining how the methodology used yielded the research results (Rynes, 2004). A detailed explanation of Figure 4.2 reveals the details of the study; in the first step a *Hermeneutic Unit* is created with the documents generated after each interview (Table 4.1). The survey population is described in Appendix B. In the second step *Open Coding* is used to obtain both the *Codes* and *Quotations* (Turner, 1981). There are two types of *Codes* and *Quotations* (Larsen and Monarchi, 2004). First there are the *Deductive Codes*, which have been obtained from the extant literature and have been explicitly asked for throughout the interview process. Table 4.1 depicts the relevant *Deductive Codes* used at the beginning of the study. The purpose of these codes is threefold. First they have been used to verify explicitly their presence (or absence) during this research. Second, their presence is important not only for them to be empirically corroborated but also for knowing how they rank between them. Third, most importantly, they are instrumental for developing the interview templates, especially during the initial interviews, where the *Inductive Codes* had not been explicitly elicited yet (Glaser, 1992). Several interview templates were used throughout the interviewing process. Table 4.2 lists the *Inductive Codes*, which are the second type of *Codes*. These *Codes Emerge* (Rousseau et al., 2008; Strauss and Corbin, 1990) from the interview process to fill the gaps or refine what was previously established inside another's code domain (Shepherd and Sutcliffe, 2011). Although this process is potentially very sensitive to *Researcher Bias* (Glaser, 1978) we found a way to isolate the researcher's *Theoretical Sensitivity* using a particular rationale (Blair, 1986): There are two types of codes. The first are the *Unequivocal* codes, these are usually labeled *In-Vivo* codes in *Grounded Theory*. They empirically express what is going on in the passage, for instance if the subject says "our cash burn rate was very high" it is observable that "Burn_Rate" is an *Unequivocal Code*²³⁸. The second type is *Open Coding*. Here is where the researchers' *Theoretical Sensitivity* is at play (Seale et al., 2001; Trend, 1978). *Codes* must have a *Trigger Factor* (Friese, 2012) that causes the researcher to interpret them in a particular way (Conrad and Reinharz, 1984). Because of this *Trigger Factor* all codes are – up to a debatable extent – both partially correct and

²³⁸ Also called *In-Vivo* code (Corbin and Strauss, 2007).

partially incorrect²³⁹. Finding a *Code* that is partially correct usually means at a deeper level that we are facing a situation in which that particular *Code* is neither mutually exclusive nor collective exhaustive (Tesch, 1990).

Table 4.1: List of Documents Generated for Each Hermeneutic Unit

| Document | Typology |
|---------------------------------|--------------------|
| Interview Notes | Interview |
| Interview mp3 | Interview |
| Branch Soft Information | Direct Observation |
| Branch Soft Communication | Direct Observation |
| Data Obtained from the Terminal | Archival Data |
| Brochures | Archival Data |

This is exactly the situation of *Continuous* variables. This is the reason why later on in the research *Euclidean distance*²⁴⁰ is used to measure distances between variables. Using this research methodology the *Code* generation process is matched with variables that are *Continuous* in nature (Lee 2006). This ensures the percentage of attribution of the researcher into the *Code* is taken into account (Silverman 2000).

In the third step of the methodology depicted in Figure 4.2 qualitative *Axial Coding* techniques are replaced with quantitative methods (Ireland & Downey 1979). Correlation analysis is used as a substitute of *Axial Coding* to make the *Codes* transition from *Codes* from *Concepts* (Jones and Noble, 2007). In the fourth step we use *Cluster Analysis* instead of *Selective Coding* (Krippendorff and Hayes, 2007) to determine how the elements of the resulting code configuration are connected to the outcomes, therefore obtaining the *Central Category* (Fiss, 2011). Since *Descriptive* and *Normative* theory building requires a *Central Category* the context provided in the quotations and the results from the Euclidean distances are used to develop the self-contained *Attributes* (Doty and Glick, 1994).

²³⁹ In qualitative research this is described as a methodological problem where different coders don't come exactly with the same codes. Usually there is significant overlap. Although it's been prescribed that the best solution to this problem is to have more than one coder aggregate the codes previous methodological research is basing this solution in the conclusion that when more than one coder is coding the same text the degree of overlap is significant. There are studies that quantify that degree of overlap above 80% (Corbin and Strauss, 2007).

²⁴⁰ Because of the continuous nature of the *Construct* overlap phenomenon using *Euclidean Distance* as a quantitative method is not only a very effective solution but also an automatic way to increase significantly the *Internal Validity* of this research (Tsui, 2006).

Figure 4.2: Research Design – A Multi-Method (Mixed) Model

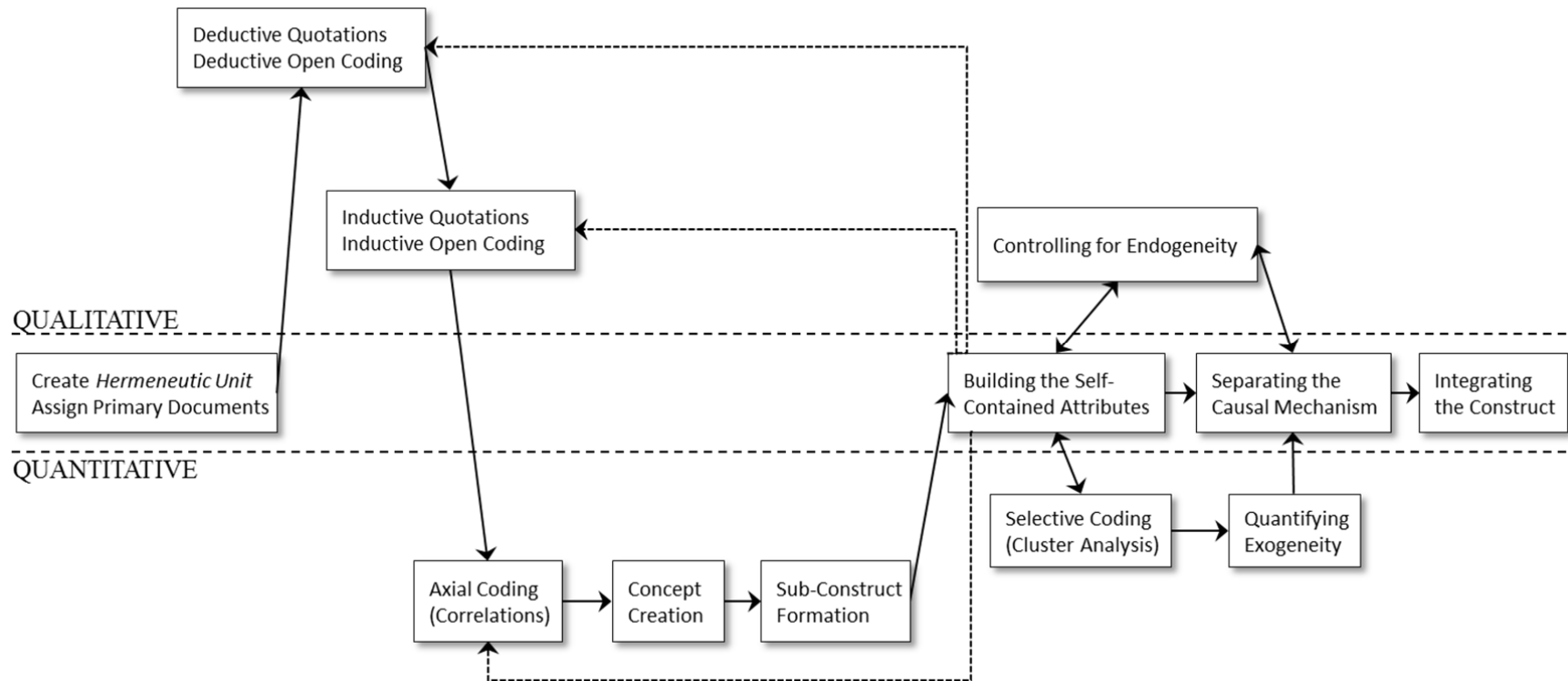


Table 4.2: Deductive Code List obtained From the Literature Review

| Code_Name | Code_Type | RGT_Elicitation_Method | Brief Explanation | Citation |
|--|-----------|------------------------|---|--|
| Rate_Cust_Tech_Improvement_Deduc | Deductive | Dyadic | Rate of Technological Improvement vs. Trajectory Customer Demand | Tripsas 2008; Dolata 2009 |
| External_Impetus_Deduc | Deductive | Dyadic | Stakeholders (Branch) Actively Addressed When Introducing New Product | Talke & Hultink 2010 |
| Search_& Information_Costs_Deduc | Deductive | Monadic | Information costs, bargaining costs, search costs | Coase 1937; Williamson 1975; Simon 1957 |
| Prod_Categoriz_Feature_Solution_Deduc | Deductive | Triadic | Product Features: Solution | Ulwick 2003b; Haley 1968 |
| Prod_Categoriz_Feature_Specification_Deduc | Deductive | Triadic | Product Features: Specification | Ulwick 2003b; Haley 1968 |
| Prod_Categoriz_Feature_Benefit_Deduc | Deductive | Triadic | Product Features: Benefits | Ulwick 2003b; Haley 1968 |
| Prod_Categoriz_Context_Occasion_Deduc | Deductive | Triadic | Product Context: Occasion | Kotler 1994; Schaeffer 2005 |
| Prod_Categoriz_Context_Use_Deduc | Deductive | Triadic | Product Context: Use | Kotler 1994; Schaeffer 2005 |
| Prod_Categoriz_Context_Situation_Deduc | Deductive | Triadic | Product Context: Situation | Kotler 1994; Schaeffer 2005 |
| Prod_Mktg_Mix_Product_Deduc | Deductive | Monadic | Marketing Mix: Product | McCarthy et al. 1960 |
| Prod_Mktg_Mix_Price_Deduc | Deductive | Monadic | Marketing Mix: Price | McCarthy et al. 1960 |
| Prod_Mktg_Mix_Place_Deduc | Deductive | Monadic | Marketing Mix: Place | McCarthy et al. 1960 |
| Prod_Mktg_Mix_Promotion_Deduc | Deductive | Monadic | Marketing Mix: Promotion | McCarthy et al. 1960 |
| Firm_Cust_Marginal_Benefit_High_Deduc | Deductive | Dyadic | Customer Profitability for the Bank (High) | Jarrar & Neely 2002 |
| Firm_Cust_Marginal_Benefit_Low_Deduc | Deductive | Dyadic | Customer Profitability for the Bank (Low) | Jarrar & Neely 2002 |
| Firm_Type_Sale_Consultative_Deduc | Deductive | Monadic | Sale Originated After Customer Asked for Something Else | Dougan 2004; Beard & Dougan 2004 |
| Firm_Type_Sale_Relational_Deduc | Deductive | Monadic | Sale Originated After Customer and Branch Director Have Developed Long Term Relationship | Dougan 2004; Beard & Dougan 2004 |
| Firm_Type_Sale_Transactional_Branch_Deduc | Deductive | Monadic | Sale Originated After Customer Received a Communication Hit at the Branch | Lievens & Moenaert 2000 |
| Firm_Type_Sale_Transactional_Online_Deduc | Deductive | Monadic | Sale Originated After Customer Received a Communication Hit Online | Lievens & Moenaert 2000 |
| Firm_Process_Legal_Stops_Deduc | Deductive | Monadic | The Bank's Legal Department Stops The Commercialization of a Product or Service | COTEC 2006; Davies & Green 2010 |
| Firm_Process_Diminishing>Returns_Deduc | Deductive | Monadic | Current Banking Practice is Experiencing Diminishing Returns | Behnocker 2006 |
| Firm_Process_Bancarization_Deduc | Deductive | Monadic | Banks' Business Model is Still Primarily Oriented at Bancarizing Customers | Morales & Yañez 2006 |
| Firm_Process_Selling_Servicing_Deduc | Deductive | Monadic | Decoupling Between Servicing and Selling | Frei et al. 1998 |
| Firm_Process_Selling_Pre-Approvals_Deduc | Deductive | Monadic | Banks Approve Credit Products for Customers Before The Customer Asks for Them | Koderisch et al. 2007; Netessine et al. 2006 |
| Firm_Process_Selling_Comparison_Web_Deduc | Deductive | Monadic | Banks Compete at the Functionality Level By Appearing in Comparison Web Sites | El Confidential Digital 2011 |
| Firm_Process_Multichannel_Deduc | Deductive | Monadic | Channels are Converging Towards Providing Universal Service | Van Steenis 2002 |
| Firm_Tied_Selling_Deduc | Deductive | Monadic | Two Products are Sold Combined Because The Regulation Requires Them to Be Sold Together | Webb 2009 |
| Firm_Bundle_Selling_Deduc | Deductive | Monadic | Two Products are Sold Combined Because The Bank Requires Them to Be Sold Together | COTEC 2006; Banesto 2007 |
| Firm_Cross_Selling_Deduc | Deductive | Monadic | Two Products are Sold Combined Because The Customer Requires Them to Be Sold Together | Garcia 2011 |
| Firm_Sales_CRM_Unsuccessful_Deduc | Deductive | Dyadic | A CRM Initiative that Was Introduced Into The Branch That Was Either Not Used or Not Effective | Stringefellow & 2004 |
| Firm_Sales_CRM_Successful_Deduc | Deductive | Dyadic | A CRM Initiative that Was Introduced Into The Branch That Was Either Used or Effective | Winer 2001 |
| Firm_Independent_Deduc | Deductive | Dyadic | Business Model is mainly independent | Scott 1981 |
| Firm_Modular_Deduc | Deductive | Dyadic | Business Model is mainly modular | Baldwin & Clark 2000 |
| Customer_Type_Saver_Deduc | Deductive | Dyadic | Customer That Uses the Bank to Hire Saving-Related Products (Deposits, etc.) | Ahlstrom 2010 |
| Customer_Type_Borrower_Deduc | Deductive | Dyadic | Customer That Uses the Bank to Hire Borrowing-Related Products (Credit Cards, etc.) | Ahlstrom 2010 |
| Customer_Type_Passive_Cross_Seller_Deduc | Deductive | Dyadic | Customer Has a Variety of Banking Products in One or Two Banks | Ruiz 2007 |
| Customer_Type_Active_Cross_Purchaser_Deduc | Deductive | Dyadic | Customer Has a Variety of Banking Products in More Than Two Banks | Ruiz 2007 |
| Customer_Underserved_Deduc | Deductive | Triadic | Customer Perceives Product Not Good Enough - Requires Improv. Known Dimensions | Jacobides 2005 |
| Customer_Overseved_Deduc | Deductive | Triadic | Customer Perceives Product Is Good Enough - Requires Improv. Other Dimensions | Christensen 1997c |
| Customer_Nonconsumer_Deduc | Deductive | Triadic | Customer Doesn't Have This Product But Both Bank and Consumer Would Like to Have It | Christensen 1997c |
| Customer_Discontinuity_Demand_Deduc | Deductive | Monadic | Customers Nature of Demand Shifts Towards New Dominant Design | Dosi 1982 |
| Customer_Upsurge_Demand_Deduc | Deductive | Monadic | Customers Requirement Strong Enough to Mobilize the Bank | Tushman & Anderson 2004 |
| Customer_Psych_Effort_Radicalness_Deduc | Deductive | Monadic | Product is 1) Novel 2) Unique 3) Has Impact on Future Technology | Kim & Lee 2011 |
| Customer_Psych_Effort_Newness_Deduc | Deductive | Monadic | Product Introduced Deviates Enough From Typical Product As To Be Considered New | Gourville 2005 |
| Customer_Psych_Effort_Relatedness_Deduc | Deductive | Monadic | How Complementary Is the Product Introduced to The Ones The Customer Owns | Grewal et al. 2002 |
| Customer_Psych_Effort_Innovativeness_Deduc | Deductive | Monadic | Product Ranks High in Terms of Technical and Market Discontinuities (Not Product Advantage Against Peers) | Alles 2002 |
| Customer_Job_Product_Deduc | Deductive | Triadic | Context Where Product Used Matches a Situation Described in the Life of the Customer | Ulwick & Bettencourt 2008 |
| Customer_Job_Emotional_Deduc | Deductive | Triadic | Context Where Product Used Matches the Dominant Emotion the Customer Feels When Using the Product | Berstell & Nitterhouse 1997 |
| Customer_Job_Social_Deduc | Deductive | Triadic | Context Where Product Used Describes Where the Customer is Located Within a Particular Group | Berstell & Nitterhouse 2001 |
| Customer_Hygienic_Factor_Deduc | Deductive | Monadic | A Product Feature that if Absent Stops Customer From Continuing Evaluating the Product | Bazerman 2005; Herzberg 2003 |
| Customer_WTP_Branch_High_Deduc | Deductive | Dyadic | Customer's Willingness-To-Pay Increases When Product is Explained at the Branch | Eisenmann 2006a |
| Customer_WTP_Branch_Low_Deduc | Deductive | Dyadic | Customer's Willingness-To-Pay Doesn't Increase or Decreases When Product is Explained at the Branch | Kling et al. 2010 |
| Customer_WTP_Online_High_Deduc | Deductive | Dyadic | Customer's Willingness-To-Pay Increases When Product is Explained Online | Anderson & Dana 2009 |
| Customer_WTP_Online_Low_Deduc | Deductive | Dyadic | Customer's Willingness-To-Pay Doesn't Increase or Decreases When Product is Explained Online | Cans & Stem 2000 |
| Customer_Bounded_Maladap_Behav_Deduc | Deductive | Triadic | Customer's Response in Front of a New Offer is Trying to Find Parallels and Schemas to Understand It | Simon 1986; Alba & Hasher 1983 |
| Customer_Bounded_Optimize_Behav_Deduc | Deductive | Triadic | Customer's Response in Front of a New Offer is the Optimal Satisfactory Adaptive Response | Simon 1986 |
| Customer_Bounded_Maximize_Behav_Deduc | Deductive | Triadic | Customer's Response in Front of a New Offer is Suboptimal Because Previous Knowledge is Used to Evaluate It | Simon 1986; Kaplan 2004 |
| Customer_Number_Bank_Accounts=2_Deduc | Deductive | Dyadic | Customer Has Two Bank Accounts | Xue et al. 2011 |
| Customer_Number_Bank_Accounts>2_Deduc | Deductive | Dyadic | Customer Has More Than Two Bank Accounts | Morales & Yañez 2006; Ruiz 2007 |
| Customer_New_Attributes_Convenience_Deduc | Deductive | Monadic | Customer Demands Convenience in the Banks' Products | Lacaba Velasco 2011; Ruiz 2007 |
| Customer_New_Attributes_Speed_Deduc | Deductive | Monadic | Customer Demands Faster Cycles in the Banks' Products | Keeley 2000 |
| Customer_New_Attributes_Price_Deduc | Deductive | Monadic | Customer Demands Lower Prices in the Banks' Products | Keeley 2000 |

Table 4.3: Inductive Code List obtained From the Interview Process

| Code_Name | Code_Type | Brief Explanation |
|--|-----------|---|
| Accept_Product_Change_Induc | Inductive | The Customer willing to accept a new product because it lowers the amount due at the end of the month |
| Accepting_Products_Induc | Inductive | Because of a campaign or to get another product the customer buys this product knowing it will cancel it in the near future |
| Actively_Control_Saving_Induc | Inductive | The customer likes to control how much saving is that card providing to him |
| Actively_Saving_Induc | Inductive | Products or services that make the customer feel he is working to earn his money (payment with credit cards, etc) |
| Actively_Spending_Induc | Inductive | Products or services that have the ability to free cash for the customer within the month |
| Branded_Card_for_Branded_Customer_Inductive | Inductive | Many cues for the customer to feel preferred (i.e. card and the card's icon in the web page are the identical) |
| Cross_Fertilization_Ecosystem_Induc | Inductive | Two products combined (without a discount) benefits the customer more than these products separately |
| Customer_Afraid_Losing_Ability_Finance_Induc | Inductive | The Customer is afraid of the bank having to retire his credit card |
| Customer_Bounded_Maladap_Excess_Information_Induc | Inductive | One instance of "Customer_Bounded_Maladap_Behav_Deduc" - - too much information makes customer leave frustrated |
| Customer_Budget_Month_Account_Induc | Inductive | By Withdrawing Money the Customer Also Knows How Much Money is he Going to Have at the End of the Month |
| Customer_Discounting_Payment_Budget_Induc | Inductive | The Customer Introduces this payment into his mental accounting of expenditures of the month |
| Customer_Exhaustiveness_High_Induc | Inductive | Customer Perception of Getting the Best Deal is Very High. Customer Stops the Search Process |
| Customer_Exhaustiveness_Low_Induc | Inductive | Customer Perception of Getting the Best Deal is Low. Customer Thinks Somewhere There is a Better Deal |
| Customer_Fear_Card_Hacked_Induc | Inductive | The Customer is Afraid that While Paying Someone Might Clone the Card |
| Customer_Instant_Gratification_Induc | Inductive | When Using the Card The Customer Likes to be Reminded that he took the optimal product for that particular transaction |
| Customer_Notification_Preferred_Induc | Inductive | The customer is reminded that he is a preferred customer with a discount in the interest rate |
| Customer_Payment_Credit_Card+_Expensive_Induc | Inductive | The Customer Thinks Paying With Debit or Credit Card is More Expensive |
| Customer_Socially_Appreciated_Branch_Induc | Inductive | The customer notices that the branch personnel show admiration for him |
| Customer_Socially_Appreciated_Friends_Induc | Inductive | The customer has elements to show how the bank distinguishes his business |
| Customer_Socially_Appreciated_Technology_Induc | Inductive | The customer receives continuous inputs from both the web page and the phone reminding him is condition of preferred customer |
| Customer_Variability_High_Induc | Inductive | Variation in Customer Experience is High Enough to the Customer To Complain or Stop Using the Service |
| Customer_Variability_Low_Induc | Inductive | Variation in Customer Experience is Minimal, Changes in the Service (if any) Remain Unnoticed |
| Emotional_Savings_Induc | Inductive | If the customer has young children is more likely to purchase a savings product |
| Firm_Losing_Money_Online_Inductive | Inductive | The Customer is informed online and therefore becomes aware that by doing things this way he is losing money |
| Firm_Secure_Payment_Induc | Inductive | A product that brings forward the bank's receipts in the customer priorities |
| Firm_Super_Customer_Induc | Inductive | A customer status where the customer buys a variety of non-related products to become a preferred customer |
| Firm_Update_Card_Remaining_Cash_Induc | Inductive | The Customer likes to be reminded how much cash is available in the credit card and how much has been used |
| Granular_Information_Induc | Inductive | The customer likes to have absolutely all the information about his banking activities |
| Group_Data_Induc | Inductive | Summarize the variables of a product in one or two fields |
| Ludic_Induc | Inductive | The customer enjoys dealing with the bank and is happy to prove to the branch that he knows more about banking than them |
| Minimum_Amount_Payment_Month_Induc | Inductive | The Customer is willing to accept changes that will lower the amount due at the end of the month. Irrespective of the total debt. |
| Minimum_Threshold_Induc | Inductive | Minimum amount of money that makes the customer ignore the rest of the web page and continue with his spending spree |
| No_effort_to_remember_Induc | Inductive | The customer wants to do the action now so it won't have to remember to do it in the future |
| Permanently_Accepting_Most_Profitable_Products_Induc | Inductive | Even though the customer knows the products offered are expensive he buys them anyway |

Table 4.4: Control (Dummy) Codes

| Code_Name | Code_Type | Brief Explanation | Citation |
|------------------------|-----------|--|----------------------------|
| Attribute (Endogenous) | Control | Product or customer characteristic that is not dependent on exogenous variables | Christensen & Carille 2009 |
| Context (Exogenous) | Control | Historians' approach to infer causality. Detailed context to increase external consistency | Morck & Yeung 2011 |
| Zone Economic Status | Control | It can be High, Medium or Low | AC Nielsen 2010 |
| Savers | Control | Customers who's main asset is classified as Passive (Deposit or equivalent) for the bank | Demsetz 2000, Berger 2009 |
| Spenders | Control | Customers who's main asset is classified as Active (Credit) for the bank | Demsetz 2000, Berger 2009 |
| Underserved | Control | Customers who understand and decide based on one main product feature | Christensen 1997 |
| Overseved | Control | Customers who understand and decide based on a variety of product features | Christensen 1997 |

Finally, we use historians' approach to infer *Causality* (Sørensen et al. 2010). This is again a quantitative count-based process through which a detailed *Context* is added, consider the plausibility of alternative narratives and indirectly try to increase *External Consistency*. Table 4.3 depicts the control variables used in this portion of the methodology. At a deeper level this process acknowledges that *Free Will* makes human decisions intrinsically exogenous (Morck and Yeung, 2011). The integrated *Construct* is the result of this process. As expected this *Construct* builds and refines on the previous literature on *Technological Change* and *Marketing* while adding inductively generated context-specific codes that will be subsequently tested for their ability to predict with more accuracy consumer behavior.

A Note On Using The Repertory Grid Technique (RGT) As An Elicitation Tactic

George Kelly's *Personal Construct Psychology* (PCP) states that people's view of objects can be summoned up as a collection of related similarity-difference dimensions (Kelly, 1955). The *Repertory Grid Technique* (RGT) is a suggested method for eliciting personal *Constructs* that are presented to people as question-based codes (Kelly and Maher, 1969). This technique has been employed as a qualitative method in consumer research for over the last thirty years (Marsden and Littler, 2000)²⁴¹. RGT exists today in various variants, some more comprehensive and complex than others. There is precedent of using RGT as a standalone methodology, or as a complement for validating or deepening results obtained using other methods and in both quantitative and qualitative research. RGT has evolved independently of PCP and it has reached a stage in which its use as an analytic tool no longer requires acceptance of the model of man proposed in PCP (Dillon, 1994).

The classical RGT methodology has four phases; 1) *Element Elicitation*, where the researcher selects the elements representative of the topic to be discussed; 2) *Construct Elicitation*, where knowledge elicitation and personal constructs are discussed; 3) *Rating*, where all the constructs are rated in a matrix and; 4) *Analysis*, where multivariate statistical procedures are used to combine the individual grids. Although the RGT research design is compatible with the single *Unit of Analysis* Embedded Type IV multi-case design described in the previous section it's not compatible with the multi-level and multi-source nature of the research data. This is the reason why only steps one and two of the standard RGT methodology are used.

²⁴¹ It has also been used as a non-obtrusive research method (Hine, 2011) such as the analysis of web sites (Hassenzahl and Trautmann, 2001) and user experiences (Karapanos and Martens, 2009).

RGT technique has a number of criticisms; some of them also apply as limitations to this thesis research question. One the main concerns is related to the *Robustness* of the *Constructs* elicited with the *Elicitation Method*, the *Sorting Technique* or the *Rating Direction* are modified (Pratt, 2009). Any variation in these phases would result in a different outcome and a different set of *Constructs*. Another limitation is that RGT only elicits the *Constructs* to which a person can attach verbal labels (Fransella et al., 2003). Additionally participants might be suspicious towards the open questions and therefore feel constrained to think about *Constructs* with an open mind. Finally participants might be blocked if the inconsistencies and changes affect their own way of thinking (Kerkhof, 2004).

RGT has a variety of elicitation methods, the most widely used are the *Monadic* (where participants describe an element with a single word or short phrase), *Dyadic* (the participant is asked to look at pairs of elements and tell if they are similar or dissimilar and in what way), *Triadic* (same as *Dyadic* but with three elements), *None* (where the researcher provides the constructs), *Full Context Form* (where the participant is asked to classify the elements in piles), *Group Construct Elicitation* (similar to *Triadic* but both element and construct elicitation are discussed) and *Aggregation* (where a variety of grids are aggregated and discussed) (Tan & Hunter 2002; Siau et al. 2007).

Due to the nature of the research question in this thesis a combination of some of these elicitation techniques is used. Although this research is fundamentally exploratory a good starting point is using the literature reviewed in the previous chapters as the list of *Deductive Codes* (as described in the *None* elicitation form). However as the research progresses, and since each case-based interview is prepared in sequence and builds on the previous one we eventually transitioned to both the *Triadic* and the *Dyadic* elicitation methods. This transition and the theoretical saturation (Peters & Wester 2006; Burgess 1984; Lee et al. 1999) expected are very effective for adding *Robustness* to the research (Berry & Linoff 1997).

Sources of Evidence, Case Study Protocol, Selection of Case Studies and Unit of Analysis

After an initial item pool²⁴² has been generated by undertaking a comprehensive literature review and the established guidelines for measuring development had been set (Fuchs and Diamantopoulos, 2012) three sources of data were collected. These were direct observation, archival data and semi-structured

²⁴² The *Deductive* codes.

interviews. This multi-source approach helps improve on the acknowledged case study bias toward verification while contributing to *Construct Validity* and *Reliability* (Flyvbjerg, 2006; Krippendorff, 2007).

Direct Observation:

Capturing events in real time and in their *Contextual* complexity is a challenge. Even though all research has *Contextualization* (Rousseau and Fried, 2001). Collecting process data requires direct observation to observe phenomena in their organizational setting. To capture direct observations minimizing the reactions and behavior observed because of the presence of the researcher the following approach was used to schedule the interviews. The researcher would always set the time of the interview at 15h. When the branch was already closed for the day²⁴³. But the researcher would always arrive at 14h. Far from just waiting, the researcher, after introducing himself would be seated in the waiting area of the branch, which is where all customers wait, and would be taking copious notes of what the branch personnel would discuss with the customers²⁴⁴. The researcher minimized the reactions and behavior because in almost all the interviews the branch personnel didn't know that the researcher was coming in the first place and also because the interviewees were the head of the branch (the director) or the Sub-Director²⁴⁵.

However this process was not only extremely costly in terms of time for the researcher but also can create *Selectivity* problems as the researcher tries to focus only on the events that seem to matter. To try to control for *Selectivity* problems a series of comparative experiences were developed and, in those instances where the branch personnel "broke the ice" and started talking to the researcher, opinions, suggestions and *Prescriptive* statements were not included in the information that was processed afterwards.

Archival Data:

Archival documents were particularly critical for the subsequent interviews. The reason is that not all bank branches qualify for this research. Only the bank branches where the number of products per

²⁴³ In Spain bank branches usually open from approximately 8h until 15h. One day of the week (usually Thursdays) they also opened in the afternoon.

²⁴⁴ Only the information relevant for this research was considered. No customer names or any other personal identification information was recorded.

²⁴⁵ In a branch the *Director* always has an office separated from the public. *Sub-Directors* usually do have an office too except in those branches where physical space is limited. The researcher usually sat with the rest of the branch personnel. These workers execute the very same activities contained in the semi-structured interviews.

customer is in the first quartile were considered. The reason is that considering that *Tied-Selling* is mandated by law and that *Bundle-Selling* is a quite internalized practice in retail banks the likelihood of finding branch personnel with a particular ability to effectively *Cross-Sell* in those branches was maximized.

Additionally archival data represents a stable source of data for comparing and checking those instances generated during interviews that needed clarification. As a source of data they are also stable over time so no influence from the researcher alters it. One of the main challenges from archival data is confidentiality. The banking industry is a very information intensive industry. There were instances where the researcher was exposed to internal information from the banks but was not allowed to use it for the research or even to store it. The archival data used in this research has been previously approved by the banks and is fully composed of public documents. Finally, if collections are incomplete, there is a bias towards the information available. Since the banking industry mainly works through product related *Campaigns* that are planned throughout the year there are difficulties to access any other kind of information that is not the one that's being currently used at the branches.

Semi-Structured Interviews:

Because of the nature of this research interviews are the main source of evidence, being direct observations and archival documents the sources used to *Triangulate* (Ulwick, 2002b). In this research interviews are very valuable as they can be targeted on the topic of research and retain the freedom necessary to readdress them towards providing insights on *Causal* processes. *Context* related interviews add a lot of complexity to the interview process. Using semi-structured interviews this complexity can be accounted for (Ethiraj et al., 2012). Throughout this research there was an additional factor that contributed significantly to the complexity: the financial industry was in a dramatic turmoil. This situation forced all the banks to rethink their situation and reconsider what was previously taken for granted. There are four factors that, although they have no direct relationship with this research, were considered particularly relevant for the banking personnel.

First what kind of products that particular office is commercializing. Interviews were conducted in Madrid and Barcelona. The products that are being commercialized in these two cities are different. Although Credit Cards were not one of them, insurances, funds and pension plans were not

homogeneous. Since this research' unit of analysis is the credit card, the researcher was very careful not to mention any other product (Van Maanen, 1998).

Second the *Organizational Design* of the branch network. Retails banks are usually very hierarchical at the branch level. The main bank where this theses was conducted, named Grupo BMN, has 4 levels in between the branches and the headquarters. The first level is the branch itself. The second one is the *Zone*, which usually comprises up to twenty branches. The third level is the *Region* that usually comprises up to five zones. The fourth level is the *Territory* that groups the zones into geographical clusters. For the purposes of this research the bulk of the interviews were conducted at the branches with the *Directors* and *Sub-Directors* and only three interviews were conducted with the *Zone* managers. These three interviews were used to understand some of the intriguing answers the branch personnel was consistently providing.

Third, the interview process was particularly long. It ranged from minimum one hour to up to three hours. Some of the interviews lasted over four hours²⁴⁶. The templates for the semi-structured interviews were carefully followed. Ultimately interviews evolved and were divided into 4 sections but at first they used the *Inductive* structure provided by Christensen, Horn and Johnson (2010) were they explain that the architecture of a *Job Construct* has three levels and that it can be obtained with this set of questions:

- What is the *Job* or problem the customer is facing? (This has to include *Political, Functional, Emotional* and *Social* dimensions).
- What are the experiences in purchase and use that if provided would nail the *Job* perfectly?
- What do we need to integrate and how must be knit those things together to provide these experiences?

During the interview process the semi-structured interview templates evolved significantly. They eventually transitioned to the final four sections (one for each type of customer) and three instances per section (online banking, usage of a credit card sold at the branch and usage of the credit card sold online).

²⁴⁶ In those cases the branch *Director* had already scheduled the entire afternoon just for the interview. The researcher capitalized on the opportunity going through every detail of the research questions.

The fourth factor is the massive banking layoffs. Some branch managers were very reluctant to the researcher at first because they thought this research was an evaluation on their performance²⁴⁷. This interview-related behavior has been identified in the literature and is named the *Risk of Reflexivity*. This is where the interviewee tells the researcher what he thinks the interview wants to hear. This effect was duly controlled for in three steps. The first one was clarifying it at the beginning of the interview. As depicted in the interview protocol in Figure 4.3. The second is during the entire interview, where the researcher asks a myriad questions acting as an eager learner giving the image of trying to really understand the business²⁴⁸. The third one is by asking the personnel already interviewed to call up the people they knew that was going to be interviewed²⁴⁹. This last one proved to be very effective²⁵⁰ (Lincoln and Denzin, 2007).

Figure 4.3: Interview Protocol

- Explanation differences between *Tied-Selling*, *Bundle-Selling* and *Cross-Selling*
- We are only considering *Cross-Selling*, in particular instances that have happened with customers where there was a significant increase in their *WTP* (upsurge in demand)
- If I interrupt or limit the response options it's because of interview protocol (*RGT Technique*)
- For the entire interview we are only considering Personal banking no Corporate banking
- Customer upsurge in demand is what matters, please answer without considering the financial soundness of the offer for the bank
- Please don't consider the technological challenges of the products, services or situations discussed
- We will talk about two types of customers. The *Savers* and the *Spenders*
- We will separate these two types of customers between *Overserved* and *Underserved*
- For each customer we will consider three circumstances
 1. Online banking at home in the evening
 2. Using a Credit Card in the restaurant at lunch
 3. Considering the (exclusively) online offer of a Credit Card at home in the evening

To ensure quality control the interview content was verified with the archival data after each interview. The interview template was also revised accordingly (Lavrakas, 1993). For instance, prices such as those of the credit cards or the prices of SMS messages were also checked for variations between branches.

In total 48 interviews were conducted. The majority of interviews were recorded and transcribed *verbatim*. Not all of them were recorded because there were interviewees that didn't allow the

²⁴⁷ One branch *Sub-Director* actually refused to be interviewed. Fortunately the bank replaced him for another person.

²⁴⁸ Although in some occasions the researcher over-acted during the interviews in reality this was very fulfilling as the researcher learned a ton.

²⁴⁹ The interviewee on the first interview was very worried. That's because inside the hierarchical structure of a bank information doesn't travel all that well. So he had only received the following message from his boss that morning: "You have to be at 15h downstairs because there is a guy coming over who is going to ask you a set of questions". Just like that. Considering the industry situation the message was not the optimal one.

²⁵⁰ It's important to mention here that although they did call to tell their coworkers about the researcher they were also instructed not to disclose any detail about the research. So they basically said that the researcher was not in fact an evaluator. If the other person on the line asked about the research the only thing they answer was: "don't worry, you are going to have fun".

researcher to record the conversation. 9 archival documents were gathered and 29 unique events observed. Most of these unique events were extremely valuable as they usually were bank personnel talking to real customers in front of the researcher with neither of them knowing or acknowledging the presence of the researcher.

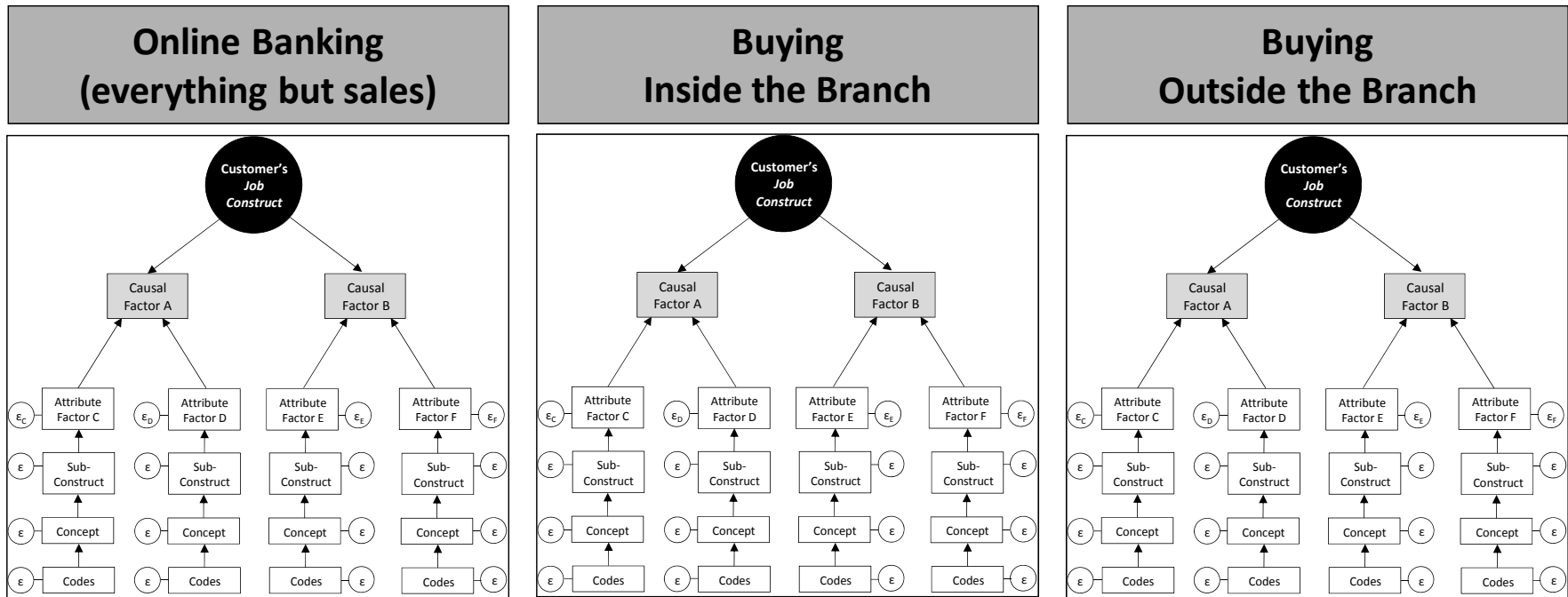
Selection of Case Studies and Unit of Analysis

As Figure 4.4 depicts, this research included a clinical comparison of the “online banking” *Job Construct*, the “buying a credit card at the branch” *Job Construct* and the “buying a credit card online” *Job Construct*. Prior to this research the existence of the *Job Construct* had only been *Inductively* introduced. There is no research available that described in a scientific way how to isolate a *Job Construct*, how to understand its anatomy or even how to verify empirically the existence of its three main branches (*Functional, Emotional, Social*)²⁵¹.

The selection of the product is critical in this research. Understood as a product, the online banking portion of the research is intriguing. Once the internet became widespread there was a massive upsurge in demand towards online banking. This upsurge in demand was so overwhelming that banks were forced to introduce this service in their portfolio, knowing this will start the process of losing control of their most profitable customers. Online banking is used in this research as a control group in the sense that consistent with what has been *Inductively* described before about the *Job Construct* the upsurge in demand represents a new product that has less variability towards the *Job Construct* the customer is trying to get done.

²⁵¹ To be fair at the beginning of the research this researcher wasn't even sure that a *Job Construct* could be isolated in the first place.

Figure 4.4: Clinical Comparison



For selecting a credit card with full payment at the end of the month three criteria were considered. First, it had to be a relatively simple product, and banking products usually have hundreds of *Derivatives* (Wheelwright & Clark 1994)²⁵². Second, it had to be a product that didn't generate a new account per se. For instance, when a person gets a mortgage in a bank it has to open an account, which is mandated by law (*Tied-Selling*). Banks usually *Bundle-Sell* a credit card either with a new account or as a requirement for the mortgage. But there are no cases where a new customer would ask for a credit card and for that be willing to open a bank account. In Spain there is a tradition of having the banks "place"²⁵³ credit cards to customers (as mentioned, the number of credit cards in Spain is twice the population). Since banks usually did that *Bundle-Selling* with the card while opening of a new bank account, instead of going through the process of carefully explaining the product to customers, credit cards remained quite undifferentiated from the customer's point of view. Customers are largely unaware of all the benefits that come with a credit card and rarely use them (Bernal Jurado, 2001).

Controlling for the Customer Type as Part of the Research Design:

Part of the research design includes controlling for the customer's *Bounded Rationality*. This has been treated as a binary variable with only two possible outcomes. The first is customers who are *Underserved*. In this research being *Underserved* is defined as those customers who only understand one *Functionality* of the product. For instance, if a customer only knows the monthly limit of his credit card, and is either unaware or doesn't understand the implications of the many other *Functionalities* embedded in a credit card it will be considered an *Underserved* customer. *Overserved* customers on the other hand have been defined as those customers who know absolutely all the *Functionalities* of a product. They also know how these *Functionalities* differ between banks and any other additional information. For example, there are instances where branch personnel recognized that there were some customers from whom they actually learn a lot.

The separation between *Underserved* and *Overserved* wasn't very challenging for the banking personnel. As they had all a very clear idea of the type of customer they had in the branch²⁵⁴.

²⁵² For instance, the researcher had access to the mortgages portfolio of one bank. This confidential document had on the first page the main parameters of a mortgage. The document had 58 pages. All the rest were mortgage *Derivatives* from the first page.

²⁵³ Banks actually use this term when they sell a credit card.

²⁵⁴ Banks have an unusually large amount of information per customer. On top of that the branch personnel has the customer's *soft* information too. During the interviews it was very clear that they know their customers up to the utmost detail...

Separating Customers Into Savers and Spenders:

An additional refinement had to be made at the beginning of the research. After the first three interviews it was clear that there were two types of customers that were so inherently different that their effect had to be accounted for. Every time the researcher asked the *Job Construct* finding questions listed above the banking personnel would reply that customers were so heterogeneous that they needed more data on the customer type²⁵⁵. None of these bankers wanted more information on purely *Descriptive* data of the customer (age, socio economic status, etc.) but on what drives their behavior. In this regard two main types of customers were elicited. First are the *Savers*, who usually have their savings in their bank accounts and very little credit-related products²⁵⁶. Second are the *Spenders*, who usually live above their means and are used to make ends meet using credit.

On Being the Customer's Main Financial Entity:

Another major refinement was made explicit at the beginning of the research. The separation between the customers who used that particular bank as their main provider of financial services from the customers who used the bank as a way to edge risks or just because they had bought a particular product at some point. This later group usually became customers during a product *Campaign*. This distinction is significant because the information about the customer's *Share of Wallet* is not available to the bank if the customer doesn't have the bank as its main provider. Also the receptivity of a customer varies significantly between the two groups. In this research only the first group of customers is considered. The reason is that there is much more information available for the bank and that the relationship between the banking personnel and the customer is much more frequent.

In conclusion, due to the nature of this exploratory study the selection of case studies and the *Unit of Analysis* had to be refined at the beginning of the research. Although the *Unit of Analysis* didn't vary significantly, it had to be separated into four groups. These four groups are depicted in Figure 4.5. This figure also makes the distinction between the *Underserved* and *Overserved* dimensions, that was also considered in the literature review, and the type of customer, that was included ex-post.

²⁵⁵ The first three interviews were performed with very experienced bankers who were very helpful in refining this portion of the research.

²⁵⁶ Although this unexpected event didn't really depart from the objective of the study but actually enrich it significantly, it posed two new challenges; first the amount of information to be captured had multiplied from 3 up to 12. Before, only one *Job Construct* per instance was going to be obtained. After, these three *Job Constructs* had to be obtained for four different types of customers. Second, the researcher had to explain to the bank managers that instead of giving them the results of the study in 3 pieces, there were going to be 12 pieces instead.

Figure 4.5: The Four Units of Analysis

| | | Type of Customer According to the Innovation Literature | |
|---|---------|---|------------|
| | | Underserved | Overserved |
| Type of Customer According to the Retail Banking Literature | Saver | | |
| | Spender | | |

Data Collection Process

Following the RGT technique guidelines data was collected at first using combinations of the *Deductive* codes obtained from the literature review. By design the first interviewees were very experienced branch directors that were very helpful at improving the semi-structured questionnaire. *Sub-Directors* were also interviewed starting midway through the interviewing process. The *Zone* managers were mainly interviewed at the end for verification purposes. Therefore this research is multi-function, multi-level and multi-source. The variety of interviewers and their functions enriched significantly the resulting case study database. Data was collected at the three levels.

Branch Directors:

At the branch *Director* level interviews were focused on three objectives. First making sure the researcher avoids questions that could be answered in relation to both *Product* and *Customer* characteristics. The bias towards these *Attributes* is very strong because that’s the current management paradigm. After the first three interviews several preventive measures had to be taken to make sure there was no room for *Product* or *Customer* characteristics. Afterwards the questions revolved around getting extremely detailed explanations of the *Contexts* were customers consume online banking and a credit card that has full payment at the end of the month. Second, archival data was intensively used before and after the interviews to map these context related details while overriding both product and customer characteristics. Third, after the first *Sub-Directors* were interview to contrast with *Directors* new context specific information.

Branch Sub-Directors:

Halfway through the interview itinerary the first *Sub-Directors* were interviewed. *Sub-Directors* were very effective at refining context specific details that had been recorded and *Triangulated* before. They were also instrumental at limiting context specific information into what's been named in this thesis the *Inductive* codes. *Sub-Directors* are in general more hands on with *Customers*, they have more recent information about customers and their current situation and were very useful for providing new product-related ideas using the *Job Construct* based approach. The *Sub-Directors* experience was very heterogeneous in this research. Some *Sub-Directors* interviewed had more than 15 years of experience in banking at a branch.

Zone Managers:

Interviews with *Zone* managers were instrumental for understanding some of the *Codes* that were elicited. *Zone* managers have a unique view of the customer and the *Cross-Selling* challenge and were very helpful at understanding why some codes always appear together while others (all of them *Deductive*) were never mentioned through the entire interview process.

Additionally *Zone* managers were also interviewed about the *Organizational Design*. Specifically which activities should be performed at the branch and which ones should be centralized. This interview question could only be asked at this level because if they were asked to either *Directors* or *Sub-Directors*, instead of an answer they reacted as if their position in the bank could be compromised.

Case Study Database:

Data from the interviews was introduced into a case study database. Figure 4.6 provides a snapshot of one *Hermeneutic Unit*. The entire database was *Coded* using the *Inductive*, *Deductive* and *Control* codes (see Tables 4.1, 4.2 and 4.3.). No codification started prior to having concluded all the interviews. At the aggregate level a grand total of 106,452 discrete codes were elicited Table 4.4²⁵⁷ (Bryman, 1988). The resulting data could be sorted by interviewee, company, thematic category or any appropriate combination. All codes retain a ticker that indicates if it's an *Inductive* or *Deductive* code. All codification was made separating between *Attribute* and *Context*. The criteria followed was that if the information

²⁵⁷ This was a daunting task that took over nine months were the researcher was exclusively dedicated to just coding the 12 *Hermeneutic Units*.

was related to a *Product* or *Consumer* characteristic it would be labeled as an *Attribute*. All the rest were labeled as *Context*. Therefore this is a research that severely discriminates all identifiable correlated but non *Causal* relationships with the *Customer Impetus*.

Table 4.5: Aggregate Number of Codes Elicited

| Hermeneutic Unit | # Codes Elicited | # Codes Elicited (%) |
|--------------------------------------|-------------------------|-----------------------------|
| 1_Online Banking Saver Underserved | 8,184 | 8% |
| 2_Online_Banking_Saver_Overserved | 16,839 | 16% |
| 3_Online_Banking_Spender_Underserved | 14,710 | 14% |
| 4_Online_Banking_Spender_Overserved | 10,274 | 10% |
| 5_Cross_Branch_Saver_Underserved | 10,027 | 9% |
| 6_Cross_Branch_Saver_Overserved | 12,012 | 11% |
| 7_Cross_Branch_Spender_Underserved | 10,383 | 10% |
| 8_Cross_Branch_Spender_Overserved | 6,015 | 6% |
| 9_Cross_Online_Saver_Underserved | 4,412 | 4% |
| 10_Cross_Online_Saver_Overserved | 4,293 | 4% |
| 11_Cross_Online_Spender_Underserved | 4,469 | 4% |
| 12_Cross_Online_Spender_Overserved | 4,834 | 5% |
| GRAND TOTAL: | 106,452 | 100% |
| TOTAL ONLINE BANKING | 50,007 | 47% |
| TOTAL CROSS BRANCH | 38,437 | 36% |
| TOTAL CROSS ONLINE | 18,008 | 17% |
| TOTAL SAVER | 55,767 | 52% |
| TOTAL SPENDER | 50,685 | 48% |
| TOTAL UNDERSERVED | 52,185 | 49% |
| TOTAL OVERSERVED | 54,267 | 51% |

Axial Coding was the only part of the *Research Design* depicted in Figure 4.2 where the limitations of qualitative-based research applied. Although as explained above this limitations were accounted for. The rest of the process was followed rigorously exactly as it's been explained above in the *Research Design*. Until the *Job Construct* for each of the four types of customer was obtained. Research results are analyzed and presented in the next sections, one section per *Job Construct*.

Figure 4.6: Snapshot of the Case Study Database

The screenshot shows the ATLAS.ti interface with a document titled "ONLINE BANKING JOB CONSTRUCT". The document contains the following text:

Creo que la operativa bancaria tiene que tener unos sistemas agiles y orientados a las necesidades de los clientes.

Por ejemplo, con la operativa antigua si el cliente queria enviar unos recibos para su cobro nosotros decidiamos si se enviaban los recibos y se daba el dinero. Ahora mismo ya no intervenimos.

Otro ejemplo: tambien de recibos, ahora los clientes no pueden procesar 2 ficheros (por ejemplo 2 ficheros de nominas) el mismo dia.

Opino que para asuntos relacionados con la operativa cuando menos contacte el cliente con el banco fisicamente mejor

Siempre venderia el primer paquete con 2 motivos 1) nunca podrias incrementar el nivel de servicio 2) por 5 euros mas te conviene. Para mi no hay diferencia de edad.

"no te preocupes, con unos cuantos cafes" y si esta de acuerdo nosotros vamos a su casa o aqui en la oficina y le enseñamos a operar.

Yo moldearia la pagina web en función de las necesidades del cliente.

Comparativa vs tu colectivo de edad

El cliente no lo valoraria, no lo miraria ese dato

Para mi ese servicio no tiene valor porque creo que al cliente lo que le gusta saber es "se lo que tengo yo"

En el caso de señores mayores este servicio obligara a hacer pensar al cliente si lo ha hecho bien o no. Ellos valoran cosas como "tengo a los hijos colocados" o "haber ahorrado un dinero suficiente para la jubilación"

Los parámetros de la gente mayor serian 1) como ha sido su vida laboral 2) los ahorros de su vida laboral mas sus depósitos y 3) su patrimonio. Con el objetivo de que les permita vivir tranquilamente.

En el caso de gente mas joven, entorno a 40 años si que creo que tiene mas sentido porque esta preocupación esta latente y porque tienen capacidad de actuación. Me gustaria poderle decir a algún cliente que tiene que compre un inmueble porque puede y esto asegura su patrimonio futuro. Sin embargo creo que el único cliente sensible a este mensaje hoy en dia es el cliente inversor en patrimonio que espera sacarle rentabilidad a través de la renta. Si nunca lo ha hecho seria cuestión de decirle "alguna vez has pensado en..."

En el caso de la Prevision de Futuro

(emotional) "de cara a tu jubilación necesitas un complemento" esto no deberia tener ninguna comisión y deberia ayudar al cliente a hacerse una simulación

(political) por el sector donde esta. "gente de tu sector tiene ya ahorrado XXX o tiene tanto patrimonio acumulado, tu estas por encima o por debajo de la media"

Para poder poner este servicio en marcha como minimo necesitamos esta primera información:

- nomina
- sector

The right-hand pane displays a list of coded segments, including:

- ATTRIBUTE- Customer_Bounded_Maladap_Behav_Deduc- Customer_New_Attributes_Conven
- ATTRIBUTE- Customer_Bounded_Maladap_Behav_Deduc- Customer_New_Attributes_Price_Deduc- Customer_New_Attributes_Speed_Deduc- Customer_New_Attributes_Convenience_Deduc- Firm_Process_Bancarization_Deduc-
- ATTRIBUTE- Customer_Bounded_Maladap_Behav_Deduc- Customer_New_Attributes_Price_Deduc- Customer_New_Attributes_Speed_Deduc- Customer_New_Attributes_Convenience_Deduc- Firm_Process_Bancarization_Deduc-
- ATTRIBUTE- Customer_Bounded_Maladap_Behav_Deduc- Customer_New_Attributes_Speed_Deduc- Customer_New_Attributes_Convenience_Deduc- Customer_Psych_Effort_Relatedness_Deduc-
- ATTRIBUTE- Customer_New_WTP_Online_Low_Deduc- Customer_New_Attributes_Convenience_Deduc- Firm_Sales_CRM_Unsuccessful_Deduc- Customer_New_Attributes_Speed_Deduc- Firm_Type_Sale_Transactional_Online_Deduc-
- ATTRIBUTE- Customer_New_Attributes_Convenience_Deduc- Customer_WTP_Online_Low_Deduc- Rate- Customer_New_Attributes_Speed_Deduc- Firm_Sales_CRM_Unsuccessful_Deduc- Prod_Categoriz_Context_Use_Deduc-
- ATTRIBUTE- Customer_Bounded_Maladap_Behav_Deduc- Customer_New_Attributes_Price_Deduc- Customer_New_Attributes_Speed_Deduc- Customer_New_Attributes_Convenience_Deduc- Firm_Process_Bancarization_Deduc-
- Actively_Saving_Induc- ATTRIBUTE- Customer_Bounded_Maladap_Behav_Deduc- Custor
- ATTRIBUTE- Customer_Bounded_Maladap_Behav_Deduc- Customer_New_Attributes_Conven
- Actively_Saving_Induc- Customer_New_Attributes_Convenience_Deduc-
- ATTRIBUTE- Customer_Bounded_Maladap_Behav_Deduc- Customer_New_Attributes_Price_Deduc- Customer_Bounded_Maladap_Behav_Deduc- Customer_New_Attributes_Speed_Deduc-
- ATTRIBUTE- Customer_Exhaustiveness_Low_Induc- Customer_Psych_Effort_Newness_Deduc- Customer_Psych_Effort_Radicalness_Deduc- Customer_Psych_Effort_Innovativeness_Deduc- Customer_Psych_Effort_Relatedness_Deduc-
- CONTEXT- Customer_Job_Social_Deduc- Customer_Bounded_Optimize_Behav_Deduc- Customer_Overserved_Deduc- Customer_Job_Emotional_Deduc- Customer_Type_Active_Cross_Purchaser_Deduc- Customer_Job_Product_Deduc- Customer_Type_Saver_Deduc-
- Actively_Saving_Induc- CONTEXT- Customer_Bounded_Optimize_Behav_Deduc- Custome
- Actively_Saving_Induc- Customer_Job_Product_Deduc- Customer_
- CONTEXT- Customer_Job_Social_Deduc- Customer_
- Customer_Bounded_Optimize_Behav_Deduc- Customer_Nonconsumer_Deduc- Customer_
- Customer_Job_Emotional_Deduc- Customer_Overserved_Deduc- Customer_
- Actively_Saving_Induc- CONTEXT- Customer_Bounded_Optimize_Behav_Deduc- Custome
- Actively_Saving_Induc- CONTEXT- Customer_Bounded_Optimize_Behav_Deduc- Custome
- Actively_Saving_Induc- CONTEXT- Customer_Bounded_Optimize_Behav_Deduc- Customer_Job_Emotional_Deduc- Customer_Job_Product_Deduc- Customer_Job_Social_Deduc- Customer_Nonconsumer_Deduc- Customer_Overserved_Deduc- Customer_Type_Active_Cross_Purchaser_Deduc-

The status bar at the bottom shows: P 6: Interview 5 BMN Eduardo Garcia -> @Interview 5 BMN Eduardo Garcia

Because the *Job Construct* has never been isolated before the *Multi-Method* methodology employed is inherently complex. Chapter 4 outlines the clinical methodology. The subsequent three sections introduce each *Job Construct*. The final section summarizes the research results and elaborates on the conclusions. The research results are then quantitatively tested for *Robustness* and degree of predictability in Chapter 5. This previous process was necessary because only a case study approach can provide accurate information about an inherently *Contextually* embedded *Construct*. Additionally – to ensure *Internal Validity* – efforts to collect and then *Triangulate* across multiple sources of data have been included in the research design (Yin 2003).

4.2 The Online Banking *Job Construct*

Although it has been previously mentioned *Inductively* in the literature, the empirical observation of how a *Job Construct* looks like and its anatomy has been a phenomenon previously inaccessible to scientific investigation. The reason is twofold. First, traditional *Attribute* based research methodologies can't account for the intricacies required to separate *Causal* based variables (Bennett and Elman, 2006). Second, the exploratory nature of this type of research and the amount of information that was required for this single-case study (Yin 2003).

This section and the subsequent two sections share the same structure. The *Job Construct* for each of the four types of customers (*Saver Overserved*, *Spender Overserved*, *Saver Underserved*, *Spender Underserved*) is introduced. Each of the methodological steps described above is rigorously followed and its outcomes are presented throughout the study. The end result is not only the *Job Construct* itself but the introduction of this new *Construct* in the methodology of theory building. Rendering an *Actionable* contribution (Bartunek & Egri 2012; Bartunek et al. 2006; Corley & Gioia 2011).

4.2.1 Saver Overserved for the Online Banking *Job Construct*

Framing the Circumstance:

The *Saver Overserved* banking consumer is defined as people who understand and manage several product features per product. Hence they have a quite substantial financial literacy. They know the bank's products, the other banks products as well and they usually compare them in a detailed analysis

before purchasing any of them. However they have a strong bias towards *Savings* products. The *Circumstance* where it has been framed is the following: “When this person gets home in the evening and after performing his usual chores he then goes to the computer and logs in the bank’s site.”

Allocation of Codes During the Interview Process:

Table 4.6 lists the data collected from the structured interviews. The number of *Codes* (generated using *Axial Coding*), the percentage distribution of *Codes* per interview and the cumulative percentage are introduced. Items are listed in chronological order. No additional step was started before having fully analyzed the previous one. Results were compared to the *Deductive* code list obtained from the literature review and divergences and refinements were introduced as new *Codes* that were subsequently asked were elicited. This approach coupled with the *Repertory Grid Technique* helps new theories emerge while conducting research (Haig, 2007). All the documentation requested was provided on time and therefore the interviewing sequence used to confirm and disconfirm facts and hypotheses was kept intact (Strauss and Corbin, 1990).

Table 4.6: Saver Overserved Source of Primary Research

| Primary Documents | Codes | Codes (%) | Cumulative |
|-------------------|---------------|-------------|------------|
| | | | Codes (%) |
| Interview 1 | 288 | 2% | 2% |
| Interview 2 | 107 | 1% | 2% |
| Interview 3 | 81 | 0% | 3% |
| Interview 4 | 578 | 3% | 6% |
| Interview 5 | 462 | 3% | 9% |
| Interview 6 | 293 | 2% | 11% |
| Interview 7 | 391 | 2% | 13% |
| Interview 8 | 62 | 0% | 13% |
| Interview 9 | 357 | 2% | 16% |
| Interview 10 | 295 | 2% | 17% |
| Interview 11 | 181 | 1% | 18% |
| Interview 12 | 118 | 1% | 19% |
| Interview 13 | 152 | 1% | 20% |
| Interview 14 | 208 | 1% | 21% |
| Interview 15 | 361 | 2% | 23% |
| Interview 16 | 190 | 1% | 24% |
| Interview 17 | 375 | 2% | 27% |
| Interview 18 | 299 | 2% | 28% |
| Interview 19 | 252 | 1% | 30% |
| Interview 20 | 354 | 2% | 32% |
| Interview 21 | 360 | 2% | 34% |
| Interview 22 | 237 | 1% | 36% |
| Interview 23 | 336 | 2% | 38% |
| Interview 24 | 345 | 2% | 40% |
| Interview 25 | 520 | 3% | 43% |
| Interview 26 | 539 | 3% | 46% |
| Interview 27 | 443 | 3% | 49% |
| Interview 28 | 282 | 2% | 50% |
| Interview 29 | 300 | 2% | 52% |
| Interview 30 | 539 | 3% | 55% |
| Interview 31 | 604 | 4% | 59% |
| Interview 32 | 583 | 3% | 62% |
| Interview 33 | 209 | 1% | 64% |
| Interview 34 | 369 | 2% | 66% |
| Interview 35 | 514 | 3% | 69% |
| Interview 36 | 383 | 2% | 71% |
| Interview 37 | 470 | 3% | 74% |
| Interview 38 | 363 | 2% | 76% |
| Interview 39 | 548 | 3% | 79% |
| Interview 40 | 388 | 2% | 82% |
| Interview 41 | 580 | 3% | 85% |
| Interview 42 | 418 | 2% | 87% |
| Interview 43 | 196 | 1% | 89% |
| Interview 44 | 364 | 2% | 91% |
| Interview 45 | 359 | 2% | 93% |
| Interview 46 | 401 | 2% | 95% |
| Interview 47 | 423 | 3% | 98% |
| Interview 48 | 362 | 2% | 100% |
| TOTALS | 16,839 | 100% | |

Table 4.7 lists the *Groundedness*²⁵⁸ per code, the percentage of *Groundedness* of that particular code, the *Groundedness* cumulative percentage and the quartile where each code fits in.

Table 4.7: Saver Overserved Descriptive Data per Code

| CODE | Groundedness | | Groundedness Cumulative (%) | Quartile |
|---|--------------|-----|--------------------------------|----------|
| | Groundedness | (%) | | |
| CONTEXT | 819 | 5% | 5% | 1 |
| Actively_Saving_Induc | 803 | 5% | 10% | 1 |
| Customer_WTP_Online_High_Deduc | 796 | 5% | 14% | 1 |
| Customer_Job_Product_Deduc | 740 | 4% | 19% | 1 |
| Customer_Overserved_Deduc | 706 | 4% | 23% | 1 |
| Customer_Job_Social_Deduc | 699 | 4% | 27% | 2 |
| Search_Information_Costs_Deduc | 687 | 4% | 31% | 2 |
| Firm_Sales_CRM_Successful_Deduc | 652 | 4% | 35% | 2 |
| Customer_Exhaustiveness_High_Induc | 584 | 3% | 39% | 2 |
| Customer_Variability_Low_Induc | 575 | 3% | 42% | 2 |
| Customer_Upsurge_Demand_Deduc | 513 | 3% | 45% | 2 |
| Group_Data_Induc | 470 | 3% | 48% | 2 |
| Ludic_Induc | 464 | 3% | 51% | 3 |
| Customer_Job_Emoional_Deduc | 453 | 3% | 53% | 3 |
| Customer_Type_Active_Cross_Purchaser_Deduc | 435 | 3% | 56% | 3 |
| ATTRIBUTE | 409 | 2% | 58% | 3 |
| Customer_New_Attributes_Convenience_Deduc | 375 | 2% | 60% | 3 |
| Customer_Type_Saver_Deduc | 369 | 2% | 63% | 3 |
| Customer_WTP_Branch_High_Deduc | 361 | 2% | 65% | 3 |
| Granular_Information_Induc | 351 | 2% | 67% | 3 |
| Firm_Type_Sale_Transactional_Online_Deduc | 305 | 2% | 69% | 3 |
| Customer_Bounded_Maximize_Behav_Deduc | 296 | 2% | 70% | 3 |
| Customer_New_Attributes_Speed_Deduc | 296 | 2% | 72% | 3 |
| No_effort_to_remember_Induc | 286 | 2% | 74% | 3 |
| Customer_New_Attributes_Price_Deduc | 280 | 2% | 76% | 4 |
| Rate_Cust_Tech_Improvement_Deduc | 276 | 2% | 77% | 4 |
| External_Impetus_Deduc | 273 | 2% | 79% | 4 |
| Firm_Sales_CRM_Unsuccessful_Deduc | 273 | 2% | 80% | 4 |
| Customer_Bounded_Optimize_Behav_Deduc | 247 | 1% | 82% | 4 |
| Cross_Fertilization_Ecosystem_Induc | 207 | 1% | 83% | 4 |
| Prod_Categoriz_Context_Use_Deduc | 192 | 1% | 84% | 4 |
| Customer_WTP_Online_Low_Deduc | 191 | 1% | 85% | 4 |
| Firm_Cust_Marginal_Benefit_Low_Deduc | 167 | 1% | 86% | 4 |
| Customer_Variability_High_Induc | 161 | 1% | 87% | 4 |
| Prod_MKtg_Mix_Product_Deduc | 160 | 1% | 88% | 4 |
| Customer_Psych_Effort_Newness_Deduc | 152 | 1% | 89% | 4 |
| Customer_Psych_Effort_Relatedness_Deduc | 136 | 1% | 90% | 4 |
| Firm_Process_Diminishing>Returns_Deduc | 126 | 1% | 91% | 4 |
| Customer_WTP_Branch_Low_Deduc | 125 | 1% | 92% | 4 |
| Firm_Cross_Selling_Deduc | 112 | 1% | 92% | 4 |
| Firm_Process_Selling_Servicing_Deduc | 112 | 1% | 93% | 4 |
| Customer_Bounded_Maladap_Excess_Information_Induc | 107 | 1% | 93% | 4 |
| Prod_MKtg_Mix_Promotion_Deduc | 107 | 1% | 94% | 4 |
| Prod_Categoriz_Feature_Benefit_Deduc | 93 | 1% | 95% | 4 |
| Prod_Categoriz_Feature_Solution_Deduc | 88 | 1% | 95% | 4 |
| Customer_Hygienic_Factor_Deduc | 65 | 0% | 96% | 4 |
| Firm_Cust_Marginal_Benefit_High_Deduc | 57 | 0% | 96% | 4 |
| Firm_Type_Sale_Relational_Deduc | 57 | 0% | 96% | 4 |
| Prod_Categoriz_Context_Situation_Deduc | 57 | 0% | 97% | 4 |
| Customer_Bounded_Maladap_Behav_Deduc | 56 | 0% | 97% | 4 |
| Customer_Psych_Effort_Radicalness_Deduc | 53 | 0% | 97% | 4 |
| Firm_Process_Selling_Comparison_Web_Deduc | 50 | 0% | 98% | 4 |
| Firm_Type_Sale_Transactional_Branch_Deduc | 49 | 0% | 98% | 4 |
| Prod_MKtg_Mix_Price_Deduc | 45 | 0% | 98% | 4 |
| Firm_Bundle_Selling_Deduc | 43 | 0% | 98% | 4 |
| Customer_Exhaustiveness_Low_Induc | 38 | 0% | 99% | 4 |
| Firm_Process_Bancarization_Deduc | 38 | 0% | 99% | 4 |
| Customer_Psych_Effort_Innovativeness_Deduc | 37 | 0% | 99% | 4 |
| Firm_Process_Multichannel_Deduc | 32 | 0% | 99% | 4 |
| Prod_Categoriz_Context_Occasion_Deduc | 26 | 0% | 99% | 4 |
| Customer_Type_Passive_Cross_Seller_Deduc | 20 | 0% | 99% | 4 |
| Customer_Underserved_Deduc | 18 | 0% | 100% | 4 |
| Firm_Process_Selling_Pre-Approvals_Deduc | 18 | 0% | 100% | 4 |
| Firm_Process_Legal_Stops_Deduc | 12 | 0% | 100% | 4 |
| Customer_Nonconsumer_Deduc | 7 | 0% | 100% | 4 |
| Firm_Type_Sale_Consultative_Deduc | 6 | 0% | 100% | 4 |
| Customer_Number_Bank_Accounts>2_Deduc | 5 | 0% | 100% | 4 |
| Firm_Interdependent_Deduc | 5 | 0% | 100% | 4 |
| Firm_Modular_Deduc | 4 | 0% | 100% | 4 |
| Firm_Tied_Selling_Deduc | 4 | 0% | 100% | 4 |
| Prod_MKtg_Mix_Place_Deduc | 4 | 0% | 100% | 4 |
| Customer_Type_Borrower_Deduc | 3 | 0% | 100% | 4 |
| Prod_Categoriz_Feature_Specification_Deduc | 1 | 0% | 100% | 4 |
| Customer_Discontinuity_Demand_Deduc | 0 | 0% | 100% | 4 |
| Customer_Number_Bank_Accounts=2_Deduc | 0 | 0% | 100% | 4 |
| ZONE_ECONOMIC_STATUS | 0 | 0% | 100% | 4 |

²⁵⁸ The number of times that particular code is linked to a quotation that matches the *Circumstance* previously defined.

The first conclusion from Table 4.7 is that this is not a normal distribution²⁵⁹. This can also be observed by looking at the quartile distribution. The second conclusion is that there are a new variety of codes that have *Inductively* emerged from the interviewing process and that are related to both the quotations and to the other codes.

Obtaining Quantitatively the Concepts, Sub-Constructs and Attributes:

Consistent with the *Multi-Method* approach used in this research both the *Concepts* and the *Constructs* have been obtained quantitatively. This approach not only increases the *Internal Validity* of the research but also eliminates the bias introduced by the researcher's *Theoretical Sensitivity* (Glaser, 1978). Table 4.8 provides the pairwise correlations for the codes²⁶⁰²⁶¹. The rationale to create the *Concepts* is built on the Grounded Theory's *labeled-phenomenon* approach (Strauss and Corbin, 1990) but using a quantitative label. Pairwise codes that have a significant correlation transcend their own meaning expanding it to the other code. Hence the creation of the *Concept*, they have more explanatory power. Due to the vast amount of information of this research there are a large number of concepts in Table 4.8. Almost all of them have been identified in the previous extant literature. *Concepts* are the building blocks of constructs but only constructs that meet two conditions are useful for this research. The first is that they are significant and the second is that they have a relationship with the two *Control* codes introduced throughout the research. These are *Attribute* and *Context*. The importance of these control codes is very significant. To control for *Causality*, and using the historians approach described previously, all the instances related to either the *Product* or the *Customer* have to be labeled as an *Attribute*²⁶². Tables 5.4 and 5.5 are the end result of this process. *Concepts* that meet the criteria explain more about the *Construct*, these are the *Sub-Constructs*.

²⁵⁹ Kolmogorov-Smirnov $Z= 1.52$ (0.20)

²⁶⁰ To increase the *Robustness* of the research only pairwise correlations that were statistically significant at 99% ($p<0.01$) were considered.

²⁶¹ Pairwise correlations have been computed with a 2-tailed distribution because each of the *Codes* have unknown distributions.

²⁶² Ideally the opposite would be the best approach, that all the instances that refer to *Causality* are labeled as *Context*. However the researcher is not aware of any previous work that provides a reliable approach to perform this critical part of the research process. The approach used is therefore the following. Since we know that products and consumer characteristics have been described in the previous extant literature as *Descriptive (Attribute based)* factors the researcher is using the mathematical complementary to that fact as the *Context specific concepts*. The researcher is aware this introduces "noise in the signal" but at the same time the influence of the *Context* on the *Concepts* is still much higher when these *Attribute based* instances are removed.

There are two considerations relevant to control for the validity of this research. The first is that there is no relationship between the *Control* codes, which ensures the consistency of the *Axial* codification. The second is that other control codes, such as the *Zone Economic Status* didn't promote to *Concepts*. This is consistent with both the previous research literature and the criteria used here.

Table 4.9: Saver Overserved Sub-Construct Formation for the Attribute Control Variable

| Concepts | | |
|----------|--|--------|
| 2 | ATTRIBUTE | 1 |
| 6 | Customer_Bounded_Maladapt_Excess_Information_Induc | ,513** |
| 15 | Customer_New_Attributes_Convenience_Deduc | ,676** |
| 16 | Customer_New_Attributes_Price_Deduc | ,673** |
| 17 | Customer_New_Attributes_Speed_Deduc | ,629** |
| 22 | Customer_Psych_Effort_Newness_Deduc | ,483** |
| 24 | Customer_Psych_Effort_Relatedness_Deduc | ,465** |
| 29 | Customer_Underserved_Deduc | ,435** |
| 31 | Customer_Variability_High_Induc | ,701** |
| 36 | Customer_WTP_Online_Low_Deduc | ,715** |
| 41 | Firm_Cust_Marginal_Benefit_Low_Deduc | ,593** |
| 45 | Firm_Process_Diminishing_Returns_Deduc | ,524** |
| 50 | Firm_Process_Selling_Servicing_Deduc | ,379** |
| 52 | Firm_Sales_CRM_Unsuccessful_Deduc | ,764** |
| 64 | Prod_Categoriz_Context_Use_Deduc | ,769** |
| 65 | Prod_Categoriz_Feature_Benefit_Deduc | ,474** |
| 66 | Prod_Categoriz_Feature_Solution_Deduc | ,577** |
| 68 | Prod_MKtg_Mix_Place_Deduc | ,423** |
| 70 | Prod_MKtg_Mix_Product_Deduc | ,590** |
| 71 | Prod_MKtg_Mix_Promotion_Deduc | ,379** |
| 72 | Rate_Cust_Tech_Improvement_Deduc | ,662** |

Table 4.10: Saver Overserved Sub-Construct Formation for the Context Control Variable

| Concepts | | 3 |
|----------|--|--------|
| 3 | CONTEXT | 1 |
| 4 | Cross_Fertilization_Ecosystem_Induc | ,476** |
| 8 | Customer_Bounded_Optimize_Behav_Deduc | ,455** |
| 9 | Customer_Exhaustiveness_High_Induc | ,798** |
| 12 | Customer_Job_Emotional_Deduc | ,770** |
| 13 | Customer_Job_Product_Deduc | ,962** |
| 14 | Customer_Job_Social_Deduc | ,899** |
| 20 | Customer_Overserved_Deduc | ,873** |
| 25 | Customer_Type_Active_Cross_Purchaser_Deduc | ,577** |
| 30 | Customer_Upsurge_Demand_Deduc | ,751** |
| 32 | Customer_Variability_Low_Induc | ,769** |
| 33 | Customer_WTP_Branch_High_Deduc | ,511** |
| 35 | Customer_WTP_Online_High_Deduc | ,903** |
| 39 | Firm_Cross_Selling_Deduc | ,494** |
| 51 | Firm_Sales_CRM_Successful_Deduc | ,833** |
| 58 | Granular_Information_Induc | ,470** |
| 59 | Group_Data_Induc | ,603** |
| 60 | Ludic_Induc | ,472** |
| 61 | No_effort_to_remember_Induc | ,559** |
| 73 | Search_&Information_Costs_Deduc | ,657** |

Table 4.11: Saver Overserved Self-Contained Attributes

| CODES, CONCEPTS AND SUB-CONSTRUCTS | Codes and | Attribute | Context | Codes and | % Descriptive | % Context |
|---|--------------|----------------|----------------|------------|----------------|----------------|
| | Concepts | Sub-Constructs | Sub-Constructs | % Concepts | Sub-Constructs | Sub-Constructs |
| Actively_Saving_Induc | 803 | | | 2% | | |
| Cross_Fertilization_Ecosystem_Induc | | | 1,026 | | | 3% |
| Customer_Bounded_Maladap_Behav_Deduc | 56 | | | 0% | | |
| Customer_Bounded_Maladap_Excess_Information_Induc | | 516 | | | 1% | |
| Customer_Bounded_Maximize_Behav_Deduc | 296 | | | 1% | | |
| Customer_Bounded_Optimize_Behav_Deduc | | | 1,066 | | | 3% |
| Customer_Discontinuity_Demand_Deduc | 0 | | | 0% | | |
| Customer_Exhaustiveness_High_Induc | | | 1,403 | | | 4% |
| Customer_Exhaustiveness_Low_Induc | 38 | | | 0% | | |
| Customer_Hygienic_Factor_Deduc | 65 | | | 0% | | |
| Customer_Job_Emotional_Deduc | | | 1,272 | | | 3% |
| Customer_Job_Product_Deduc | | | 1,559 | | | 4% |
| Customer_Job_Social_Deduc | | | 1,518 | | | 4% |
| Customer_New_Attributes_Convenience_Deduc | | 784 | | | 2% | |
| Customer_New_Attributes_Price_Deduc | | 689 | | | 2% | |
| Customer_New_Attributes_Speed_Deduc | | 705 | | | 2% | |
| Customer_Nonconsumer_Deduc | 7 | | | 0% | | |
| Customer_Number_Bank_Accounts=2_Deduc | 0 | | | 0% | | |
| Customer_Number_Bank_Accounts>2_Deduc | 5 | | | 0% | | |
| Customer_Overserved_Deduc | | | 1,525 | | | 4% |
| Customer_Psych_Effort_Innovativeness_Deduc | 37 | | | 0% | | |
| Customer_Psych_Effort_Newness_Deduc | | 561 | | | 1% | |
| Customer_Psych_Effort_Radicalness_Deduc | 53 | | | 0% | | |
| Customer_Psych_Effort_Relatedness_Deduc | | 545 | | | 1% | |
| Customer_Type_Active_Cross_Purchaser_Deduc | | | 1,254 | | | 3% |
| Customer_Type_Borrower_Deduc | 3 | | | 0% | | |
| Customer_Type_Passive_Cross_Seller_Deduc | 20 | | | 0% | | |
| Customer_Type_Saver_Deduc | 369 | | | 1% | | |
| Customer_Underserved_Deduc | | 427 | | | 1% | |
| Customer_Upsurge_Demand_Deduc | | | 1,332 | | | 3% |
| Customer_Variability_High_Induc | | 570 | | | 1% | |
| Customer_Variability_Low_Induc | | | 1,394 | | | 4% |
| Customer_WTP_Branch_High_Deduc | | | 1,180 | | | 3% |
| Customer_WTP_Branch_Low_Deduc | 125 | | | 0% | | |
| Customer_WTP_Online_High_Deduc | | | 1,615 | | | 4% |
| Customer_WTP_Online_Low_Deduc | | 600 | | | 2% | |
| External_Impetus_Deduc | 273 | | | 1% | | |
| Firm_Bundle_Selling_Deduc | 43 | | | 0% | | |
| Firm_Cross_Selling_Deduc | | | 931 | | | 2% |
| Firm_Cust_Marginal_Benefit_High_Deduc | 57 | | | 0% | | |
| Firm_Cust_Marginal_Benefit_Low_Deduc | | 576 | | | 1% | |
| Firm_Interdependent_Deduc | 5 | | | 0% | | |
| Firm_Modular_Deduc | 4 | | | 0% | | |
| Firm_Process_Bancarization_Deduc | 38 | | | 0% | | |
| Firm_Process_Diminishing_Returns_Deduc | | 535 | | | 1% | |
| Firm_Process_Legal_Stops_Deduc | 12 | | | 0% | | |
| Firm_Process_Multichannel_Deduc | 32 | | | 0% | | |
| Firm_Process_Selling_Comparison_Web_Deduc | 50 | | | 0% | | |
| Firm_Process_Selling_Pre-Approvals_Deduc | 18 | | | 0% | | |
| Firm_Process_Selling_Servicing_Deduc | | 521 | | | 1% | |
| Firm_Sales_CRM_Successful_Deduc | | | 1,471 | | | 4% |
| Firm_Sales_CRM_Unsuccessful_Deduc | | 521 | | | 1% | |
| Firm_Tied_Selling_Deduc | 4 | | | 0% | | |
| Firm_Type_Sale_Consultative_Deduc | 6 | | | 0% | | |
| Firm_Type_Sale_Relational_Deduc | 57 | | | 0% | | |
| Firm_Type_Sale_Transactional_Branch_Deduc | 49 | | | 0% | | |
| Firm_Type_Sale_Transactional_Online_Deduc | 305 | | | 1% | | |
| Granular_Information_Induc | | | 1,170 | | | 3% |
| Group_Data_Induc | | | 1,289 | | | 3% |
| Ludic_Induc | | | 1,283 | | | 3% |
| No_effort_to_remember_Induc | | | 1,105 | | | 3% |
| Prod_Categoriz_Context_Occasion_Deduc | 26 | | | 0% | | |
| Prod_Categoriz_Context_Situation_Deduc | 57 | | | 0% | | |
| Prod_Categoriz_Context_Use_Deduc | | 601 | | | 2% | |
| Prod_Categoriz_Feature_Benefit_Deduc | | 502 | | | 1% | |
| Prod_Categoriz_Feature_Solution_Deduc | | 497 | | | 1% | |
| Prod_Categoriz_Feature_Specification_Deduc | 1 | | | 0% | | |
| Prod_Mktg_Mix_Place_Deduc | | 413 | | | 1% | |
| Prod_Mktg_Mix_Price_Deduc | 45 | | | 0% | | |
| Prod_Mktg_Mix_Product_Deduc | | 569 | | | 1% | |
| Prod_Mktg_Mix_Promotion_Deduc | | 516 | | | 1% | |
| Rate_Cust_Tech_Improvement_Deduc | | 685 | | | 2% | |
| Search_&_Information_Costs_Deduc | | | 1,506 | | | 4% |
| ZONE_ECONOMIC_STATUS | 0 | | | 0% | | |
| TOTAL | 2,959 | 11,333 | 24,899 | 8% | 29% | 64% |

At this point the *Codes* that have direct implications for this research have been separated from the rest of the *Codes*²⁶³. Additionally *Concepts* and *Sub-Constructs* have also been separated and differentiated. The Self-Contained attributes are calculated at this point by having the *Sub-Constructs* control for the *Circumstance*. Table 4.11 lists the *Codes* and *Concepts* that didn't qualify and introduces the self-contained attributes for both the *Attribute* and *Context* control variables. These numbers are both in absolute value and in percentages. From these results it's observable that 64% of the *Attributes* are *Context* related while 29% are *Attribute* based and 8% didn't qualify.

Controlling for Causality: Separating Between Descriptive and Normative:

To separate the *Causal* mechanism the *Hierarchical Cluster* technique was used (Anderberg, 1973). *Hierarchical Clustering* is a procedure used to identify relatively homogenous groups of variables²⁶⁴ based on their proximity²⁶⁵. Due to the nature of this exploratory research *Hierarchical Clustering* is a very useful technique in the sense that it can reveal natural groupings of variables within a three dimensional data set that wouldn't be apparent otherwise. The cluster method used is the centroid-based clustering. The reason is that with this method clusters are represented by a central vector within the three dimensional data that may not necessarily be contained in the data set²⁶⁶. To make sure that all possible combination of vectors are considered while at the same time being able to observe how each cluster is formed within the space a total number of solutions of 10 clusters is introduced. While the centroid cluster method defines the rules for cluster formation the cluster centers and the distances between variables is measured using the *Squared Euclidean Distance*²⁶⁷ (Kuckartz & Kuckartz 2006). This calculates the distance as a straight line between two variables. The reason that *Euclidean* distance was used in the first place has been introduced above and it refers to the continuous nature of the variables (aka *Codes*) that are non-unequivocal.

At heart what *Cluster Analysis* does at this point is replacing with a quantitative method what Glaser & Strauss (1967) labeled *Substantive Theory*. Only by developing a *Context* based categorization scheme

²⁶³ Although the *Codes* that don't have direct implications also show a large variety of very interesting relationships between them that remain unexplored in the literature.

²⁶⁴ Or cases.

²⁶⁵ In this research the codes are quantitative data and *Hierarchical Clustering* can be used with quantitative data. Also, there is no variable standardization of coding data because there are no differences in scaling as all codes are measured in units (Aldenderfer and Blashfield, 1984).

²⁶⁶ A useful way to visualize this is considering that in centroid clustering the similarity of two clusters is defined as the similarity of their centroids.

²⁶⁷ Since it's a standard practice *Squared Euclidean Distance* was used in this research although there are no negative numbers therefore the same outcome could be reached with *Euclidean Distance*.

the *Construct* will gain predictive power. In *Grounded Theory* this process is tacitly achieved with *Selective Coding*. According to Glaser (1998) the *Central Category* has the highest variance, which makes the research valid but the concepts it generates imprecise, an inconvenience that can be controlled for in *Cluster Analysis* when replacing *Central Category Determination* with centroid-based clustering. This is the reason that *Hierarchical Clustering* is used instead of a *Cluster* methodology that renders the optimal number of clusters. The objective of this phase is not to determine the optimal number of clusters but to increase the *Internal Validity* of the research by understanding the contingent behavior of each attribute when the number of clusters varies. Table 4.12 depicts the cluster membership while Figure 4.7 integrates the *Construct*. Table 4.12 shows that the *Central Category* is the *Sub-Construct Ludic_Induc_Context*, which is a *Causal* based construct.

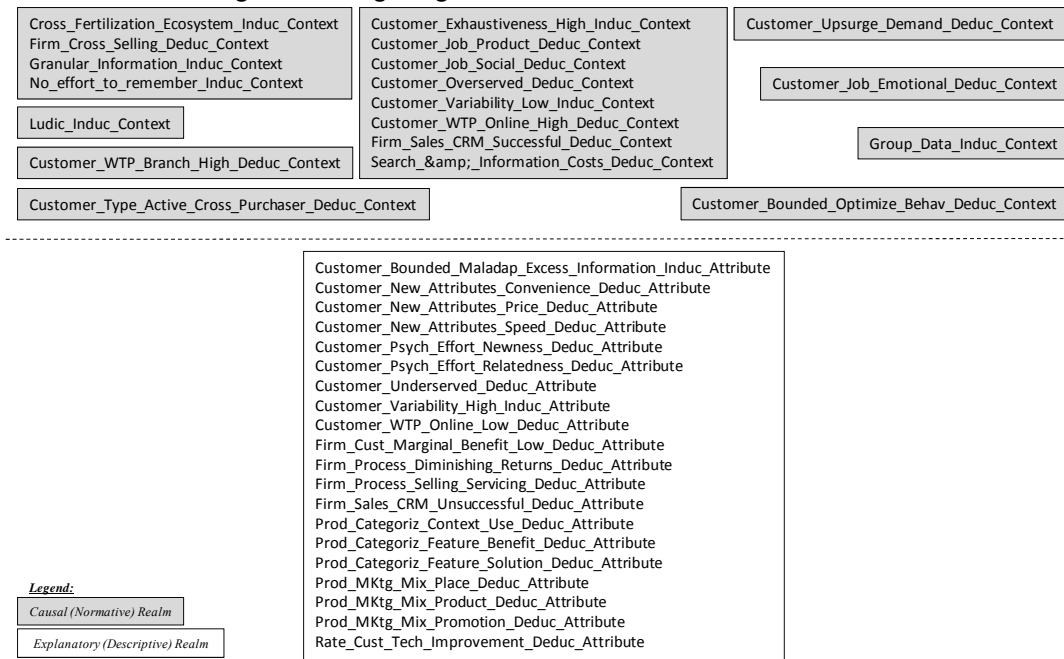
Table 4.12: Cluster Membership for the Saver Overserved

| Case | Cluster Membership | | | | | | | | | |
|--|--------------------|------------|------------|------------|------------|------------|------------|------------|------------|--|
| | 10 Clusters | 9 Clusters | 8 Clusters | 7 Clusters | 6 Clusters | 5 Clusters | 4 Clusters | 3 Clusters | 2 Clusters | |
| Cross Fertilization Ecosystem Induc Context | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | |
| Customer Bounded Maladap Excess Information Induc Attribut | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | |
| Customer Bounded Optimize Behav Deduc Context | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 1 | 1 | |
| Customer Exhaustiveness High Induc Context | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 3 | 1 | |
| Customer Job Emotional Deduc Context | 5 | 5 | 5 | 5 | 5 | 5 | 3 | 1 | 1 | |
| Customer Job Product Deduc Context | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 3 | 1 | |
| Customer Job Social Deduc Context | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 3 | 1 | |
| Customer New Attributes Convenience Deduc Attribute | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | |
| Customer New Attributes Price Deduc Attribute | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | |
| Customer New Attributes Speed Deduc Attribute | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | |
| Customer Overserved Deduc Context | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 3 | 1 | |
| Customer Psych Effort Newness Deduc Attribute | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | |
| Customer Psych Effort Relatedness Deduc Attribute | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | |
| Customer Type Active Cross Purchaser Deduc Context | 6 | 6 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | |
| Customer Underserved Deduc Attribute | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | |
| Customer Upsurge Demand Deduc Context | 7 | 4 | 4 | 4 | 4 | 4 | 4 | 3 | 1 | |
| Customer Variability High Induc Attribute | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | |
| Customer Variability Low Induc Context | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 3 | 1 | |
| Customer WTP Branch High Deduc Context | 8 | 7 | 6 | 6 | 6 | 3 | 3 | 1 | 1 | |
| Customer WTP Online High Deduc Context | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 3 | 1 | |
| Customer WTP Online Low Deduc Attribute | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | |
| Firm Cross Selling Deduc Context | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | |
| Firm Cust Marginal Benefit Low Deduc Attribute | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | |
| Firm Process Diminishing Returns Deduc Attribute | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | |
| Firm Process Selling Servicing Deduc Attribute | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | |
| Firm Sales CRM Successful Deduc Context | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 3 | 1 | |
| Firm Sales CRM Unsuccessful Deduc Attribute | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | |
| Granular Information Induc Context | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | |
| Group Data Induc Context | 9 | 8 | 7 | 7 | 1 | 1 | 1 | 1 | 1 | |
| Ludic Induc Context | 10 | 9 | 8 | 1 | 1 | 1 | 1 | 1 | 1 | |
| No effort to remember Induc Context | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | |
| Prod Categoriz Context Use Deduc Attribute | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | |
| Prod Categoriz Feature Benefit Deduc Attribute | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | |
| Prod Categoriz Feature Solution Deduc Attribute | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | |
| Prod MKtg Mix Place Deduc Attribute | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | |
| Prod MKtg Mix Product Deduc Attribute | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | |
| Prod MKtg Mix Promotion Deduc Attribute | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | |
| Rate Cust Tech Improvement Deduc Attribute | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | |
| Search & Information Costs Deduc Context | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 3 | 1 | |

Saver Overserved Conclusions:

Figure 4.7 depicts the first picture of the *Job Construct* for the *Saver Overserved* consumer that does online banking in the evening. This *Job Construct* is showing an exhaustively defined structure where all the variables are grouped into their control category with no exception. Nine clusters are *Causal* based while one is *Descriptive*. One of the key findings from this *Job Construct* is the way *Causal* based variables (the context variables) are grouped in clusters. They describe some of the *Job Construct* based attributes that have been *Inductively* hypothesized, such as the union between the main functionality of the product and the social dimension of the *Job Construct* (Christensen 2010; Anthony 2009), confirming this hypothesis but they also introduce evaluative (or choice-based) dimensions to the *Job Construct* that have never been documented before. The *Emotional* dimension, that was also hypothesized in the literature is also failed to disconfirm in this picture but it belongs to an independent cluster. Not sharing the *Context* related characteristics of the main *Functional* and *Social* dimensions. We hypothesize that the reason is that the customer is *Overserved* has a deep impact on the *Job Construct* architecture.

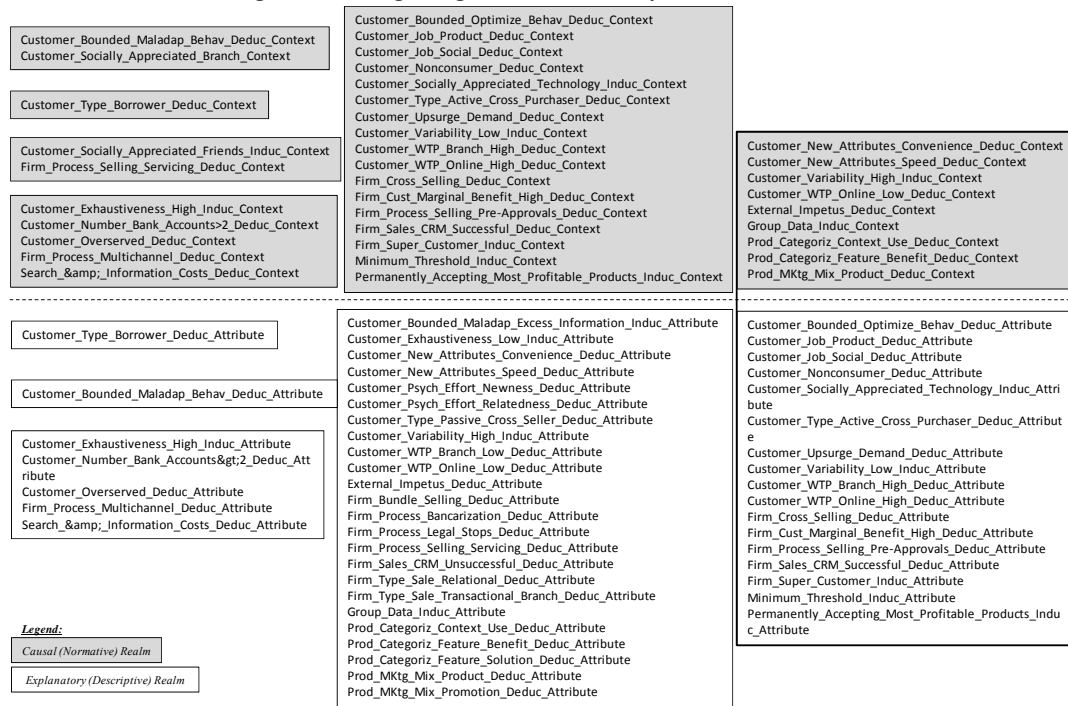
Figure 4.7: Integrating the Construct for the Saver Overserved



4.2.2 Spender Overserved for the Online Banking Job Construct

As expected the picture of the *Job Construct* for the *Spender Overserved* is much more unstructured than the one observed previously. The reason is that this customer is looking for a financial structure that uses all the banking products related to credit for his advantage and to support his way of living. This *Job Construct* contains five *Context* related clusters, three *Descriptive* clusters and one *Cluster* that is multidimensional. There are two remarkable conclusions for this *Job Construct*. First the *Emotional* code didn't qualify. This challenges the extant literature in the sense that for the first time it is suggested that a *Job Construct* might not have this dimension. Second the multidimensionality of the *Social* role²⁶⁸. This *Job Construct* suggests that this customer's social appreciation has to come from the branch personnel, from his friends and from the technological devices used. And each of these three dimensions can't appear at the same time and are related to different types of services the customer is engaging in.

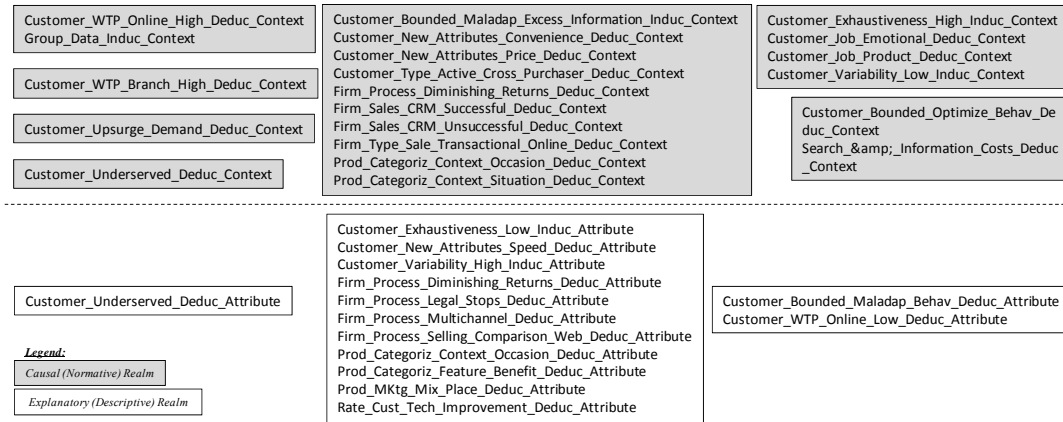
Figure 4.8: Integrating the Construct – Spender Overserved



²⁶⁸ Several more cluster combinations were computed. All rendering the same multidimensional result.

4.2.3 Saver Underserved for the Online Banking *Job Construct*

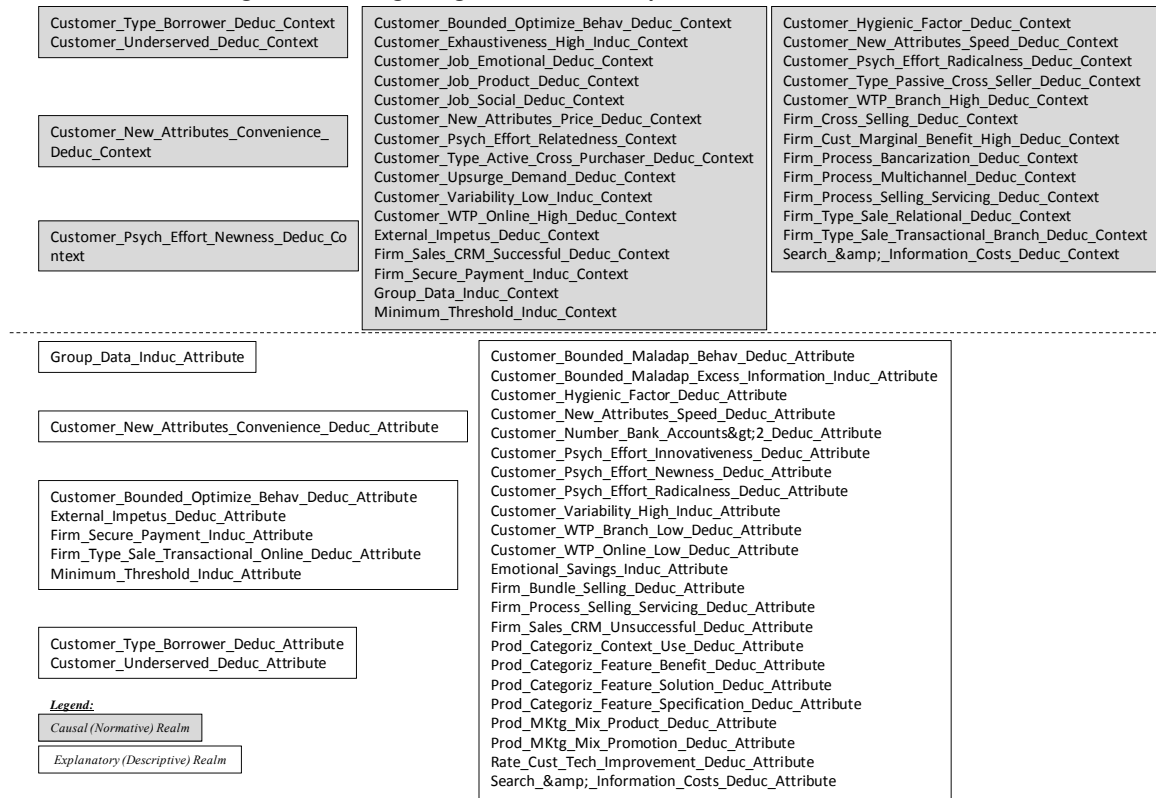
Figure 4.9: Integrating the Construct – Saver Underserved



The *Saver Underserved* customer *Job Construct* has a well-defined anatomy. This *Job Construct* is formed by seven *Context* related clusters and three *Descriptive* ones. It clusters high *Willingness-to-Pay* with a particular aggrupation of data based on the one variable the customer can understand. This is remarkably consistent with the kind of deposits that are usually sold online. This *Job Construct* also challenges the existing literature in the sense that it lacks the *Social* dimension. Same as what we have seen before it seems that the *Inductive* conclusions that all *Job Constructs* have three dimensions is not accurate but instead is contingent on the *Circumstances*. The *Emotional* dimension is clustered around the *Exhaustiveness* and *Variability* concepts, together with the single-functionality cluster this predicts very accurately what this customer's *Impetus* will be reacting to.

4.2.4 Spender Underserved for the Online Banking Job Construct

Figure 4.10: Integrating the Construct – Spender Underserved

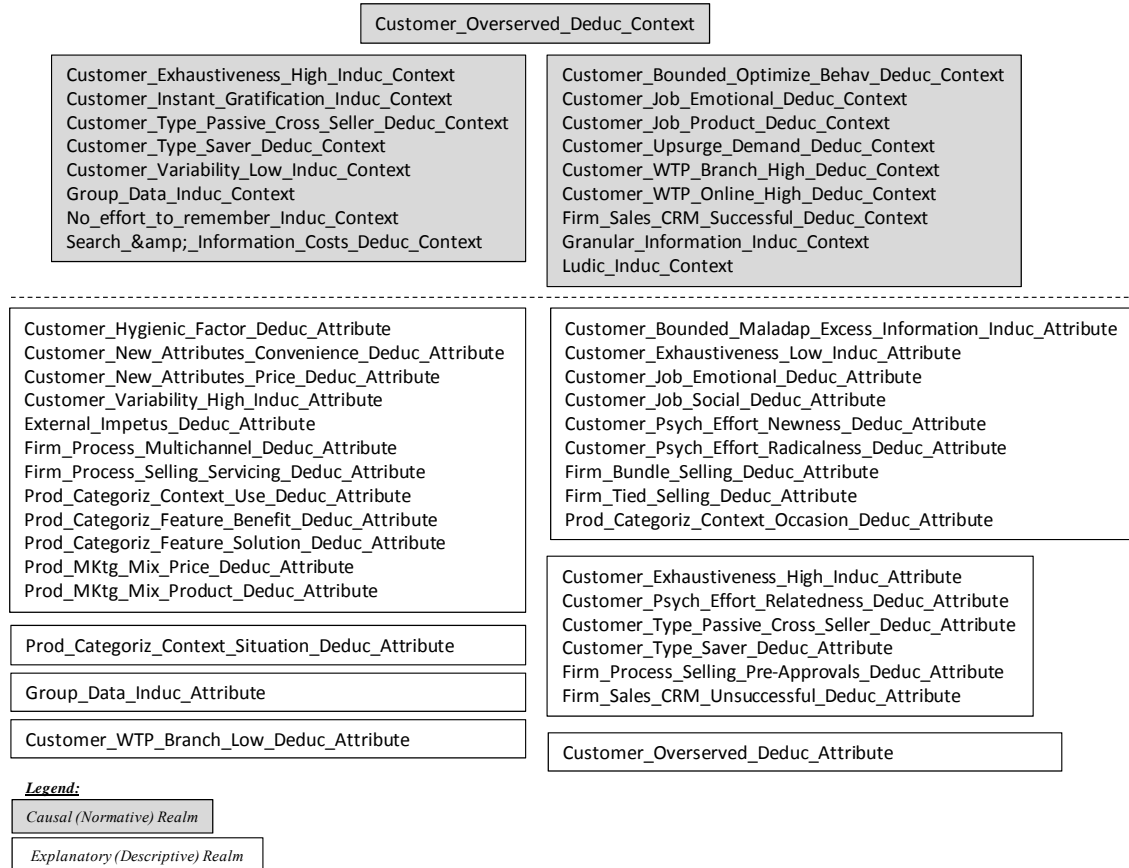


As expected, the *Spender Underserved* customer *Job Construct* has a more complex structure than the previous one. This *Job Construct* has five *Context* related clusters and five *Descriptive* ones. However, it has a very clear anatomy that predicts what kind of initiatives will gain *Impetus* for this kind of customer. First, this *Job Construct* is consistent with the extant literature in the sense that it has the three characteristics that had been *Inductively* described (*Functional*, *Emotional* and *Social*). However, these characteristics don't come alone but closely knitted with a complex architecture in which the *Minimum Threshold* is key. Other characteristics are related to how the channel doesn't share any cluster with either the *Functional*, *Emotional* and *Social* dimensions. Also, same as in the previous case this *Job Construct* clusters show a high *Willingness-to-Pay* for a particular aggrupation of data based on the one variable the customer can understand. The *Type Borrower Customer* clustered with the *Underserved Consumer* confirms the *Upsurge in Demand* while the *Psychological Effort for New Offerings* that increase the *Minimum Threshold* predicts which new products this customer will automatically buy.

4.3 The Credit Card at the Branch and Online *Job Constructs*

4.3.1 Saver Overserved for the Credit Card at the Branch *Job Construct*

Figure 4.11: Integrating the Construct – Saver Overserved

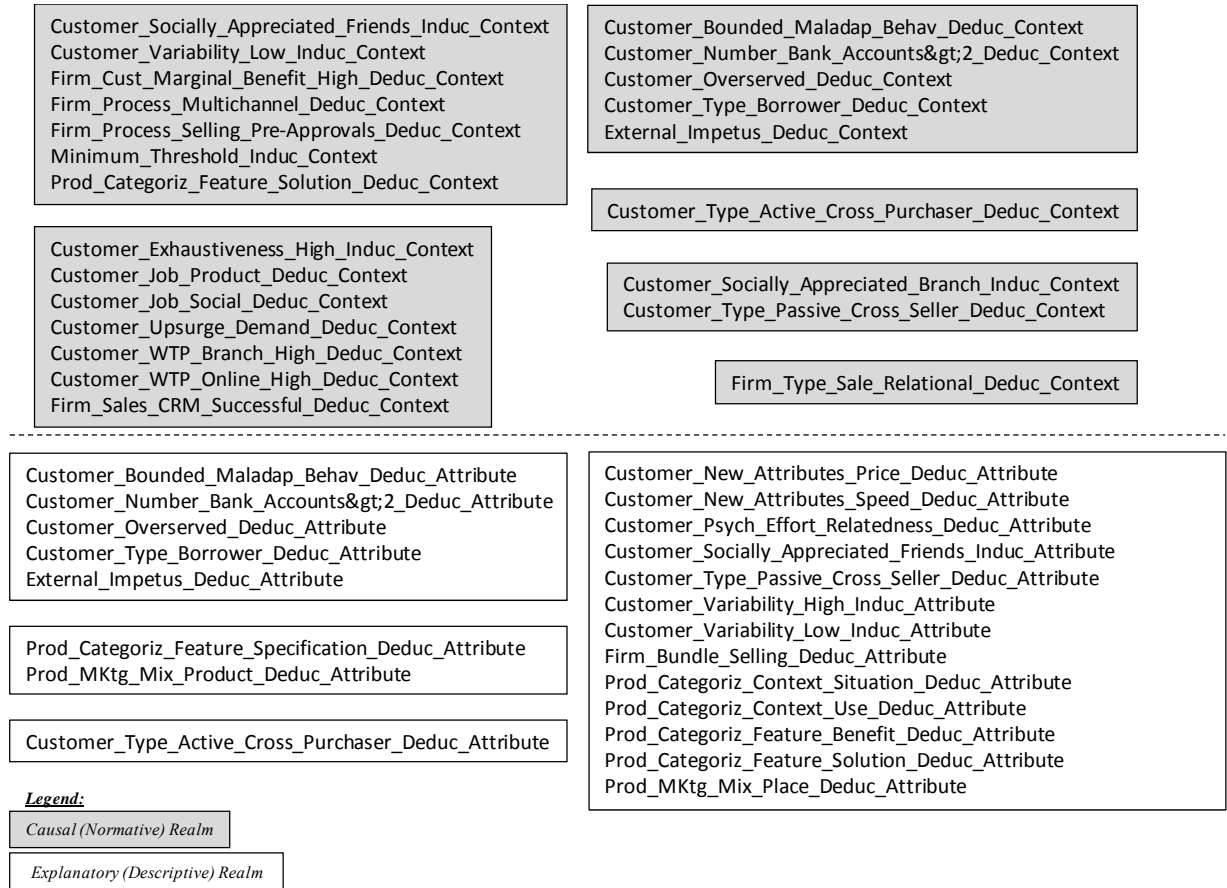


The *Saver Overserved Job Construct* shows that there are two decision criteria that would prompt action while increasing the *Willingness To Pay*. The first one is based on knowing that all the options for a particular product have been evaluated. That will make this customer react while knowing that the *Variability* will be low and that the effort to search and remember a particular characteristic of this product is low. In a way this response is signaling that the product the customer is using is the best combination of *Attributes* he could find but that the customer would still prefer another combination that is today unavailable in the market. The other decision- making criteria is related to the granularity of a product’s information and the ability of the customer to enjoy processing this information in order to find the combination that suits him best. Notice that this anxiety has emotional grounds on the customer that are intertwined with the main functionalities of the product.

Again in this case the *Inductively* described *Social* aspect of the *Job Construct* is absent at the *Causal* level.

4.3.2 Spender Overserved for the Credit Card at the Branch *Job Construct*

Figure 4.12: Integrating the Construct – Spender Overserved

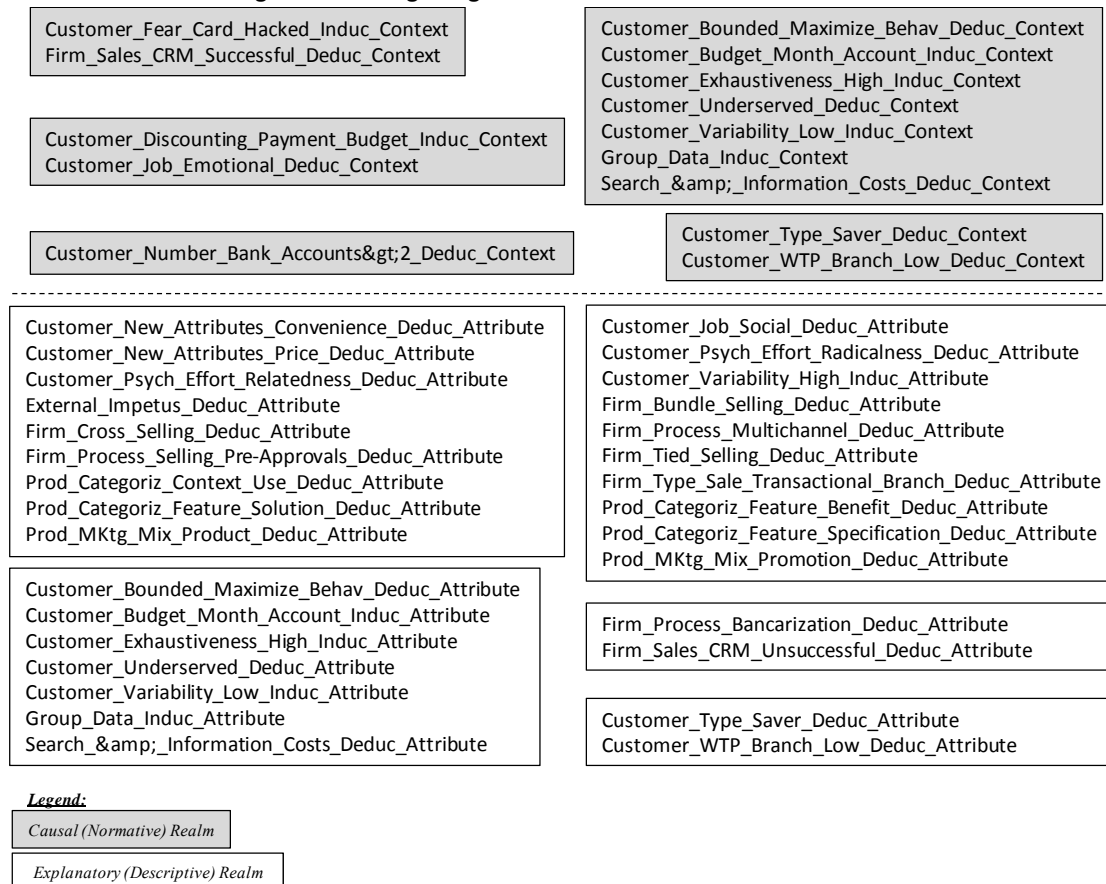


The *Spender Overserved Job Construct* has six clusters for *Context* related *Attributes* and four for *Attribute* based *Attributes*. This again reinforces the idea that this customer is very sensitive to environmental factors. This customer has three *Context* related components that predominate in each decision. First the constant lookout for new products he might add to his portfolio. Second the intense relationship he plans to maintain with the branch personnel and third the willingness to accept products as long as the branch show his appreciation to him. This last one is even stronger when is the branch personnel that call him up to ask him to buy a particular product. The other two clusters are associated with having the branch personnel assure him that this is the best product he can have, and that he has confirmed that from other sources. The second one is related to introducing particular functionalities

that make him feel like a valuable customer. Finally, the *Emotional* component of the *Job Construct* didn't qualify. Challenging again what has been *Inductively* described about the anatomy of the *Job Construct*.

4.3.3 Saver Underserved for the Credit Card at the Branch *Job Construct*

Figure 4.13: Integrating the Construct – Saver Underserved

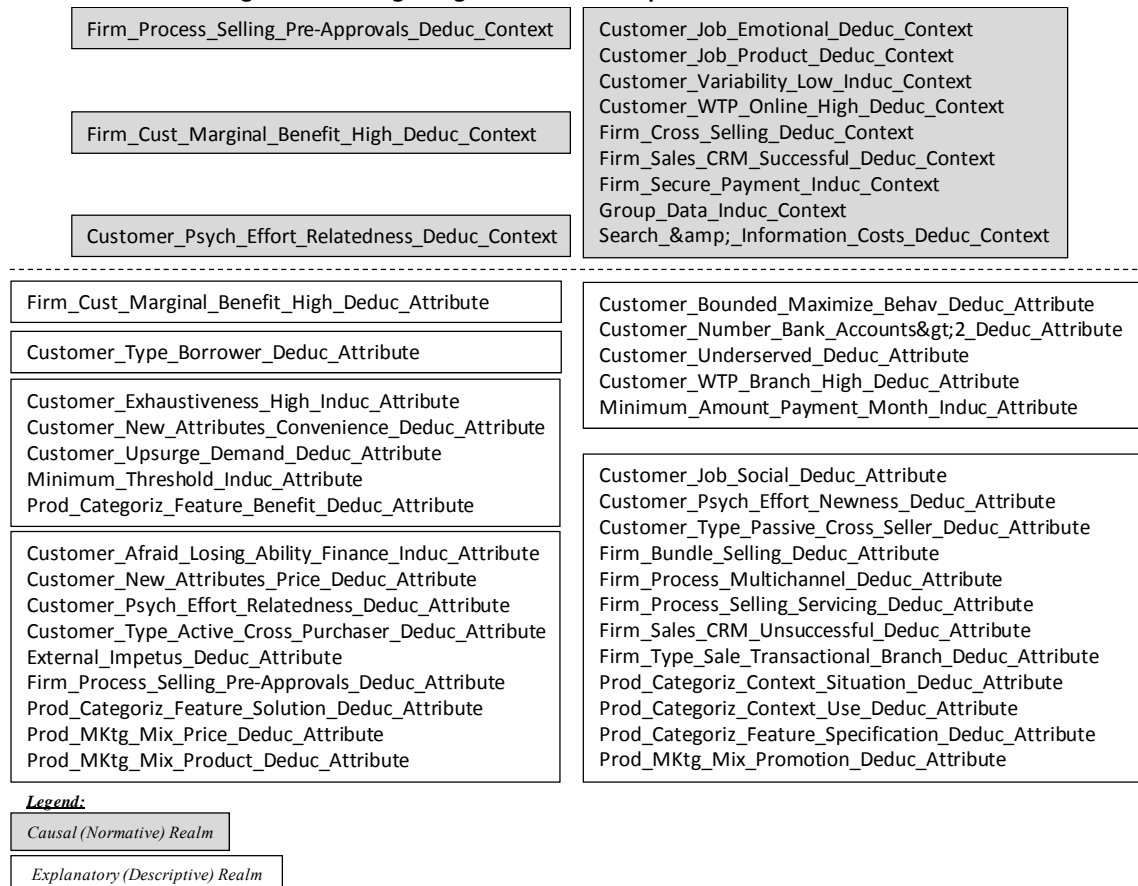


The *Saver Underserved Job Construct* has five clusters for *Context* related Attributes and five *Attribute* based *Attributes*. There is one cluster that indicates that, no matter what, this customer is always going to have more than one bank account. This is consistent with the banking literature where it's described that customers separate accounts to spread risk. Another cluster described a generalized behavior of this type of consumer, which is related with withdrawing money at the beginning of the month to control for how much they spend per month and, most importantly, so they'll know their account balance at the end of the month, and this is tightly linked to the *Emotional* side of the *Job Construct*. Another cluster indicates that unless the customer is not afraid – of the risks associated with using a credit

card the *Cross-Selling* of a credit card will not be successful. The relationship between making up your mind and being a saver stands. Finally, this customer needs the offers and the data really digested because his ability to discriminate among other variables is rather limited.

4.3.4 Spender Underserved for the Credit Card at the Branch *Job Construct*

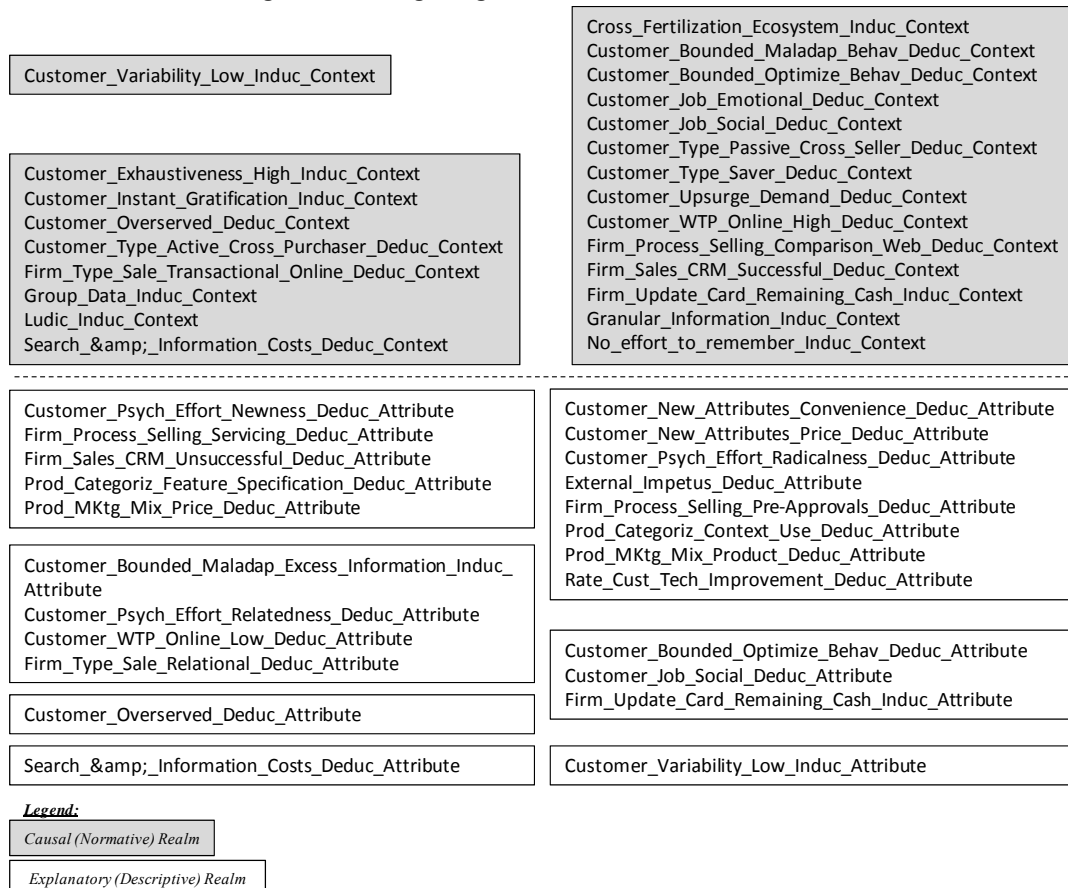
Figure 4.14: Integrating the Construct – Spender Underserved



The *Spender Underserved Job Construct* has four clusters for *Context* related *Attributes* and six for *Attribute* based *Attributes*. One cluster indicates this customer will react to product offers that make parallels between the new one and an old one he already understands. He will also react to any type of credit pre-approved. In this *Job Construct* the first cluster related to the bank rather than the customer is elicited. This indicates the strong influence of the branch personnel on this customer. The largest cluster has also this bank-related trait, indicating that if the product data is clear enough and the bank can secure its payment both the credit at the end of the month (main functionality) and the *Emotional* connection to the customer increases his *Willingness-To-Pay*.

4.3.5 Saver Overserved for the Credit Card Online *Job Construct*

Figure 4.15: Integrating the Construct – Saver Overserved

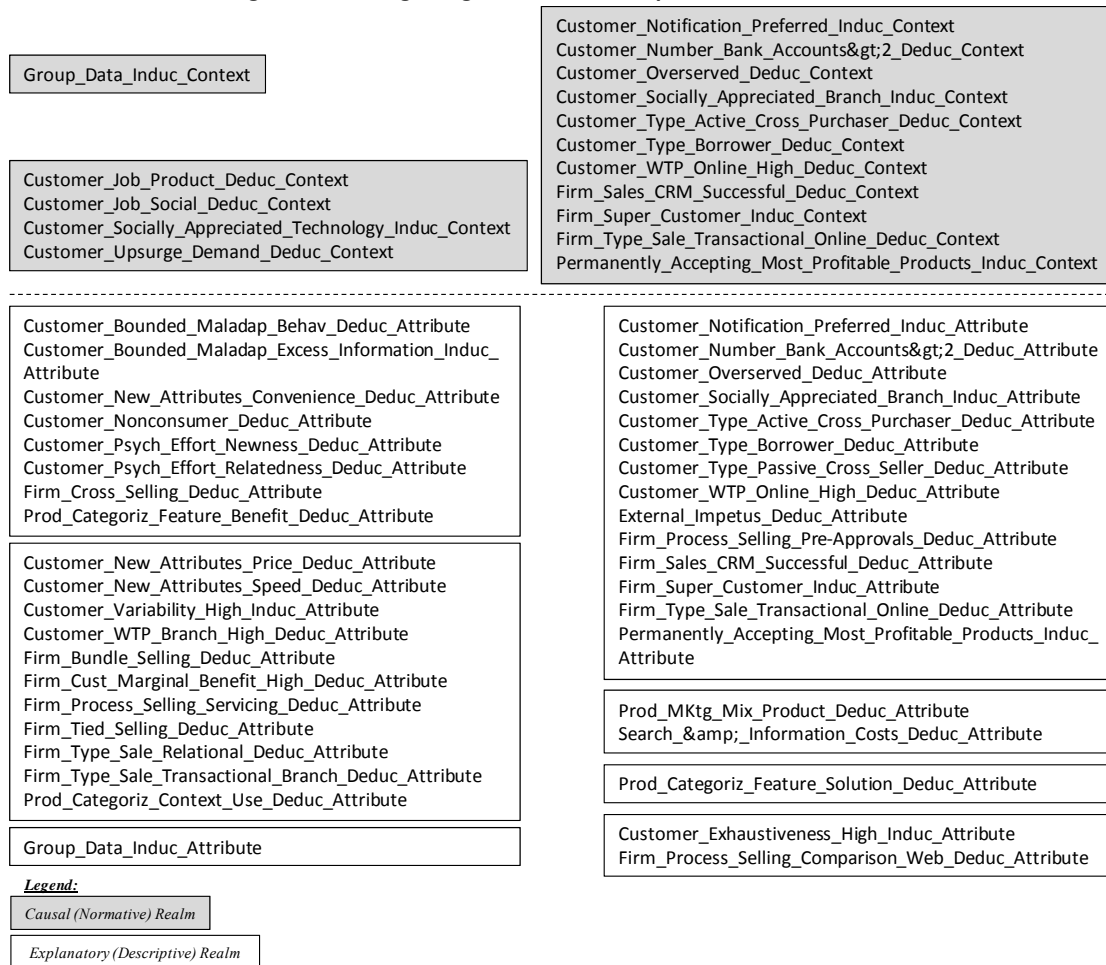


The *Job Construct* for the *Saver Overserved* while buying a credit card online in the evening has three *Context* related *Attributes* and seven *Attribute* based *Attributes*. The first one is based on making sure that most of the options that the banks offer have been reviewed, that the data used to compare them allows that kind of comparisons and that this process takes quite some time and that some calculations are needed to be made to make the data comparable. The second one is based on self-selecting for products where the customer can make sure that any projection made into the future is reasonably accurate. The third one is based on helping the customer that particular calculation that will make him enjoy the search process while will make him believe that he is smarter than the bank because this new product maximizes the effectiveness of his ecosystem of products.

In this case the main *Functionality* of the product, the fundamental *Job Product Sub-Construct* is absent, indicating this has no *Causal* based influence on the purchase. While the *Attribute* based level shows almost all banking efforts are targeted at the main functionality.

4.3.6 Spender Overserved for the Credit Card Online *Job Construct*

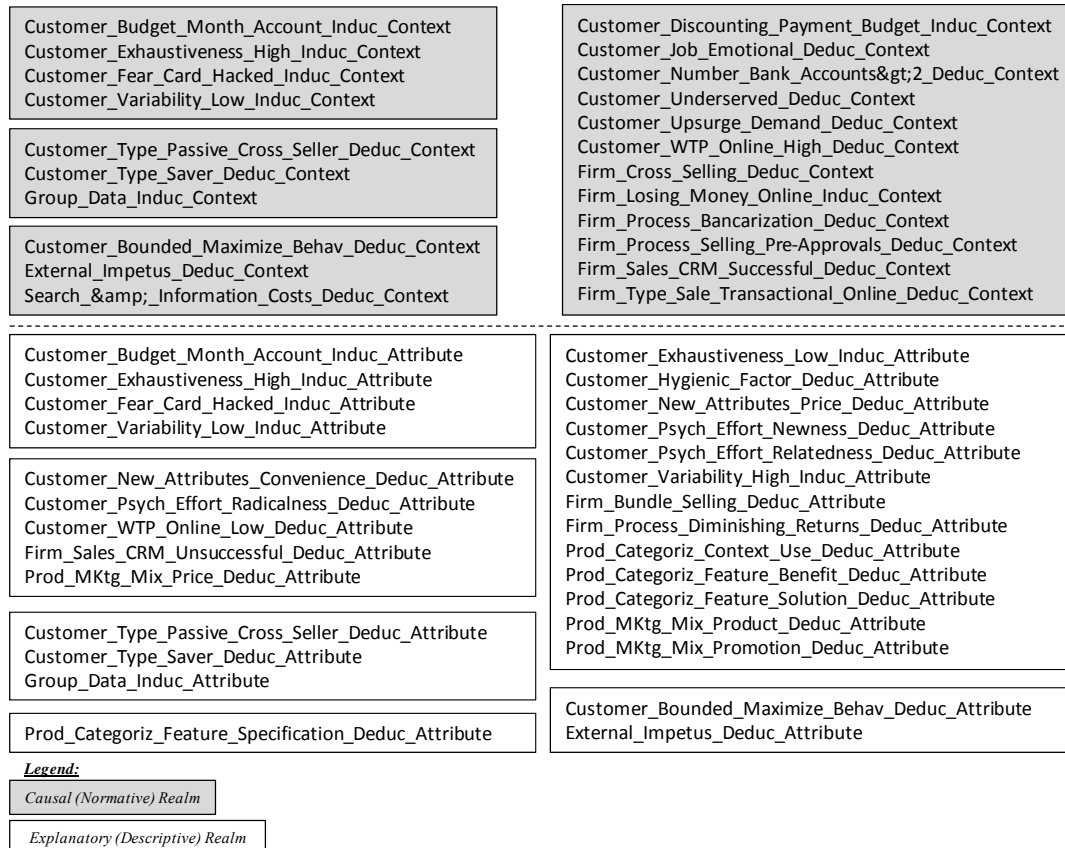
Figure 4.16: Integrating the Construct – Spender Overserved



The *Spender Overserved Job Construct* has three *Context* related *Attributes* and seven *Attribute* based *Attributes*. The first one indicates that together with the main *Functionality* this customer requires that the system shows some appreciation for him as a preferred customer. The second one is related to how the data to be shown is grouped in a way that makes it understandable to him. The third one indicates that as long as the bank continues sending him appreciative details about how preferred this customer is the customer's *Willingness-to-Pay* for products that he knows the bank will want him to own will continue to rise, despite of him knowing that he doesn't really need them. This customer is extremely profitable for the bank in these terms while the risk associated to this profile of customers is kept at bay.

4.3.7 Saver Underserved for the Credit Card Online Job Construct

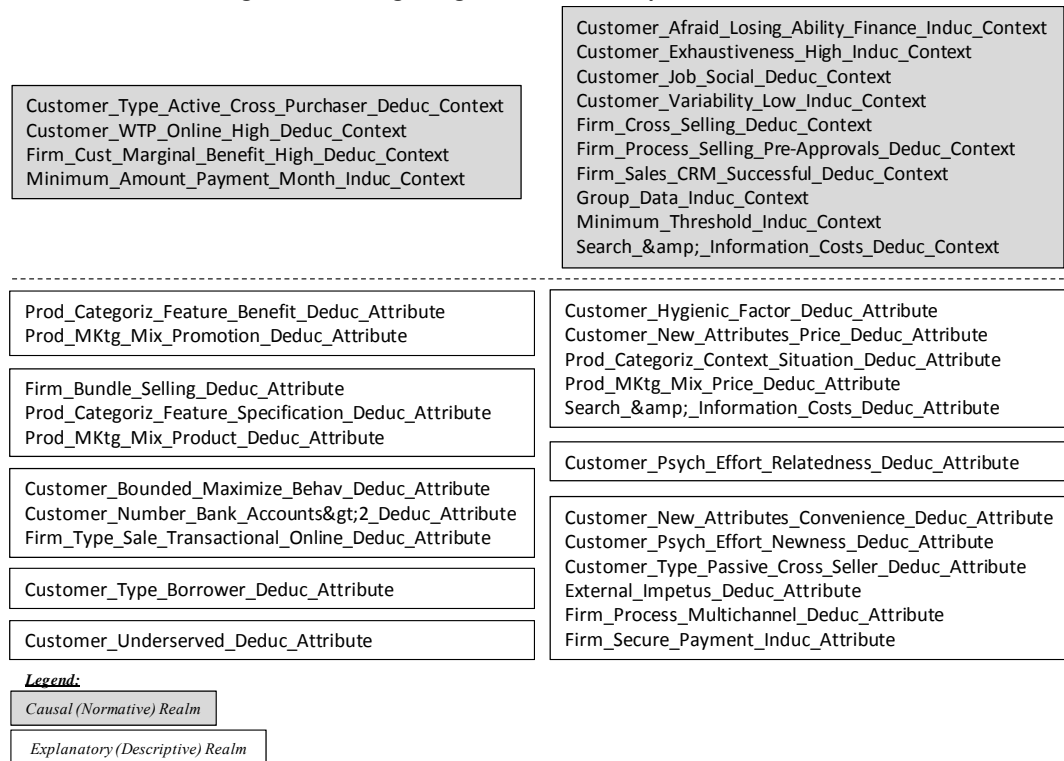
Figure 4.17: Integrating the Construct – Saver Underserved



The *Saver Underserved Job Construct* has four clusters for *Context* related *Attributes* and six for *Attribute* based *Attributes*. The first *Cluster* indicates how this customer plans his life and then lives it. He wants to know how much is he going to spend per month, his account balance at the end of the month and he wants to know this information with precision and on top of that using financial products that are safe. The second *Cluster* indicates how he needs that the information on new financial products is presented in a very simplified form and, when possible, aggregated. The third indicates that the banking personnel has a strong influence on his decision making process. The fourth *Cluster*, where the *Emotional* component of this *Job Construct* (the only one that qualified) is located, indicates how this customer will increase his *Willigness-to-Pay* if he is facing information regarding his products that explain how not profiting from the opportunity cost of a new credit card is making him leave money on the table.

4.3.8 Spender Underserved for the Credit Card Online Job Construct

Figure 4.18: Integrating the Construct – Spender Underserved



The *Spender Underserved Job Construct* has two *Context* related *Clusters* and eight *Attribute* based *Clusters*. The first *Cluster* is rooted in how the implications of losing his ability to finance himself will affect his social life, the one that happens with family and friends and mainly outside the branch. In this sense the customer's *Willingness-to-Pay* for new products increases as long as the data is grouped in such a way that he can understand that the new product will increase his ability to finance himself this month, irrespective of the effect this new debt might have in the long-term. The second cluster is related to the first one in the same sense, as long as the full amount to pay this month increases the customer's *Willingness-to-Pay* increases.

4.4 Clinical Analysis Conclusions

In this section we refer again to the formal *Propositions*. We start with *Proposition 2*. Which refers to the *Inductively* described but yet unseen *Construct* named *Job Construct* (Christensen et al. 2006; Christensen 2010). The previous three sections – that contain twelve pictures of a *Job Construct* and its

anatomy – show considerable evidence that the *Job Construct* exists and that has been proven effective for generating *Customer Impetus*.

The methodological *Multi-Method* model used that specifically controls for *Inductive vs. Deductive*, *Endogenous vs. Exogenous* and *Causal vs. Attribute* based variables is effective enough for not only treating exhaustively all the information gathered in the field research but also emphasizing the separation between *Correlation* and *Causality*. Rendering a *Mutually Exclusive and Collectively Exhaustive* set of branches for the *Job Construct* in all but in one case. This method is substantially different from the ones that have been used in the literatures of *Innovation*, *Technological Change* and *Marketing*, because the *Unit of Analysis* is fundamentally changed towards the *Circumstance* and the research methodology controls the specific factors mentioned all at once²⁶⁹ (Adner et al. 2009; Bansal & Corley 2012; Colquitt & Zapata-Phelan 2007; Cummings 1999; Hillman 2011; Meyer 1991; Suddaby et al. 2011).

However this seems like the beginning of the story because isolating the *Job Construct* reveals intriguing questions about its anatomy and in particular about new branches that have remained unseen to date and that have no precedent in the literature. For instance, when the customer evaluates the alternatives the ex-ante customer perception he is facing and the product or service that will fulfill the *Job Construct* in the best manner (Hamilton et al. 2010; Talke & Colarelli O'Connor 2011), or the *Exhaustiveness* through which the alternatives are considered (and therefore communicated) and the *Variability* (Tushman and Benner, 2002) associated with experiencing the *Job Construct* (a direct link to *Propositions 2* and *3* where the implications of the *Job Construct* have a direct effect on the *Organization Design* literature) are all *Job Construct* branches undocumented before in the extant literature (Daft, 1983; Hoetker, 2006; O'Reilly and Tushman, 2007). At the industry level there are also branches that generate intriguing questions such as knowing if the *Job Construct* would be any different if the product and the services were decoupled (Sanchez, 1996; Xue et al., 2011), or if the bank's multichannel strategy is affecting in any way the *Job Constructs* obtained. This research also confirms that at a fundamental level some of the *Job Constructs* obtained do have a *Functional*, *Emotional* and *Social* branches (Christensen & Johnson 2009). But this again leaves us with several unanswered questions such as why

²⁶⁹ Previous research efforts have used a combination of these *Units of Analysis*, *Customer Requirements*, *Product*, *Customer*, *Situation*, *Occasion*, *Use*, *Benefit*, *Features*, *Solution*; and these research methodologies *Correlation*, *Regression*, and a variety of both *Quantitative* and *Qualitative* methods.

in some *Job Constructs* one or two of these branches is missing? Why in some *Job Constructs* these branches are isolated from the rest while in other instances they appear *Clusterized* together with a variety of *Causal* based attributes? Although in this research there were none present, is it possible that a *Job Construct* doesn't have any of these three branches but has others instead? Table 4.13 provides evidence of this phenomena for the *Jobs Construct* obtained in the online banking *Circumstance*. For instance in the case of the *Saver Overserved* the *Functional* and *Social* branches of the *Job Construct* are present together with other *Sub-Constructs* while the *Emotional* branch is present but *Clusterized* as a separate branch. In the other types of customers some of these branches are also missing. Note that the difference between *Overserved* and *Underserved* is rooted in the architecture and branches of the *Job Construct*, rather than in the presence or absence of this newly formed entity. Tables 8.2 and 8.3 respectively replicate these results for the Credit Card at the branch and the Credit Card Online *Circumstances*.

What the evidence shows nonetheless is that no matter the number, shape and presence of the branches the fact is that the empirical evidence – observable through the non-normality of the research results – unequivocally suggests that there is in fact a *Causal* based mechanism that elicits *Customer Impetus* in a predictable and reliable way. This is the most important contribution of the clinical research (Christensen 2001).

One of the main components that is failed to disconfirm in *Proposition 2* is the absence of the *Job Construct* in *Underserved* customers. Evidence suggests that the *Job Construct* is present in both *Circumstances* although in a different way. What is really happening is that the predictability of the *Job Construct* in *Overserved* customers is higher than that from *Underserved* customers but not only because of the *Job Construct* itself but because the number of *Firm*-related attributes is smaller, so the *Causal* mechanism that prompts the customer's *Willingness-to-Pay* is much clearer and sharply defined (Simester and Zhang, 2010). This finding shows a direct relationship with *Proposition 1*, where *Organizational Rigidity* and *Inertia* have a direct influence on the number of attributes elicited (Hannan & Freeman 1984; Zhou & Wu 2009; O'Reilly & Tushman 2011; March 1991; March & Simon 1958).

Table 4.13: Clinical Comparison of the *Jobs Constructs* obtained in the Online Banking *Circumstance*

| Circumstance | Customer Type | Sub-Constructs - Functional | Sub-Constructs - Emotional | Sub-Constructs - Social |
|----------------|---------------------|---|--|--|
| Online Banking | Saver Overserved | Customer_Exhaustiveness_High_Induc_Context Customer_Job_Social_Deduc_Context Customer_Overserved_Deduc_Context Customer_Variability_Low_Induc_Context Customer_WTP_Online_High_Deduc_Context Firm_Sales_CRM_Successful_Deduc_Context Search & Information_Costs_Deduc_Context | Present | Customer_Exhaustiveness_High_Induc_Context Customer_Job_Product_Deduc_Context Customer_Overserved_Deduc_Context Customer_Variability_Low_Induc_Context Customer_WTP_Online_High_Deduc_Context Firm_Sales_CRM_Successful_Deduc_Context Search & Information_Costs_Deduc_Context |
| | Spender Overserved | Customer_Bounded_Optimize_Behav_Deduc_Context Customer_Job_Social_Deduc_Context Customer_Nonconsumer_Deduc_Context Customer_Socially_Appreciated_Technology_Induc_Context Customer_Type_Active_Cross_Purchaser_Deduc_Context Customer_Upsurge_Demand_Deduc_Context Customer_Variability_Low_Induc_Context Customer_WTP_Branch_High_Deduc_Context Customer_WTP_Online_High_Deduc_Context Firm_Cross_Selling_Deduc_Context Firm_Cust_Marginal_Benefit_High_Deduc_Context Firm_Process_Selling_Pre-Approvals_Deduc_Context Firm_Sales_CRM_Successful_Deduc_Context Firm_Super_Customer_Induc_Context Minimum_Threshold_Induc_Context Permanently_Accepting_Most_Profitable_Products_Induc_Context | | Customer_Bounded_Optimize_Behav_Deduc_Context Customer_Job_Product_Deduc_Context Customer_Nonconsumer_Deduc_Context Customer_Socially_Appreciated_Technology_Induc_Context Customer_Type_Active_Cross_Purchaser_Deduc_Context Customer_Upsurge_Demand_Deduc_Context Customer_Variability_Low_Induc_Context Customer_WTP_Branch_High_Deduc_Context Customer_WTP_Online_High_Deduc_Context Firm_Cross_Selling_Deduc_Context Firm_Cust_Marginal_Benefit_High_Deduc_Context Firm_Process_Selling_Pre-Approvals_Deduc_Context Firm_Sales_CRM_Successful_Deduc_Context Firm_Super_Customer_Induc_Context Minimum_Threshold_Induc_Context Permanently_Accepting_Most_Profitable_Products_Induc_Context |
| | Saver Underserved | Customer_Exhaustiveness_High_Induc_Context Customer_Job_Emoational_Deduc_Context Customer_Variability_Low_Induc_Context | Customer_Exhaustiveness_High_Induc_Context Customer_Job_Product_Deduc_Context Customer_Variability_Low_Induc_Context | |
| | Spender Underserved | Customer_Bounded_Optimize_Behav_Deduc_Context Customer_Exhaustiveness_High_Induc_Context Customer_Job_Emoational_Deduc_Context Customer_Job_Social_Deduc_Context Customer_New_Attributes_Price_Deduc_Context Customer_Psych_Effort_Relatedness_Context Customer_Type_Active_Cross_Purchaser_Deduc_Context Customer_Upsurge_Demand_Deduc_Context Customer_Variability_Low_Induc_Context Customer_WTP_Online_High_Deduc_Context External_Impetus_Deduc_Context Firm_Sales_CRM_Successful_Deduc_Context Firm_Secure_Payment_Induc_Context Group_Data_Induc_Context Minimum_Threshold_Induc_Context | Customer_Bounded_Optimize_Behav_Deduc_Context Customer_Exhaustiveness_High_Induc_Context Customer_Job_Product_Deduc_Context Customer_Job_Social_Deduc_Context Customer_New_Attributes_Price_Deduc_Context Customer_Psych_Effort_Relatedness_Context Customer_Type_Active_Cross_Purchaser_Deduc_Context Customer_Upsurge_Demand_Deduc_Context Customer_Variability_Low_Induc_Context Customer_WTP_Online_High_Deduc_Context External_Impetus_Deduc_Context Firm_Sales_CRM_Successful_Deduc_Context Firm_Secure_Payment_Induc_Context Group_Data_Induc_Context Minimum_Threshold_Induc_Context | Customer_Bounded_Optimize_Behav_Deduc_Context Customer_Exhaustiveness_High_Induc_Context Customer_Job_Emoational_Deduc_Context Customer_Job_Product_Deduc_Context Customer_New_Attributes_Price_Deduc_Context Customer_Psych_Effort_Relatedness_Context Customer_Type_Active_Cross_Purchaser_Deduc_Context Customer_Upsurge_Demand_Deduc_Context Customer_Variability_Low_Induc_Context Customer_WTP_Online_High_Deduc_Context External_Impetus_Deduc_Context Firm_Sales_CRM_Successful_Deduc_Context Firm_Secure_Payment_Induc_Context Group_Data_Induc_Context Minimum_Threshold_Induc_Context |

Table 4.14: Clinical Comparison of the *Jobs Constructs* obtained for the Credit Card at the Branch *Circumstance*

| Circumstance | Customer Type | Sub-Constructs - Functional | Sub-Constructs - Emotional | Sub-Constructs - Social |
|---------------------|----------------------|--|--|--|
| Credit Card Branch | Saver Overserved | Customer_Bounded_Optimize_Behav_Deduc_Context Customer_Job_Emotional_Deduc_Context Customer_Upsurge_Demand_Deduc_Context Customer_WTP_Branch_High_Deduc_Context Customer_WTP_Online_High_Deduc_Context Firm_Sales_CRM_Successful_Deduc_Context Granular_Information_Induc_Context Ludic_Induc_Context | Customer_Bounded_Optimize_Behav_Deduc_Context Customer_Job_Product_Deduc_Context Customer_Upsurge_Demand_Deduc_Context Customer_WTP_Branch_High_Deduc_Context Customer_WTP_Online_High_Deduc_Context Firm_Sales_CRM_Successful_Deduc_Context Granular_Information_Induc_Context Ludic_Induc_Context | |
| | Spender Overserved | Customer_Exhaustiveness_High_Induc_Context Customer_Job_Social_Deduc_Context Customer_Upsurge_Demand_Deduc_Context Customer_WTP_Branch_High_Deduc_Context Customer_WTP_Online_High_Deduc_Context Firm_Sales_CRM_Successful_Deduc_Context | | Customer_Exhaustiveness_High_Induc_Context Customer_Job_Product_Deduc_Context Customer_Upsurge_Demand_Deduc_Context Customer_WTP_Branch_High_Deduc_Context Customer_WTP_Online_High_Deduc_Context Firm_Sales_CRM_Successful_Deduc_Context |
| | Saver Underserved | | Customer_Discounting_Payment_Budget_Induc_Context | |
| | Spender Underserved | Customer_Job_Emotional_Deduc_Context Customer_Variability_Low_Induc_Context Customer_WTP_Online_High_Deduc_Context Firm_Cross_Selling_Deduc_Context Firm_Sales_CRM_Successful_Deduc_Context Firm_Secure_Payment_Induc_Context Group_Data_Induc_Context Search_& Information_Costs_Deduc_Context | Customer_Job_Product_Deduc_Context Customer_Variability_Low_Induc_Context Customer_WTP_Online_High_Deduc_Context Firm_Cross_Selling_Deduc_Context Firm_Sales_CRM_Successful_Deduc_Context Firm_Secure_Payment_Induc_Context Group_Data_Induc_Context Search_& Information_Costs_Deduc_Context | |

Table 4.15: Clinical Comparison of the *Jobs Constructs* obtained for the Credit Card online *Circumstance*

| Circumstance | Customer Type | Sub-Constructs - Functional | Sub-Constructs - Emotional | Sub-Constructs - Social |
|--------------------|---------------------|--|---|--|
| Credit Card Online | Saver Overserved | | Cross_Fertilization_Ecosystem_Induc_Context Customer_Bounded_Maladap_Behav_Deduc_Context Customer_Bounded_Optimize_Behav_Deduc_Context Customer_Job_Social_Deduc_Context Customer_Type_Passive_Cross_Seller_Deduc_Context Customer_Type_Saver_Deduc_Context Customer_Upsurge_Demand_Deduc_Context Customer_WTP_Online_High_Deduc_Context Firm_Process_Selling_Comparison_Web_Deduc_Context Firm_Sales_CRM_Successful_Deduc_Context Firm_Update_Card_Remaining_Cash_Induc_Context Granular_Information_Induc_Context No_effort_to_remember_Induc_Context | Cross_Fertilization_Ecosystem_Induc_Context Customer_Bounded_Maladap_Behav_Deduc_Context Customer_Bounded_Optimize_Behav_Deduc_Context Customer_Job_Emotional_Deduc_Context Customer_Type_Passive_Cross_Seller_Deduc_Context Customer_Type_Saver_Deduc_Context Customer_Upsurge_Demand_Deduc_Context Customer_WTP_Online_High_Deduc_Context Firm_Process_Selling_Comparison_Web_Deduc_Context Firm_Sales_CRM_Successful_Deduc_Context Firm_Update_Card_Remaining_Cash_Induc_Context Granular_Information_Induc_Context No_effort_to_remember_Induc_Context |
| | Spender Overserved | Customer_Job_Social_Deduc_Context Customer_Socially_Appreciated_Technology_Induc_Context Customer_Upsurge_Demand_Deduc_Context | | Customer_Job_Product_Deduc_Context Customer_Socially_Appreciated_Technology_Induc_Context Customer_Upsurge_Demand_Deduc_Context |
| | Saver Underserved | | Customer_Discounting_Payment_Budget_Induc_Context Customer_Number_Bank_Accounts>2_Deduc_Context Customer_Underserved_Deduc_Context Customer_Upsurge_Demand_Deduc_Context Customer_WTP_Online_High_Deduc_Context Firm_Cross_Selling_Deduc_Context Firm_Losing_Money_Online_Induc_Context Firm_Process_Bancarization_Deduc_Context Firm_Process_Selling_Pre-Approvals_Deduc_Context Firm_Sales_CRM_Successful_Deduc_Context Firm_Type_Sale_Transactional_Online_Deduc_Context | |
| | Spender Underserved | | | Customer_Afraid_Losing_Ability_Finance_Induc_Context Customer_Exhaustiveness_High_Induc_Context Customer_Variability_Low_Induc_Context Firm_Cross_Selling_Deduc_Context Firm_Process_Selling_Pre-Approvals_Deduc_Context Firm_Sales_CRM_Successful_Deduc_Context Group_Data_Induc_Context Minimum_Threshold_Induc_Context Search_& Information_Costs_Deduc_Context |

Although at this point it's clear that the total number of branches that a *Job Construct* can have is larger than the three described in the extant literature the total number of branches a particular *Job Construct* can end up having is still unclear, even though we know is limited by the given *Circumstance*. To shed some light into this phenomenon a categorization was developed for each type of customer and each type of *Circumstance*. This categorization was useful to determine how much the *Inductively* described *Functional*, *Emotional* and *Social* branches are capable of explaining in each *Job Construct*.

Table 4.16 introduces this categorization for the Online Banking *Circumstance*. According to this table and for the *Saver Overserved* customer the *Inductively* described branches accounted for 47% of the total *Sub-Constructs*. There are seven more branches in this *Job Construct*. Some of these branches relate to the *Perceptive* ability of the customers, and their ability to capture, understand and evaluate new information. Others were related to *Exhaustiveness*, which is related to this insecurity that somehow somewhere there is product that would be giving me more *bang for the buck*. One of the main conclusions from Table 4.16 is that in none of the cases the *Inductively* described branches account for more than 50% of the total number of branches.

Table 4.17 depicts the same categorization for the Credit card at the Branch *Circumstance* while Table 4.18 introduces the same information for the Credit Card Online *Circumstance*. In both of these tables there are cases where the *Inductively* described branches account for more than 50% of the total number of branches. And the one thing these two *Job Constructs* have in common is the *Unit of Analysis*. The credit card product is a rather limited kind of product with fewer variables than the online banking one. Evidence shows that the more simple the product is, measured as the total number of components that customers need to evaluate to make a decision, the less branches the *Job Construct* has and the more likely it is that the *Functional*, *Emotional* and *Social* branches are present (Frei, 2006; Ulwick, 2005).

Another commonality that these tables share is the co-occurrences between branches, which can be specific for the banking industry or generic. For instance at the generic level the *Exhaustiveness* and the *Variability Sub-Constructs* appear in different *Job Constructs*. While at the industry level the type of customer and the physical location of the customer (inside the branch) seems to play a significant role (Marquis & Huang 2009).

Table 4.16: Branch Exploration for the *Jobs Constructs* obtained in the Online Banking *Circumstance*

| Circumstance | Customer Type | % of Sub-Constructs Contained in the Job Sub-Construct | Number of Causal-Based Clusters in Addition to the One That Contains Job(s) | Components of the Causal-Based Clusters That Don't Contain the Job(s) Sub-Construct |
|---------------------|----------------------|---|--|---|
| Online Banking | Saver Overserved | 47% | 7 | Perception on new information and how easy is to remember it Perception on how data is aggregated and presented Entertaining component Overconfidence for being inside the branch Understanding that on aggregation there are savings Anxiety related to not having the optimal solution Intention of reaching the optimal solution |
| | Spender Overserved | 49% | 4 | Socially valued at the branch (reassurance of knowledge) Customer characteristic borrower Socially appreciated by friends because his level of service Exhaustivity in searching for new products Influence on the branch on providing the information |
| | Saver Underserved | 19% | 6 | Grouping data to buy online Overconfidence for being inside the branch Customer characteristic Underserved Anxiety related to not having the optimal solution Intention of reaching the optimal solution Reacting inadequately to excessive information |
| | Spender Underserved | 48% | 4 | Customer characteristic Underserved Customer ability to understand new information Customer window of opportunity Presence in the branch to engage in cross-selling |

Table 4.17: Branch Exploration for the *Jobs Constructs* obtained in the Credit Card at the Branch *Circumstance*

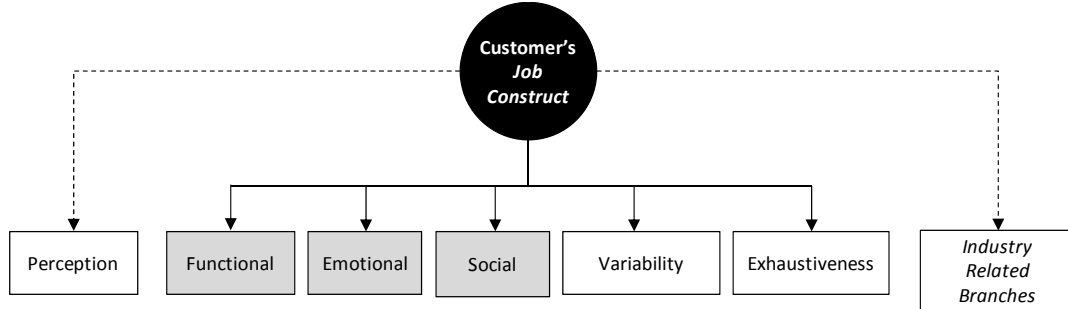
| Circumstance | Customer Type | % of Sub-Constructs Contained in the Job Sub-Construct | Number of Causal-Based Clusters in Addition to the One That Contains Job(s) | Components of the Causal-Based Clusters That Don't Contain the Job(s) Sub-Construct |
|---------------------|----------------------|---|--|--|
| Credit Card Branch | Saver Overserved | 50% | 2 | Customer Overserved Typology Exhaustiveness and Variability |
| | Spender Overserved | 30% | 5 | Customer internal boundaries Customer addictions or habits Customer search multichannel Customer receptive to reciprocity Customer contact throughout the life product |
| | Saver Underserved | 14% | 4 | Product untrustworthiness (hygienic) Industry untrustworthiness (hygienic) Branch personnel untrustworthiness (hygienic) Anxiety related to not having the optimal solution |
| | Spender Underserved | 75% | 3 | Free products Firm profitable customer Customer ability to understand new information |

Table 4.18: Branch Exploration for the *Jobs Constructs* obtained for the Credit Card online *Circumstance*

| Circumstance | Customer Type | % of Sub-Constructs Contained in the Job Sub-Construct | Number of Causal-Based Clusters in Addition to the One That Contains Job(s) | Components of the Causal-Based Clusters That Don't Contain the Job(s) Sub-Construct |
|---------------------|----------------------|---|--|--|
| Credit Card Online | Saver Overserved | 61% | 2 | Customer variability low (product's outcome small range) Entertaining component and Exhaustivity |
| | Spender Overserved | 25% | 2 | Grouping data to buy online Customer receptive to reciprocity |
| | Saver Underserved | 55% | 3 | Customer Exhaustivity related to his budget Grouping data to buy online Anxiety related to not having the optimal solution |
| | Spender Underserved | 71% | 1 | Customer characteristic borrower |

Selecting for commonalities is very useful for advancing our comprehension of how the full anatomy of a *Job Construct* would look like, and with it a significant improvement on the firm's sustainability. Figure 4.19 introduces the now fully tested *Job-Construct* with the additions that have been obtained in this research.

Figure 4.19: Towards a Comprehensive Anatomy of the Job Construct



This expanded view of how what a more comprehensive *Job Construct* would look like represents a valuable starting point for future research. It contains the three branches previously described in the literature while also introducing four new ones. The first one is the *Perception* branch. This branch indicates that is the perceptive ability of the customer what makes him decide which product to hire. Therefore the way a customer reaches the conclusion, although extensively researched in the literature of technology diffusion is also a fundamental part of the *Job Construct* (Sood et al. 2012; Rogers 1962; Moore 2002). Second the *Variability* branch. Customers buy *Predictability*; they want the product to perform the very same way every time they hire it, no matter what (Frei 2006; Bloch et al. 2007). This branch has important implications for the *Organizational Design* literature. Third, *Exhaustiveness*, which indicates customers need to be sure that they are hiring the best offer they can get. The *Job Construct* must provide reassurance of that. Lastly, a cadre of *Industry Related Branches*, which are particular branch-related dimensions that belong to each industry and that help the customer in the hiring and utilization of that particular product (Yoshida 2010; Davis & Duhaime 1992; Fernandes 2004; Enders et al. 2006; Christensen & Anthony 2004; Cosier & Hughes 2001).

The more comprehensive *Job Construct* has direct implications on the *Propositions* outlined in this thesis. Regarding *Proposition 1* indicates that the challenge for the firm's sustainability is related to management cognition and that the firm's *Organizational Design* might be one of the fundamental

reasons that new initiatives not related to implementing *Sustaining Innovations* are either canceled or spelled out of the organization. In *Proposition 2* both the existence and the influence of the *Job Construct* on the *Organizational Design* is parameterized with *Exhaustiveness* and *Variability*. *Proposition 3*, that has a direct implication on the firm's sustainability, indicating that the *Job Construct* introduces new information that managers ought to consider while engaging in *Corporate Venturing* (Park & Steensma 2012; Burgelman & Välikangas 2005).

Chapter 5 of this dissertation will *Triangulate* (Woodside & Wilson 2003; Jick 1979) these findings with quantitative methods and a new dataset. More relations and interdependencies will be uncovered with the objective of increasing the *Internal Validity* of these findings.

Chapter 5: Hypotheses Development, Survey Questions and Methodology

How often have I said to you that when you have eliminated the impossible, whatever remains, however improbable, must be the truth?

-- Sherlock Holmes. *The Sign of the Four*. (1890).²⁷⁰

5.1 Methodological Approach and the Development of Variables

The case-based research introduced in the previous chapter has been instrumental for isolating and visualizing the *Job Construct*. That research design has proven effective not only for shedding some light on the *Causal* based mechanism that elicits *Customer Impetus* but also for addressing most the main concerns expressed in the extant literature about *Reliability* and *Internal Validity* in case-based research (Shugan 2006; Gibbert et al. 2008; Yin 2003). The approach used to counteract these criticisms is based on replacing every step of the process with qualitative methods, a process that both eliminates the researcher's bias in the analysis and addresses most of the criticisms made to *Grounded Theory* and *Ethnographical* studies (Carlile, 2002; Fayolle, 2007a). Now that this extremely complex process has concluded, a survey is used to both *Triangulate* some of the findings related to the *Job Construct* and understand how its presence inside large established firms can reignite corporate growth (Rosenberg 1976; Anthony, Johnson, Sinfield, et al. 2008; Christensen & Raynor 2003a). A significant number of hypotheses couldn't have been developed without obtaining the *Job Construct* first²⁷¹.

This section untangles this thesis' *Propositions* while developing theory and hypotheses regarding the interactions and implications of *Corporate Venturing* initiatives inside the firm. In particular in those firms where the *Mirroring Hypothesis* is observable and that are planning to launch new ventures that are *Competence-Destroying* in nature. The survey is designed as a differential analysis that controls for the presence and absence of the *Job Construct* in both cases.

In total seventeen hypotheses were developed in eight sets of formal hypotheses. Some of the hypotheses were developed as a *Complementary* to the previous hypothesis instead of being more exploratory and hence introducing more variables. The reason is that the length of the survey was a

²⁷⁰ http://en.wikiquote.org/wiki/Sherlock_Holmes. Accessed April 2011.

²⁷¹ This doesn't mean that all of empirical-based research regarding the *Job Construct* is done after this research. Actually, this is just the beginning. As this research is only the first lap (of the right-hand side pyramid depicted in Appendix A) in the never ending process of understanding the influence of the *Job Construct* in a variety of environments, Industries and *Circumstances*.

concern both to the researcher and to the banking institutions that were so kind to collaborate on this research. Additionally there was no need to be more exploratory since the overwhelming amount of information obtained in the previous chapter will require further work that lies outside of the scope of this thesis²⁷².

Proposition 1: Firms that have the Mirroring Hypothesis can't launch Cross-Selling, Corporate Entrepreneurship or Corporate Venturing initiatives that are Competence-Destroying

The *Mirroring Hypothesis* describes the relationship between the *Product* and the *Organizational Design*. In firms that have the *Mirroring Hypothesis* the architecture of the *Product* and the architecture of the firm are almost identical or have minimum variations. For this condition to exist firms must be *Interdependent* and own and manage all the pieces of the *Value Chain*. This usually is the result of an *Organizational Design* that is tightly coupled, which is the lagging effect of *Interdependency*. This type of *Organizational Design* is common in incumbents, who usually grow through establishing interdependencies in industries where the products are not *good enough (Underserved)*.

H1: A tightly-coupled Organizational Design is positively associated with Product Interdependence

This usually results in a very effective growth strategy that puts these companies above the mean in terms of growth for decades. In this situation firms don't usually consider *Competence-Destroying* initiatives because the profitability that *Competence-Enhancing Sustaining Innovations* makes it worthwhile to follow just that route. When growth slows down incumbents start considering all kind of alternatives to maintain growth, both *Competence-Enhancing* and *Competence-Destroying*. At the beginning they would consider *Higher-Margin* initiatives, overtime they will also consider *Lower-Margin* initiatives²⁷³. Thus the formal hypotheses consider the four initiatives possible:

²⁷² The researcher estimates that a survey that would just *Triangulate* the *Job Constructs* obtained previously would be around over a hundred questions long. That count doesn't include any exploratory or replicative research that would help extend these findings.

²⁷³ The margins described here are to be determined in relation to what kind of margins these firms have in the first place. So it's higher and lower from their point of view. In this thesis it's considered higher if the margin is big enough to pay for both *Fixed* and *Variable Costs* and lower if it doesn't cover *Fixed Costs* (Utterback 1994; Chen et al. 2012).

H2a: The Mirroring Hypothesis is negatively associated with Higher-Margin Cross-Selling Success

H2b: The Mirroring Hypothesis is positively associated with Higher-Margin Cross-Selling Success

H2c: The Mirroring Hypothesis is negatively associated with Lower-Margin Cross-Selling Success

H2d: The Mirroring Hypothesis is positively associated with Lower-Margin Cross-Selling Success

Proposition 2: In Overserved industries there is a normative proxy that is more precise than the Need Construct to predict Customer behavior. This proxy is the Job Construct and it has a particular anatomy that influences heavily the rest of the fundamental pieces of the Organizational Design. It not only influences them in their behavior but also in their order.

Overserved industries are considered as such because they are populated with mostly *Overserved* consumers. The next Hypothesis is a litmus test derived from the works of Simon (1956). Customers who are *Overserved* know deeply most of the *Functionalities* of a *Product*, therefore their *Newness*, *Radicalness* and *Relatedness* in relation to the *Product* is low. These are customers who are in a *Maximizing Behavior*. According to Simon these customers do also make a sub-optimal choice when it comes to selecting their *Optimal* product²⁷⁴. Thus we test Simon's *Bounded Rationality* model for *Overserved* banking customers with the following Hypothesis:

H3: Customer Maximizing Behavior is negatively associated with choosing the Optimal product

In *Overserved* consumers the *Maximizing Behavior* and their expertise transcends the *Need Construct* making the *Job Construct* more salient. Which is an opportunity to *Triangulate* some of the findings

²⁷⁴ In the case of *Overserved* customers, there are many instances captured during the interview process where the branch personnel acknowledged this fact. They usually let the customer believe that that particular *Product* is in fact the best one for him, because after all... "It's his choice".

previously described²⁷⁵. The following set of formal hypotheses is oriented at *Triangulating* the evidence on the anatomy of the *Job-Construct* and each one is developed out of a finding obtained in the field research and explained in Chapter 4:

- H4: In Overserved Customers the Job Construct's Functionality and Reliability branches are not associated with the Emotional and Social branches*
- H5a: In Overserved Customers the Job Construct's Functionality and Reliability branches are positively associated with the Customer's Maximizing Behavior*
- H5b: In Overserved Customers the Job Construct's Emotional and Social branches are positively associated with the Customer's Maximizing Behavior*
- H6a: In Overserved Customers the Job Construct's Functionality and Reliability branches are positively associated with the Customer's Decision-Making*
- H6b: In Overserved Customers the Job Construct's Emotional and Social branches are positively associated with the Customer's Decision-Making*
- H7a: In Overserved Customers the Job Construct's Functionality and Reliability branches are positively associated with the Needs Construct*
- H7b: In Overserved Customers the Job Construct's Emotional and Social branches are positively associated with the Needs Construct*

Proposition 3: The Needs Construct and its corresponding (Underserved circumstance) Dominant Design is incompatible with Corporate Venturing as it doesn't provide enough information for managers to eliminate uncertainty. It introduces a significant variability in the Corporate Venturing initiatives that gain Impetus. The Jobs Construct and its corresponding Dominant Design is not only compatible with Corporate Venturing but also provides enough information to develop the Strategic and Structural Contexts

²⁷⁵ In this section it was decided to focus on the anatomy of the *Job Construct* rather than in the effectiveness of the *Need Construct*, which has been already documented in the extant literature (Bharadwaj et al. 2012; Paap & Katz 2004; Kock et al. 2011; Olson 2004; Brush et al. 2012; Anthony & Christensen 2003; Luchs & Swan 2011).

The *Units of Analysis* of the *Mirroring Hypothesis* and the *Job Construct* differ substantially. In the former it's the *Organizational Design* while in the latter it's the *Customer*. The proxy through which they are obtained also differ, in the case of the *Mirroring Hypothesis* is the *Design Structure Matrix* while in the *Job Construct* for this thesis it has been a bank's branch personnel as a proxy for banking customers. Additionally they intend to measure completely different things, the former tries to measure the lowest performance components of a product as a limitation of the *Organizational Design* while the latter tries to measure the *Causal* based mechanism that elicits *Customer Impetus*. Despite these differences traditionally it's been argued that the *Need Construct* is just enough to overcome all the uncertainty and variability associated with either new product or new venture success. The high failure rate associated with reigniting growth, launching new products or new ventures for an established firm, seems to suggest that although the *Needs Construct* is positively associated with the *Organizational Design* it's not enough to predict the success of new ventures. That's why the next group of formal hypothesis doesn't expect that the *Job Construct* will be aligned with neither the *Need Construct* nor the *Organizational Design*. Most of the shortcomings listed above on the *Needs Construct* do not apply to the *Job Construct* as it has been *Inductively* described in the extant literature. That's why the last group of formal hypotheses also tests the *Job Construct* in that regard and in the very same way as it was done before (see Hypotheses 2's). In particular, the next two Hypotheses test *Competence-Destroying* initiatives that have both higher and lower margins for the firm. In this case *Cross-Selling* is used as the proxy for *New Product Development* while *Corporate Venturing* could not be tested because of the nature of the proxy surveyed. Branch personnel have no information about the evaluation of new venture opportunities and are not geographically located at the headquarters of the banks.

H8a: The Job Construct's Functionality and Reliability branches are positively associated with Lower-Margin Cross-Selling Success

H8b: The Job Construct's Emotional and Social branches are positively associated with Lower-Margin Cross-Selling Success

H8c: The Job Construct's Functionality and Reliability branches are positively associated with Higher-Margin Cross-Selling Success

H8d: *The Job Construct's Emotional and Social branches are positively associated with Higher-Margin Cross-Selling Success*

Survey Methodology

A survey methodology was used because there are no databases of secondary data that measure these phenomena. The *Global Banking Industry* is one of the most researched industries in the world and has a vast amount of databases that measure a variety of aspects of the business. Additionally banks also own large databases where most of the information from their clients is carefully stored. This information is regularly accessed and used by mathematicians to develop new products for the bank. However, because of the nature and difficulty of measuring the incidence of the *Job Construct* there are no databases that consider it. There are four reasons for that. First the *Job Construct* has never been isolated before. Second most of the information that banks store is financial information, rather than customer information per se. Third the way the information is measured inside a firm depends on the *Business Model* which makes most of the non-financial data non-comparable between banks (Dyer et al., 2008; Fagerberg and Verspagen, 2009). Fourth, banks face an unusual amount of limitations regarding customer data. Because of the nature of their business banks can actually know the customer better than himself and could use that information for their own profit. For instance, banks can know when an insurance receipt is going to be charged to a particular customer and suggest a change for the customer based on that information. However they are closely monitored by the regulators that actively prevent them from doing so, and this is one of the main reasons why customers perceive that the banking industry customer service is sub-par. For the purpose of the data gathering process for this research this poses a limitation on what kind of information the bank can use and how is it stored.

With the objective of minimizing both error and bias of the survey, an assessment was made based on Silk (1990). Hence *Total Survey Error* can be divided into *Sampling Error* and *Non-Sampling Error*. Then *Non-Sampling Error* can be divided into *Nonresponse Error* and *Measurement Error*. Lastly *Measurement Error* can be divided into *Systematic* and *Random Errors*.

The variation of samples that can be derived from an entire population generates *Sampling Error*. In this research the target population for the survey research is all branch personnel that are either a *Director*, a *Sub-Director* or a *Zone-Director*. At the end of 2012 the *Spanish Banking Industry* had 38,142 banking

branches²⁷⁶. In this case the total size of the *Population* is equal to the population of the survey that's being researched, in other words, the survey targets the entire population under consideration. This makes *Sampling Error* a non-issue in this research.

The *Nonresponse Error* of the *Non-Sampling Error* occurs when responses from certain members of the original sample are not obtained. In this survey this was accounted for by not permitting survey respondents to save and continue later the survey. Hence the *Nonresponse Error* is not a concern related to this research²⁷⁷. Additional efforts to minimize *Non-Sampling Error* were made by the researcher. Banks who participated in the survey were asked to send the survey five times through the network, which increases substantially the response rate (Dillman, 2006). In addition the researcher notified to the branch personnel that participated in the interviews that in the future they would receive a survey and that it would be appreciated if they could spread the word. The survey was open through a private link for two months (December 2012 and January 2013), this time frame was particularly convenient for the branch personnel because in these dates the availability of the branches increases. The survey was emailed electronically together with an introduction and instructions. It was generally sent from the bank's headquarters, surveys that were not sent by the branch headquarters were controlled for using a *Dummy* variable. An additional effort was made by the researcher to reach a much higher level of the entire population. The researcher met with the *Spanish Banking Association*²⁷⁸ to ask them for help to endorse the survey. The *Spanish Banking Association* graciously declined²⁷⁹.

The origin of the *Measurement Error* (also called *Response Effect*) can be traced back to the instrument to gather the observation and/or to the participants in the study (Sauermann and Roach, 2012) and it can be accounted for with *Systematic* and *Random Errors*. The distinction between *Systematic* and *Random* is related to two important properties of measurement instruments: *Reliability* and *Validity*. *Reliability* relates to how stable, consistent and reproducible are the questions obtained from the measurement instrument. In this research there is a factor that greatly maximizes *Reliability*, which is that the terms used inside the banking industry are unequivocally clear for banking professionals. This

²⁷⁶ Table 4.47. *Statistics Bulletin*, Bank of Spain, March 3rd 2013.

²⁷⁷ *Nonresponse Error* was assessed by conducting T-Tests on the key variables between responses obtained in the first month vs. the second month. There were no significant differences (Appendix C).

²⁷⁸ Asociación Española de Banca (in Spanish).

²⁷⁹ The reasons that were given by the *Spanish Banking Association* were three: First that they prefer to maintain a low profile. Second that if they help this particular researcher they wouldn't be able to decline when the next researcher asked for help... Third, that they had no protocol in place to help neither researchers nor PhD students. The meeting was held October 3rd, 2012 with Mr. Alfonso Caro, Director of the *Spanish Banking Association*. Documentation of the meeting and emails are available upon request.

reduces greatly the confusion that might arise in the survey as well as the length of the questions and the survey itself. This factor increased substantially the survey's response rate as well as the clarity of the questions. Before sending the survey it was reviewed by one academic expert and by two banking professionals, their feedback was introduced in the survey, this increased its clarity and brevity. *Validity* refers to the way variables are operationalized in the survey. This again in the banking industry can be operationalized unequivocally because of the way that customers and products are represented and understood for. This factor increased noticeably both the *Internal* and *External Validity* of the survey within the banking industry.

The total survey response was 306 banking professionals. A response rate that is higher than most of the industry and research studies that have ever been conducted in the banking industry in Spain. There are no precedents in the Spanish Retail Banking Industry of a survey of this magnitude at the industry level (there are several at the bank's internal level, for instance internal competitions, etc.). This exceptionally high number was obtained at a time where the industry is in the midst of a financial and business model turmoil that's severely modifying its foundational structure.

Survey Design

Because the aim of the survey was both to *Triangulate* some of the findings elicited in the *Job Construct* and untangle the challenge of how the *Mirroring Hypothesis* influences *Corporate Venturing* the survey was designed after the fieldwork. Tradeoffs between these two extremes had to be made to elaborate the survey, which is divided into the following seven sections (Table 5.1). Without the fieldwork some of the variables would have never come to mind and some others wouldn't have been operationalized with that much accuracy:

1. Organizational Design

- ORGDES – The more tightly coupled the *Organizational Design* the more *Interdependent* the products.
- ORGCUS – The Customer's database is owned and managed by the bank.
- ORGLAW – The bank has its own fully staffed legal department.
- ORGBRANCH – When the Customer signs a contract this happens at the branch.

2. *Product Interdependence*

- PRODREG – The regulators influence on the final products is significant.
- PRODLAW – The bank’s legal department is more demanding with new products than the regulators.
- PRODSTAND – Each banking product is commercialized by the branch in form of derivatives.
- PRODMKT – The bank’s marketing department decides the campaigns of the year and the product features that are to be communicated.
- PRODOP – The Product’s database and the subsystems that make it work are owned by the bank.
- PRODT COST – Product’s costs rise because of expected profitability, regulation and promotion.
- PRODNEXT – Inside each product line each NPD related Sustaining Innovation is more profitable than the former.

3. *Cross-Selling*

- CROSS_LOW – New sales opportunity below the bank’s average margin.
- CROSS_HIGH – New sales opportunity above the bank’s average margin.

4. *Overserved Consumer*

- OVERNEED – Relationship between the *Needs Construct* and *Overserved Consumers*.
- OVERDECISION – How an *Overserved* consumer relates to the products being offered.

5. *Bounded Rationality*

- OVERMAX – Maximizing Behavior, the *Overserved Consumer* systematically selects the wrong product.

6. *Job Anatomy*

- OVEREXHAUST – Relationship between the *Job Construct* and its *Exhaustiveness* branch.
- OVERRELIAB – Relationship between the *Job Construct* and its *Reliability* branch.
- OVERFUNCT – Relationship between the *Job Construct* and its *Functional* branch.
- OVEREMOT – Relationship between the *Job Construct* and its *Emotional* branch.
- OVERSOC – Relationship between the *Job Construct* and its *Social* branch.

7. The Impact of the *Job Construct* in *Organizational Design*

- JOBORG – The way the bank is organized is the most effective for dealing with *Overserved Consumers*.
- JOBPROD – The bank’s *Products* are designed for one size fits all customers.

8. The Impact of the *Job Construct* in *Cross-Selling*

- JOBCROSS_LOW – New *Job Construct* generated sales opportunity below the bank’s average margin.
- JOBCROSS_HIGH – New *Job Construct* generated sales opportunity above the bank’s average margin.

Table 5.1: Overview of Key Variables

| CATEGORY | Types of Questions | Variable Name |
|--|---------------------------|---------------|
| Organizational Design | Tight coupling | ORGDES |
| | Control | ORGCUS |
| | Internal Compliance | ORGLAW |
| | Proprietorship | ORGBRANCH |
| Product Interdependence | External Compliance | PRODREG |
| | Internal Compliance | PRODLAW |
| | Derivatives | PRODSTAND |
| | Product Promotion | PRODMKT |
| | Product Ownership | PRODOP |
| | Product Fixed Costs | PRODTCOST |
| | Product Profitability | PRODNEXT |
| Cross-Selling | High Margin Cross Selling | CROSS_LOW |
| | Low Margin Cross Selling | CROSS_HIGH |
| Overserved Consumer | Need Construct | OVERNEED |
| | Product Selection | OVERDECISION |
| Bounded Rationality | Maximizing Behavior | OVERMAX* |
| Job Construct Anatomy | Exhaustivity | OVEREXHAUST |
| | Variability | OVERRELIAB |
| | Functional | OVERFUNCT |
| | Emotional | OVEREMOT |
| Impact of the Job in Organizational Design | Social | OVERSOC |
| | Mirroring for Overserved | JOBORG |
| Impact of the Job in Cross-Selling | Product Averages | JOBPROD |
| | High Margin Cross Selling | JOBCROSS_LOW |
| | Low Margin Cross Selling | JOBCROSS_HIGH |

The sections are sorted by the Hypotheses introduced before. There are no variations in the scale and type of question on the key variables, only in the *Control* and *Dummy* variables. The key variables scale is a five-point Likert-type, strongly disagree/strongly agree scale (Likert, 1932). Variables with an asterisk have been reversed scaled. Appendix D depicts the entire survey. Respondents were given similar

instructions than the fieldwork and were asked to consider only situations that had been experienced beforehand. For the purposes of this survey, and consistent with the banking literature, where the product is the service, respondents were instructed to consider *Product*, *Process* and *Service* as *Product Innovations*.

To account for answer variations seven control variables were included (Bono and McNamara, 2011). Specifically two categorical *Control* variables were included. *Zone Economic Status* (AC Nielsen, 2010) and *Position* which accounts for the rank of the person who is completing the survey, and five scale *Control* variables that control for both corporate level characteristics, in particular for the influence of firm size at the branch level, for which the total number of branches of the bank was included (log of number of branches) (Acemoglu and Cao, 2010; Hrebiniak and Joyce, 1985; Kerr and Nanda, 2009; Lourdes Sosa, 2013; Pullen et al., 2012) and a set of additional *Control* variables that were added to control for previous work experience in the industry and in their current role, that could either be *Zone*, *Director* or *Sub-Director* (logs of years of experience respectively) (Sorensen & Phillips 2011; Sorensen 2002; Davis et al. 2010). Finally four *Dummy* variables were also included. The first controls for the quality of the survey responses indicating if the survey was answered in the first or in the second month (Govindarajan et al., 2011). The second one indicates if at the time of filling out the survey the branch was open or closed to the public. The third one marks if the survey was sent from the headquarters or not (Santos et al. 2009) and the fourth one if the branch is in an urban vs. a non-urban location (Pancras et al., 2012).

Table 5.2: Control and Dummy Variables

| CATEGORY | Types of Questions | Variable Name |
|-----------------|--------------------------------|----------------------|
| Control | # Branches in the Bank | NUMBRANCH |
| | Zone, Director or Sub-Director | POSITION |
| | Years as Director | YEAR_DIREC |
| | Years as Sub-Director | YEAR_SUBDIREC |
| | Years as Zone-Director | YEAR_ZONE |
| | Years Industry Experience | YEAR_EXPERIENCE |
| | Zone Economic Status | ZONE_ECON |
| Dummies | Urban vs Non-Urban Branch | URBAN |
| | Answered Month 1 or Month 2 | MONTH |
| | Open or Closed | BRANCH_STATUS |
| | Survey Sent Headquarters | HQ |

For building the research database the common statistical problems were addressed on the continuous variables, these were transformed into a logarithmic scale (Wiersema & Bowen 2009). The categorical variables were left untouched. There are precedents for that while dealing with these three main statistical problems (Hair et al. 2012; Kaplan 2008; Agresti 1996). First, *Autocorrelation*, it is observable in the survey and in Table 5.1 that the questionnaire is not additive but compartmentalized (Castilla 2007; Hamilton 1994). Questions don't build or mount on each other and don't have any time lag. Therefore *Autocorrelation* was not a concern. *Multicollinearity*, that occurs when there are high correlations between variables, is not an issue in categorical variables where the categories are small (in this case there are five). When the reference category is small variables will necessarily correlate. *Heteroscedasticity*, which occurs when sub-sets of data have different *Variance* is not applicable in categorical variables because of the controlled *Variance* (Hair et al. 2013; Bollen & Curran 2005; Siegel & Castellan 1988; Williams et al. 2009; Reiss 2011).

5.2 Description of Variables

Dependent Variables:

Two of the most common research design mistakes are having a mismatch between the research question and design and having measurement and operational issues, for instance, *Construct Validity* (Bono and McNamara, 2011). That's why special care was taken for defining and operationalizing the *Dependent* variables; the variables that we are trying to explain with the research. In this research these are, first how the *Organizational Design* reacts to *Corporate Venture* initiatives operationalized through both *Competence-Enhancing* and *Competence-Destroying* projects. Second, how *Overserved* consumers alter the *Organizational Design* and third how the *Job Construct* enables *Corporate Venturing*.

CROSS_HIGH and CROSS_LOW measure how the firm reacts to new product launches that are both *Competence-Enhancing* and *Competence-Destroying*. These variables are measured as categorical variables from the questionnaire, same as the rest of *Dependent* variables. These variables capture the ability of the firm to adapt its *Organizational Design* to new market opportunities.

In the group of *Overserved* consumers, there are three *Dependent* variables. First, OVERNEED that captures the ability of the *Need Construct* to generate *Customer Impetus* on *Overserved* customers.

Second, OVERDECISION that measures how the usual information provided by the banks, for example, product functionalities, prices, reliabilities, etc. impact on the *Overserved* customers. Third OVERMAX, which measures how *Overserved* consumers never use the bank's information systems and how they usually end up making their own decisions and more often than not selecting a sub-optimal product.

The *Dependent* variable JOBORG measures how the bank's *Organizational Design* is sub-optimal for serving *Overserved* consumers while the dependent variable JOBPROD measures how the current tightly coupled product design generates one size fits none type of products that are then crammed into customers by the branch personnel because that's all there is.

Finally *Dependent* variables JOBCROSS_HIGH and JOBCROSS_LOW measure how the firm reacts to new product launches when the *Job Construct* is used and that are both *Competence-Enhancing* and *Competence-Destroying*.

Control and Dummy Variables:

There are a set of *Control* variables that might have an impact, therefore they have been included in order to control for them in any modeling effort that might be used to predict outcomes. Because company size might have an impact the control variable NUMBRANCH, that measures how many branches has the bank, was included. This variable was obtained from annual reports. POSITION which measures at what level inside the bank is the interviewee at. YEAR_DIREC, YEAR_SUBDIREC and YEAR_ZONE, that measure respectively the years of experience of the interviewee according to its level. YEAR_EXPERIENCE measures the total number of years of experience of the interviewee and ZONE_ECON that categorizes the zone economic status of where the branch is located.

In addition to the *Control* variables four *Dummy* variables were also included to measure the *Robustness* of the survey. URBAN this indicates if the branch is located at an urban location. MONTH which indicates if the survey was completed in the first or in the second month. BRANCH_STATUS, that indicates if the branch was open or closed when the survey was being filled and HQ, which measures if the survey was sent from the bank's headquarters.

Independent Variable(s) for the Job Construct:

The *Job Construct* being tested is composed of five variables. Additionally the evidence from the *Overserved* consumer shows that the *Exhaustiveness* (OVEREXHAUST) variable plays a role that transcends the role of the bank because this customer's *Exhaustiveness* is measured at the industry level. Hence a good way to start is understanding the *Job Construct* component. A statistical technique named *Principal Component Analysis* (PCA) (Ho, 2006) reduces the data until it generates a series of components that account for all the correlated variance. PCA will both generate both the component score (which will be the independent variables that will be included in the data set) and will give us an opportunity to have a look at the dimensionality of the data. Four considerations were observed to perform PCA. First if data is captured using different scales variables must be standardized before doing the analysis, in the case of this survey, all scales were the same so no standardization was necessary. Second, PCA is a technique that requires a large sample size because the analysis is based on the correlation matrix of the variables. The survey has over 300 observations, which is considered enough (Mela, 2011; Tabachnick and Fidell, 2000). Third, PCA assumes observations were collected without *Measurement Error*, which has been addressed before. Fourth variables have to be correlated. Table 5.3 depicts the pairwise correlations²⁸⁰ for the variables of the *Job Construct*.

Table 5.3: Correlation Matrix for the Job Construct Variables

| Variables | 1 | 2 | 3 | 4 | 5 |
|---------------|--------|--------|-------|--------|---|
| 1 OVEREXHAUST | 1 | | | | |
| 2 OVERRELIAB | ,232** | 1 | | | |
| 3 OVERFUNCT | ,176** | ,328** | 1 | | |
| 4 OVEREMOT | 0.084 | 0.033 | 0.065 | 1 | |
| 5 OVERSOC | ,196** | ,116* | ,146* | ,409** | 1 |

** indicates that the correlation coefficient is statistically significant at the 1% level (2-tailed).

* indicates that the correlation coefficient is statistically significant at the 0.05% level (2-tailed).

Table 5.3 results are surprisingly consistent with previous evidence uncovered in the qualitative portion of the research. The *Job Construct* for the *Saver Overserved* didn't have an emotional dimension. Correspondingly, the correlation matrix indicates that the *Emotional Branch* (OVEREMOT) variable is statically associated with none of the other variables that form the *Job Construct* for the *Overserved* consumer. However there is also an unexpected result. The *Job Construct* for this consumer seems to be

²⁸⁰ Spearman's rho correlation coefficient.

having a multi-dimensional structure as the OVERSOC variable is not as strongly correlated with the other variables as it was expected. This might influence negatively the *Chronbach's Alpha* test that will be run subsequently (Cortina, 1993; Cronbach, 1951) and the creation of the components. To measure the internal consistency of the *Job Construct* we compute *Cronbach's Alpha*, which will provide information of both the *Reliability* and *Consistency* on the variables²⁸¹. The overall *Cronbach's Alpha* score is 0.52. Although minimally acceptable, “safe” *Reliability* scores usually start at 0.60. In this case it's considered acceptable given the complexity of the survey questions on the *Job Construct*. Analyzing in depth this result we see that the *Cronbach's Alpha* for *Directors* was 0.51 while for *Sub-Directors* was 0.73 and for *Zone Directors* 0.61. As mentioned above, *Cronbach's Alpha* results don't imply that the score is unidimensional and Table 5.3 suggests that the scale items might have more than one dimension. PCA with *Varimax*²⁸² rotation will provide us with the opportunity to generate the *Independent* variables for the *Job Construct*, determine the total number of dimensions (components) and know how much of the total variance is explained by these components²⁸³.

Table 5.4: Total Variance Explained in the Job Construct's Components

| Component | Initial Eigenvalues | | | Extraction Sums of Squared Loadings | | | Rotation Sums of Squared Loadings | | |
|-----------|---------------------|---------------|--------------|-------------------------------------|---------------|--------------|-----------------------------------|---------------|--------------|
| | Total | % of Variance | Cumulative % | Total | % of Variance | Cumulative % | Total | % of Variance | Cumulative % |
| 1 | 1.736 | 34.727 | 34.727 | 1.736 | 34.727 | 34.727 | 1.456 | 29.121 | 29.121 |
| 2 | 1.159 | 23.183 | 57.910 | 1.159 | 23.183 | 57.910 | 1.439 | 28.789 | 57.910 |
| 3 | .880 | 17.599 | 75.509 | | | | | | |
| 4 | .698 | 13.951 | 89.460 | | | | | | |
| 5 | .527 | 10.540 | 100.000 | | | | | | |

Extraction Method: Principal Component Analysis.

Table 5.4 shows the total number of components while distinguishing those that have an eigenvalue above 1. There are two components in the *Job Construct* that in total account for 57.9% of the variance. Notice also that each is weighted at about half of the total uncorrelated variance. Figure 5.1 provides a visual of the two components (notice the change in slope).

Table 5.5 depicts each component's eigenvectors, which shows the weighting of each variable in each component. The first component is most highly correlated with *Functionality* and *Reliability* which is not

²⁸¹ *Chronbach's Alpha* represents the lower bound on the true *Reliability* of a test under general conditions, it doesn't represent the true *Reliability* of a test except in instances where the item's true scores are all the same or that each item's true score can be converted to any other item by adding a fixed constant, which means that the items must be measuring the same thing, a condition not met in this research's survey (Cortina, 1993; Krippendorff and Hayes, 2007).

²⁸² *Varimax* rotation is a method to spread variation among components more evenly while maintaining the cumulative percentage of variation.

²⁸³ Two tests for adequacy of the data were run before. First, the Kaiser-Meyer-Olkin = 0.563, which above 0.50 indicates that the proportion of variance is caused by underlying factors. Second, Bartlett's Test of Sphericity = 129.818 (0.000) which strongly indicates that variables are related highly correlated, as shown in Table 5.3.

only consistent with the evidence provided in the previous chapter but with the extant literature on innovation (Christensen 1997b; Verworn 2009; Heeley & Jacobson 2008). Thus we have named this *Independent* variable JOBFUNCRELIAB. To score high on JOBFUNCRELIAB an *Overserved* consumer would have to provide responses that value *Functionality* and *Reliability* both positively and significantly, value highly but not significantly *Exhaustiveness* and *Social* variables and react negatively to *Emotional* factors.

Figure 5.1: Scree Plot for the Job Construct's Components

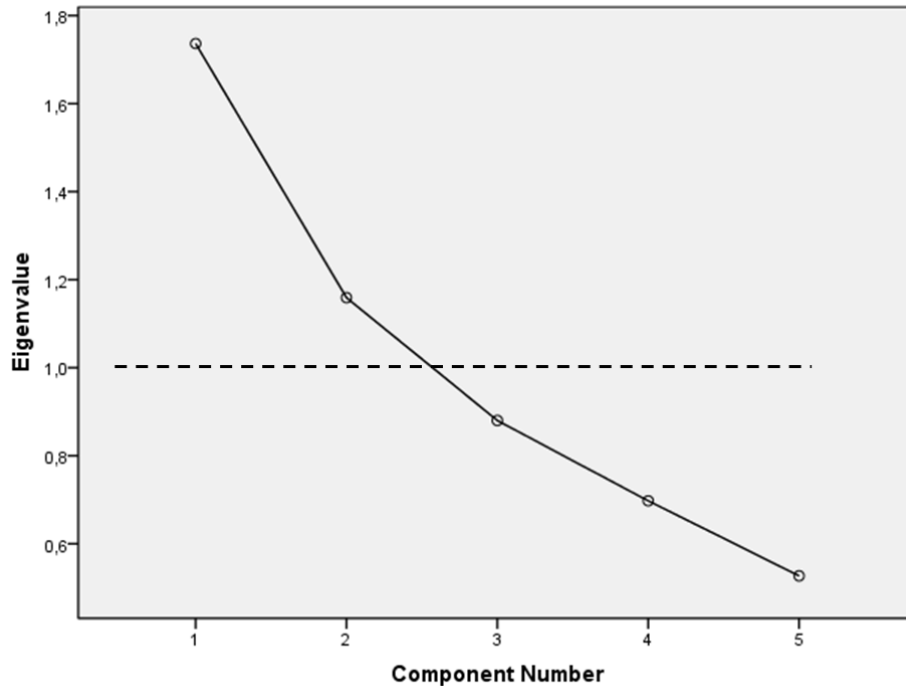


Table 5.5: Rotated Component Matrix for the Job Construct

| | Component | |
|-------------|-----------|-------|
| | 1 | 2 |
| OVEREXHAUST | .480 | .262 |
| OVERRELIAB | .796 | -.036 |
| OVERFUNCT | .740 | .062 |
| OVEREMOT | -.030 | .843 |
| OVERSOC | .211 | .809 |

Extraction Method: Principal Component Analysis.
 Rotation Method: Varimax with Kaiser Normalization.
 Rotation converged in 3 iterations.

The second Component adds the second branch to the *Job Construct* by being highly correlated with the *Emotional* and *Social* variables. Thus we have named the second independent variable JOBEMOTSOC. To score high on JOBEMOTSOC an *Overserved* consumer would have to react both positively and significantly to *Emotional* and *Social* variables, positively but not significantly to *Functionality* and *Exhaustiveness* variables and negatively to *Reliability* variables.

A note on why two components we considered. Although it seems that JOBFUNCRELIAB has all the information needed and could be considered alone, especially observing that its eigenvalue is 1.7 and that it contains 29.1% of the variance. However in this case the researcher prefers to introduce the second independent variable JOBEMOTSOC because of the novelty of the *Job Construct* and its unexplored nature. Additionally this decision might add additional information to the Hypotheses and the possibility of running additional tests on portions of the *Job Construct* so we can understand better its impact on the *Organizational Design* and on *Cross-Selling*.

Independent Variable(s) for the Mirroring Hypothesis:

The *Mirroring Hypothesis* measures the relationship between the *Product Architecture* and the *Organizational Design*. The more *tightly coupled* the *Organizational Design* is the more *Interdependent* the *Products* will be, in other words, the more “look alike” they will be. Therefore for the *Mirroring Hypothesis* to be strong in this research we should expect a relatively low number of components that explain a large portion of the total variance. Table 5.1 explains how this dataset was built. There are four variables related to the *Organizational Design*, which are ORGDES, ORGCUS, ORGLAW and ORGBRANCH and seven variables that measure *Product Interdependence*, that are PRODREG, PRODLAW, PRODSTAND, PRODMKT, PRODOP, PRODTDCOST and PRODNEXT. We start with the pairwise correlations²⁸⁴ of the variables of the *Mirroring Hypothesis*., depicted in Table 5.6.

Table 5.6: Correlation Matrix for the Mirroring Hypothesis Variables

| Variables | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
|---------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-------|----|
| 1 ORGDES | 1 | | | | | | | | | | |
| 2 ORGCUS | ,170** | 1 | | | | | | | | | |
| 3 ORGLAW | 0.088 | ,201** | 1 | | | | | | | | |
| 4 ORGBRANCH | -0.038 | 0.086 | ,133* | 1 | | | | | | | |
| 5 PRODREG | 0.110 | ,136* | ,144* | ,256** | 1 | | | | | | |
| 6 PRODLAW | ,134* | 0.088 | 0.035 | ,229** | ,218** | 1 | | | | | |
| 7 PRODSTAND | ,151** | ,113* | ,120* | 0.000 | 0.104 | ,120* | 1 | | | | |
| 8 PRODMKT | ,221** | 0.099 | ,169** | ,156** | ,127* | ,165** | ,178** | 1 | | | |
| 9 PRODOP | ,164** | ,345** | ,216** | ,139* | 0.080 | ,123* | 0.045 | ,280** | 1 | | |
| 10 PRODTDCOST | ,147* | 0.038 | 0.098 | -0.024 | ,136* | 0.105 | ,124* | 0.093 | ,179** | 1 | |
| 11 PRODNEXT | 0.099 | 0.042 | 0.093 | 0.022 | 0.072 | ,176** | 0.072 | ,200** | ,174** | 0.110 | 1 |

** indicates that the correlation coefficient is statistically significant at the 1% level (2-tailed).

* indicates that the correlation coefficient is statistically significant at the 0.05% level (2-tailed).

These correlation results are consistent with the extant literatures on both *Organizational Design* and *Product Development*. In both cases most the statistically significant relationships that were expected

²⁸⁴ Spearman's rho correlation coefficient.

have been obtained. The relationship between these two groupings is also strong as there are multiple positive correlations between *Organizational Design* and *Product Development*. Same as in the previous section on the *Job Construct* these data also has a multi-dimensional structure, in this case the multidimensionality comes from the *Product Development*²⁸⁵.

Consistent with the previous section we compute *Cronbach's Alpha* to provide information on both the *Reliability* and the *Consistency* of the variables. The overall *Cronbach's Alpha* score is 0.61 which is fairly reliable. Breaking down this result per the *Control* variable POSITION we see that that the *Cronbach's Alpha* for *Directors* was 0.61 while for *Sub-Directors* was 0.63 and for *Zone Directors* 0.45. Since there are only eight *Zone Directors* in the survey one possible explanation of this alpha is how the measurement stabilizes with the number of observations. To test for multi-dimensionality and to build the *Mirroring Hypothesis's Independent* variables, same as in the previous section, a PCA with *Varimax* rotation was performed²⁸⁶.

For the *Mirroring Hypothesis* four components were obtained (Table 5.7) and in total they account for 52.7% of the variance. The *Varimax* rotation didn't simplify much the structure of the components as it only had an influence on the first and second components. Figure 5.2 shows the *Scree Plot* of the components.

Table 5.7: Total Variance Explained in the Mirroring Hypothesis Components

| Component | Initial Eigenvalues | | | Extraction Sums of Squared Loadings | | | Rotation Sums of Squared Loadings | | |
|-----------|---------------------|---------------|--------------|-------------------------------------|---------------|--------------|-----------------------------------|---------------|--------------|
| | Total | % of Variance | Cumulative % | Total | % of Variance | Cumulative % | Total | % of Variance | Cumulative % |
| 1 | 2.354 | 21.404 | 21.404 | 2.354 | 21.404 | 21.404 | 1.537 | 13.974 | 13.974 |
| 2 | 1.224 | 11.123 | 32.527 | 1.224 | 11.123 | 32.527 | 1.532 | 13.925 | 27.899 |
| 3 | 1.172 | 10.656 | 43.183 | 1.172 | 10.656 | 43.183 | 1.491 | 13.558 | 41.457 |
| 4 | 1.056 | 9.603 | 52.785 | 1.056 | 9.603 | 52.785 | 1.246 | 11.328 | 52.785 |
| 5 | .942 | 8.564 | 61.349 | | | | | | |
| 6 | .898 | 8.161 | 69.510 | | | | | | |
| 7 | .781 | 7.097 | 76.607 | | | | | | |
| 8 | .758 | 6.895 | 83.502 | | | | | | |
| 9 | .678 | 6.162 | 89.664 | | | | | | |
| 10 | .598 | 5.433 | 95.097 | | | | | | |
| 11 | .539 | 4.903 | 100.000 | | | | | | |

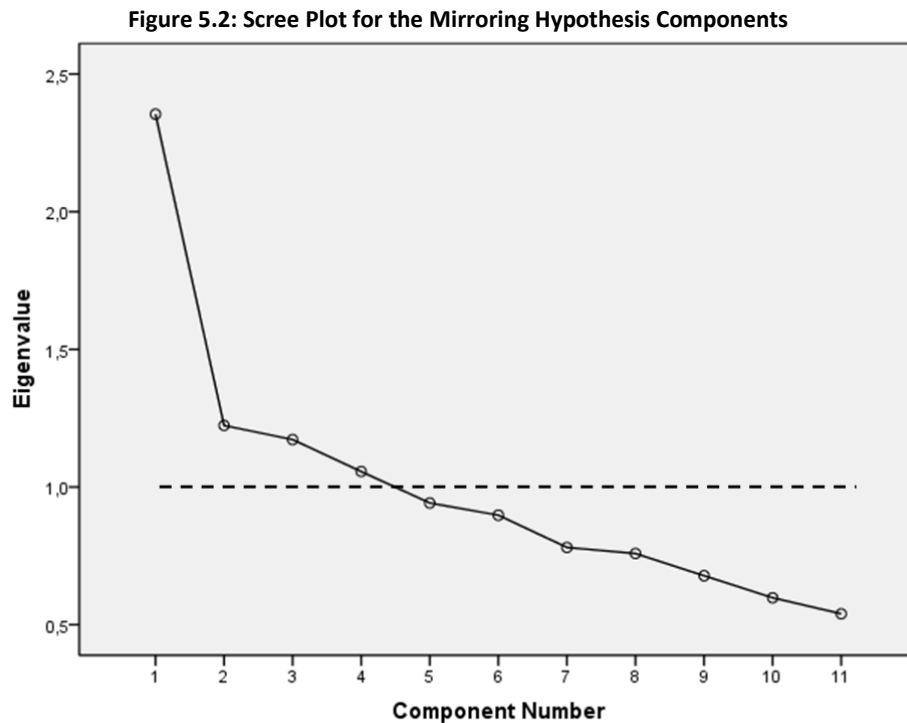
Extraction Method: Principal Component Analysis.

Table 5.8 depicts each component's eigenvectors. The first component shows the influence of the regulators in the banking industry as its most highly correlated with ORGBRANCH, PRODREG and PRODLAW, this means that because they are covering themselves up the multichannel strategy of the

²⁸⁵ A PCA test was performed on the *Organizational Design* variables alone and yielded only one component.

²⁸⁶ Kaiser-Meyer-Olkin = 0.68 and Bartlett's Test of Sphericity = 282.819 (0.000) consistent with Table 5.6.

banks is being prevented from being modularized because the regulators and the internal legal department of the bank demands more safety when it comes to selling new products, a situation that's been described in the banking literature review. Notice also how this component is highly correlated with variables that are both from the *Organizational Design* and *Product Development*. A confirmatory indication of the presence of the *Mirroring Hypothesis*. We have named this *Independent* variable MIRRORSAFE as it describes how the regulator tries to keep consumers safe (or at least thinks it's doing so) while banks do want to be safe too when selling new products and want to be covered in case something happens. In the middle of this we find the bank's internal legal department that polarizes these extremes.



The second component is a classical *Literal Replication* of the *Resource Allocation* theory for the initiatives that gain *Impetus*. As it strongly correlates PRODMKT, PRODOP and PRODNEXT which means that this component is formed of the decision of a centralized department (*Marketing*) to analyze and compute product information with the objective to develop a calendar that will decide when to launch the most *Higher-Margin* products throughout the year in a standardized format that in the banking industry is named *Campaigns*. These *Higher-Margin* initiatives are the classical representation of the

type of initiatives that gain *Impetus* and that were identified by Bower (1986). We have named this independent variable MIRRORIMPETUS.

Table 5.8: Rotated Component Matrix for the Mirroring Hypothesis

| | Component | | | |
|------------|-----------|-------|-------|-------|
| | 1 | 2 | 3 | 4 |
| ORGDES | -.050 | .490 | -.001 | .399 |
| ORGCUS | .036 | .069 | .801 | .026 |
| ORGLAW | .126 | .013 | .695 | .172 |
| ORGBRANCH | .747 | .134 | .147 | -.134 |
| PRODREG | .637 | -.175 | .245 | .275 |
| PRODLAW | .673 | .266 | -.116 | .086 |
| PRODSTAND | .142 | .032 | .012 | .696 |
| PRODMKT | .277 | .688 | -.051 | .006 |
| PRODOP | .009 | .624 | .493 | -.124 |
| PRODT COST | -.036 | .158 | .150 | .655 |
| PRODNEXT | .042 | .527 | .057 | .167 |

Extraction Method: Principal Component Analysis.
 Rotation Method: Varimax with Kaiser Normalization.
 Rotation converged in 7 iterations.

The third component relates the variables ORGCUS, ORGLAW and PRODOP, which describe how the customer's database is owned by the bank, how it remains under constant supervision from the bank's internal legal department and how that influences the banking service causing the bank to own the entire subsystems' network (both offline and online) that deliver the product information to the customer. This is an extreme case of *Interdependence* where the *Organizational Design* is actually over reacting to the regulator's demands. This variable was named MIRRORNETWORK.

The fourth component, which correlates the variables ORGDES, PRODSTAND and PRODT COST is also a classical in the extant literature on *Innovation*. It describes how consumers can empirically observe how the *Product Architecture* is strongly influenced by the *Organizational Design*, for instance, the product's risk is to be determined at the risk department that in the banking industry is either completely centralized or has only the lower risk products one level below in the *Organizational Design*, and customers know that and the branch personnel talk often about them to customers. This similarity, which confirms the presence of the *Mirroring Hypothesis*, forces the banks to sell one main product platform loosely customized in the form of *Derivatives*, a phenomenon carefully described previously and that is has been documented by Wheelwright & Clark (1992; 1994). This reflection of the architecture of the *Product* on the *Organizational Design* not only causes banks to launch *Derivatives*

(banking products usually have dozens of *Derivatives*) but also increases the minimum prize through which the *Products* can be sold because on top of the bank's expected profitability, the costs of the regulator and the campaigns are also factored in. We have named this *Independent* variable MIRRORORDERIV.

As a conclusion, the *Mirroring Hypothesis* is tested with four *Independent* variables, which are MIRRORSAFE, MIRRORIMPETUS, MIRRORNETWORK and MIRRORORDERIV. The evidence that emerges from these variables, where some of them had been previously identified in the extant literature, is instrumental for obtaining three main conclusions. First that, as stated previously, the *Organizational Design* variables correlated around just one component, indicating that although the *Mirroring Hypothesis* is correct in this research the *Product Design* is neither as highly correlated nor as *Interdependent* as the *Organizational Design*, which still doesn't mean that it's not very *Interdependent* and significantly correlated. Second, that the *Mirroring Hypothesis* is present in the banking industry and that its effects have been empirically observed in the survey. Third that not all the bank's departments have the same *Organizational Design's* "weight". For instance, in the banking industry the internal legal department is a heavyweight inside the bank, and it strongly influences all the initiatives that the bank is planning to execute.

Descriptive Statistics for the Variables:

Table 5.9 introduces the final variable list. The final dataset contains nine *Dependent* variables, seven *Control* variables, four *Dummy* variables and five *Independent* variables. The source of the data for each of these variables is also depicted in Table 5.9. The only variable that has been reverse- scaled is OVERMAX. Table 5.10 introduces the *Descriptive* statistics for each of these variables.

One thing to notice about the table 5.10 is the uniform amount of observations of the survey. This has to do with the way the survey was designed, only completed surveys were considered and the option of saving to continue later was absent. It's unknown how many surveys were left half way through and therefore were lost. The survey program used didn't provide that information.

Table 5.9: Categorization and Description of Variables

| Category | Variable Name | Description | Source |
|-----------------------|--|---|---|
| Dependent Variables | CROSS_LOW | Low Margin Cross Selling using the <i>Need Construct</i> | Survey Question 12 |
| | CROSS_HIGH | High Margin Cross Selling using the <i>Need Construct</i> | Survey Question 13 |
| | OVERNEED | Relationship between the <i>Need Construct</i> and <i>Overserved Consumers</i> | Survey Question 14 |
| | OVERDECISION | How an <i>Overserved</i> consumer relates to the <i>Products</i> being offered | Survey Question 15 |
| | OVERMAX* | The <i>Overserved</i> consumer systematically selects the wrong <i>Product</i> | Survey Question 16 |
| | JOBORG | Gap between the bank's <i>Organizational Design</i> and being <i>Overserved</i> | Survey Question 22 |
| | JOBPROD | One Product Standard and a variety of <i>Derivatives</i> | Survey Question 23 |
| | JOBCROSS_LOW | Low Margin Cross Selling using the <i>Job Construct</i> | Survey Question 24 |
| JOBCROSS_HIGH | High Margin Cross Selling using the <i>Job Construct</i> | Survey Question 25 | |
| Control | NUMBRANCH | Number of Branches in the Bank | Annual Reports |
| | POSITION | Zone, Director or Sub-Director | Survey Question d |
| | YEAR_DIRECT | Years as Director (when applicable) | Survey Question e |
| | YEAR_SUBDIRECT | Years as Sub-Director (when applicable) | Survey Question e |
| | YEAR_ZONE | Years as Zone-Director (when applicable) | Survey Question e |
| | YEAR_EXPERIENCE | Years Industry Experience | Survey Question c |
| Dummies | ZONE_ECON | Zone Economic Status | Survey Question a |
| | URBAN | Urban vs Non-Urban Branch | Survey Question b |
| | MONTH | Answered Month 1 or Month 2 | Survey Date |
| | BRANCH_STATUS | Open or Closed | Survey Time |
| Independent Variables | HQ | Survey Sent Headquarters | Survey Emailed |
| | JOBFUNCRELIAB | Functionality & Reliability components of the <i>Job Construct</i> | PCA <i>Job Construct</i> Questions 17 to 21 |
| | JOBEMOTSOC | Emotional & Social components of the <i>Job Construct</i> | PCA <i>Job Construct</i> Questions 17 to 21 |
| | MIRRORSAFE | Influence of the Legal Department on the <i>Mirroring Hypothesis</i> | PCA <i>MIRRORING</i> Questions 1 to 11 |
| | MIRRORIMPETUS | Initiatives that gain <i>Impetus</i> under the <i>Mirroring Hypothesis</i> | PCA <i>MIRRORING</i> Questions 1 to 11 |
| | MIRRORNETWORK | Extreme <i>Interdependence</i> under the <i>Mirroring Hypothesis</i> | PCA <i>MIRRORING</i> Questions 1 to 11 |
| MIRRORORDERIV | Use of <i>Derivatives</i> as a way to grow under the <i>Mirroring Hypothesis</i> | PCA <i>MIRRORING</i> Questions 1 to 11 | |

NOTE: PCA = *Principal Components Analysis*

The *Dependent* variables' Mode is at the "Somewhat Agree" level in all but one variable, where it's at the "Strongly Agree". A signal that the survey was both well understood and that the previous research was very helpful for both asking the right question and asking it in the right way. In the *Control* variables, the average number of branches per bank is 1,352, which in Spain correspond to mid-size banks. In *Position* the Mode is in the Directors, who had on average 6.4 years of experience. *Sub-Directors* had 14 years of experience on average and *Zone Directors* eight. The total years of experience of the survey respondents is 16.6, which in banking, same as in many industries is quite a long time and enriches the survey substantially because this means that these people have lived throughout very different economic and industrial *Circumstances*. The *Zone Economic Status* mode is Medium. While in the dummy variables we see that most of the branches that took the survey are located in urban areas, that the survey was mostly answered in the first month, that more often than not the branch was open to the public while the survey was being completed (that's not unusual in the banking industry because

this survey was mostly answered by branch *Directors* and although the branch might be open they have a closed office inside the branch), finally that most of the surveys that were completed were sent from the bank's headquarters. There are six *Independent* variables of the survey and are all standardized and there are no missing observations.

Table 5.10: Descriptive Statistics of Variables

| Category | Variable Name | Variable Type | Obs. | Where Applicable | |
|-----------------------|-----------------|----------------------|------|------------------|--------------------|
| | | | | Mean / Mode | Standard Deviation |
| Dependent Variables | CROSS_LOW | Categorical | 306 | 5 | |
| | CROSS_HIGH | Categorical | 306 | 4 | |
| | OVERNEED | Categorical | 306 | 4 | |
| | OVERDECISION | Categorical | 306 | 4 | |
| | OVERMAX* | Categorical | 306 | 4 | |
| | JOBORG | Categorical | 306 | 4 | |
| | JOBPROD | Categorical | 306 | 4 | |
| | JOBCROSS_LOW | Categorical | 306 | 4 | |
| JOBCROSS_HIGH | Categorical | 306 | 4 | | |
| Control | NUMBRANCH | Scale (Ln) | 306 | 1352.9 | 0.41 |
| | POSITION | Categorical | 306 | 1 | |
| | YEAR_DIREC | Scale (Ln) | 284 | 6.4 | 0.87 |
| | YEAR_SUBDIREC | Scale (Ln) | 14 | 2.5 | 0.89 |
| | YEAR_ZONE | Scale (Ln) | 8 | 3 | 1.03 |
| | YEAR_EXPERIENCE | Scale (Ln) | 306 | 16.6 | 0.47 |
| | ZONE_ECON | Categorical | 306 | 1 | |
| Dummies | URBAN | Binary | 306 | 1 | |
| | MONTH | Binary | 306 | 0 | |
| | BRANCH_STATUS | Binary | 306 | 1 | |
| | HQ | Binary | 306 | 1 | |
| Independent Variables | JOBFUNCRELIAB | Scale (Standardized) | 306 | 0 | 1 |
| | JOBEMOTSOC | Scale (Standardized) | 306 | 0 | 1 |
| | MIRRORSAFE | Scale (Standardized) | 306 | 0 | 1 |
| | MIRRORIMPETUS | Scale (Standardized) | 306 | 0 | 1 |
| | MIRRORNETWORK | Scale (Standardized) | 306 | 0 | 1 |
| | MIRRORORDERIV | Scale (Standardized) | 306 | 0 | 1 |

NOTE: The Mean of the scale variables is the original survey number, not the LN number.

Constructing Components

Next we examine the entire dataset. Table 5.11 depicts the pairwise correlations of all the variables in the dataset²⁸⁷ separated into three groups, *Dependent*, *Independent* and *Control & Dummy*. We note that there are significant correlations within the three groups but that the majority of correlations are in the *Independent* and *Dependent* groups, rather than in the *Control & Dummies* group. We also note that

²⁸⁷ Spearman's rho correlation coefficient.

while the *Dependent* variables' correlations are relatively more grouped into their own groupings the *Independent* variables are statistically significant throughout the dataset. This is an indication that the impact of both the *Job Construct* and the *Mirroring Hypothesis* transcends the boundaries of the groupings. These correlations might have implications that would have to be expanded on the formal hypotheses that will be tested in the next section. Consistent with the steps followed previously, in order to measure the internal consistency of the survey's we compute *Cronbach's Alpha*. The overall *Cronbach's Alpha* score is 0.51. We consider it acceptable given the multidimensionality of the *Independent* variables.

To understand better the behavior of both the *Job Construct* and the *Mirroring Hypothesis* a PCA with *Varimax* rotation was conducted²⁸⁸. Table 5.12 introduces the six components that in total account for 59.96% of the variance. Figure 5.3 shows the *Scree Plot* of the components.

Table 5.13 introduces the rotated components matrix for the entire variables dataset. As expected the total number of components match the categories introduced in the research design. The items generally load cleanly into their respective categories which suggest discriminant validity of the six scales. For instance the first component which is *Impact of the Job Construct in Cross-Selling* is effectively loaded with its intended variables (JOB_CROSS_LOW and JOB_CROSS_HIGH) and this component alone explains 12.69% of the variance. However another *Dependent* variable is also loaded in this component, which is OVERDECISION and relates to how *Overserved* consumers relate to the products that are being offered. This also happens in the second component which is *Impact of the Job Construct in Organizational Design*, here the two *Dependent* variables that were intended to be measured (JOB_ORG and JOB_PROD) are loaded correctly but also OVERNEED is loaded, a variable that measures how the *Needs Construct* is insufficient to satisfy the demands of *Overserved* consumers. The other two components that load *Dependent* variables show no anomalies. The OVERMAX variable on the other hand is not loaded into any of these components because it is the sole variable in its grouping (see figure 5.1)

²⁸⁸ Kaiser-Meyer-Olkin = 0.63 and Bartlett's Test of Sphericity = 579.554 (0.000) consistent with Table 5.11.

Table 5.11: Correlation Matrix for the Entire Variables Dataset

| Variables | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 |
|-------------------|--------|--------|---------|---------|---------|---------|--------|--------|--------|--------|--------|---------|--------|--------|--------|--------|--------|---------|--------|-------|--------|--------|--------|-------|--------|----|
| 1 CROSS_LOW | 1 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 CROSS_HIGH | ,463** | 1 | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 OVERNEED | -0.052 | 0.039 | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 4 OVERDECISION | -0.037 | -0.081 | ,231** | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 5 OVERMAX | -0.011 | -,128* | -,244** | -,191** | 1 | | | | | | | | | | | | | | | | | | | | | |
| 6 JOBORG | -0.098 | 0.043 | ,217** | 0.054 | -0.037 | 1 | | | | | | | | | | | | | | | | | | | | |
| 7 JOBPROD | ,124* | 0.111 | ,215** | ,147** | -0.109 | ,385** | 1 | | | | | | | | | | | | | | | | | | | |
| 8 JOBCROSS_LOW | 0.054 | 0.055 | ,230** | ,290** | -,160** | 0.096 | ,237** | 1 | | | | | | | | | | | | | | | | | | |
| 9 JOBCROSS_HIGH | 0.058 | 0.070 | ,179** | ,224** | -0.072 | 0.016 | ,202** | ,616** | 1 | | | | | | | | | | | | | | | | | |
| 10 ZONE_ECON | 0.031 | -0.064 | -0.057 | 0.060 | 0.065 | -0.093 | -,116* | -0.002 | 0.087 | 1 | | | | | | | | | | | | | | | | |
| 11 URBAN | -0.003 | -0.019 | 0.002 | -0.052 | 0.055 | -,158** | -0.031 | -0.057 | 0.019 | ,262** | 1 | | | | | | | | | | | | | | | |
| 12 POSITION | ,130* | 0.014 | -0.012 | -0.036 | -0.048 | 0.078 | 0.059 | -0.032 | -0.059 | -0.045 | -0.004 | 1 | | | | | | | | | | | | | | |
| 13 YEAR_DIREC | 0.064 | 0.037 | 0.054 | 0.065 | 0.057 | -0.001 | 0.071 | 0.046 | 0.067 | -0.030 | -0.035 | 0.000 | 1 | | | | | | | | | | | | | |
| 14 YEAR_SUBDIREC | 0.511 | 0.491 | -0.188 | ,576* | -0.070 | -0.239 | 0.386 | -0.239 | -0.319 | -0.222 | -0.089 | 0.000 | 0.000 | 1 | | | | | | | | | | | | |
| 15 YEAR_ZONE | -0.127 | -0.104 | -0.124 | -0.046 | -0.582 | -0.482 | 0.249 | -0.167 | -0.329 | 0.000 | -0.581 | 0.000 | 0.000 | 0.000 | 1 | | | | | | | | | | | |
| 16 YEAR_EXPERIENC | ,113* | 0.005 | 0.038 | 0.072 | -0.038 | 0.034 | 0.077 | -0.009 | -0.002 | -0.031 | -0.046 | ,140* | ,612** | ,637* | 0.325 | 1 | | | | | | | | | | |
| 17 NUMBRANCH | -0.058 | -0.016 | -0.014 | -0.050 | -0.105 | -0.084 | 0.000 | 0.012 | 0.040 | -0.037 | 0.000 | 0.000 | -0.011 | 0.000 | 0.000 | ,126* | 1 | | | | | | | | | |
| 18 HQ | 0.001 | 0.074 | 0.046 | -0.011 | 0.050 | -0.001 | 0.058 | 0.095 | 0.076 | -,121* | -0.104 | -0.011 | 0.069 | 0.000 | 0.000 | -0.027 | 0.000 | 1 | | | | | | | | |
| 19 Month | 0.032 | -0.048 | 0.038 | 0.004 | 0.000 | -0.003 | -0.027 | -0.074 | -0.026 | 0.033 | -0.050 | -,148** | -0.069 | 0.152 | -0.498 | -0.107 | -0.001 | -,282** | 1 | | | | | | | |
| 20 Branch_Status | -0.081 | -0.043 | 0.036 | 0.025 | 0.049 | -0.072 | 0.024 | ,120* | ,202** | -0.026 | ,120* | -0.031 | ,118* | -0.424 | -0.113 | 0.013 | -0.097 | 0.088 | -,135* | 1 | | | | | | |
| 21 JOBFUNCRELIAB | ,148** | 0.015 | 0.062 | ,202** | 0.008 | 0.067 | ,147* | ,221** | ,154** | -0.007 | 0.024 | 0.038 | ,139* | 0.206 | 0.204 | ,160** | 0.027 | 0.103 | -0.054 | 0.001 | 1 | | | | | |
| 22 JOBEMOTSOC | -0.024 | 0.060 | ,120* | 0.111 | -,165** | -0.001 | 0.088 | ,135* | 0.099 | -0.053 | -0.017 | 0.004 | -0.073 | -0.430 | 0.443 | -0.089 | -0.024 | 0.084 | -0.054 | 0.061 | -0.014 | 1 | | | | |
| 23 MIRRORSAFE | -0.068 | 0.022 | ,135* | 0.003 | 0.095 | ,236** | ,184** | 0.024 | 0.027 | 0.059 | -0.027 | -0.084 | -0.036 | 0.289 | -0.515 | 0.001 | -0.075 | -0.041 | 0.052 | 0.062 | 0.086 | -0.039 | 1 | | | |
| 24 MIRRORIMPETUS | -0.002 | 0.084 | 0.101 | 0.112 | -0.060 | ,121* | ,181** | ,179** | ,127* | 0.090 | -0.093 | 0.037 | 0.116 | 0.154 | 0.156 | ,130* | 0.006 | -0.062 | -0.062 | 0.103 | 0.065 | 0.029 | -0.015 | 1 | | |
| 25 MIRRORNETWORK | 0.015 | -0.049 | 0.103 | 0.045 | -0.088 | ,127* | 0.110 | ,175** | 0.088 | -0.029 | -0.064 | -0.001 | 0.054 | 0.357 | 0.347 | ,204** | 0.005 | 0.002 | 0.047 | 0.025 | 0.093 | 0.047 | -0.097 | 0.050 | 1 | |
| 26 MIRRORDERIV | 0.067 | 0.078 | -0.013 | 0.006 | 0.050 | 0.010 | -0.038 | -0.026 | -0.028 | 0.097 | -0.020 | 0.022 | 0.020 | -0.041 | 0.359 | 0.022 | 0.051 | -0.041 | 0.024 | 0.090 | 0.085 | 0.037 | 0.009 | 0.059 | -0.066 | 1 |

** indicates that the correlation coefficient is statistically significant at the 1% level (2-tailed).

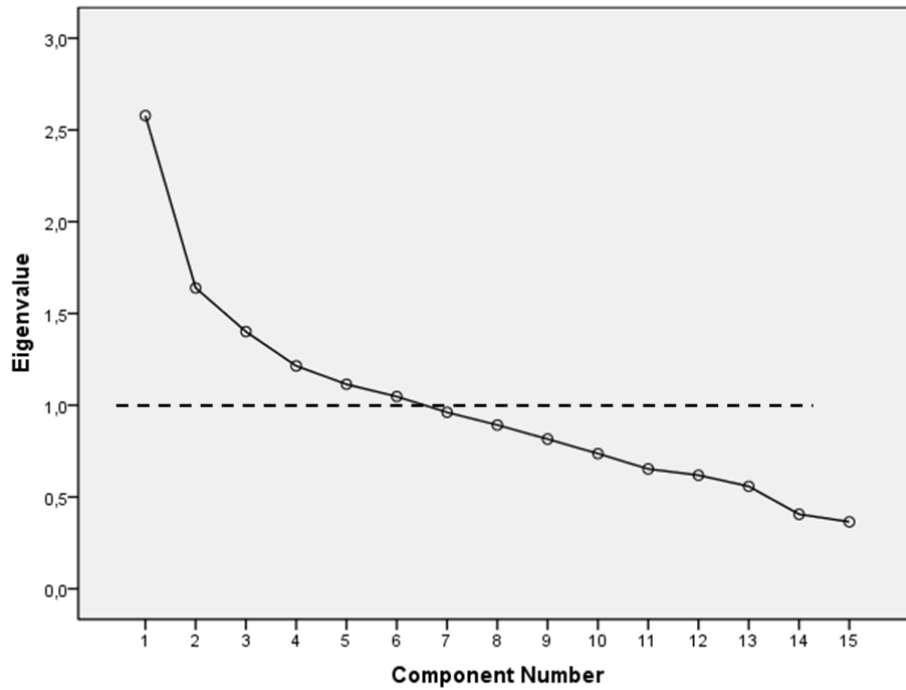
* indicates that the correlation coefficient is statistically significant at the 0.05% level (2-tailed).

Table 5.12: Total Variance for the Entire Variables Dataset

| Component | Initial Eigenvalues | | | Extraction Sums of Squared Loadings | | | Rotation Sums of Squared Loadings | | |
|-----------|---------------------|---------------|--------------|-------------------------------------|---------------|--------------|-----------------------------------|---------------|--------------|
| | Total | % of Variance | Cumulative % | Total | % of Variance | Cumulative % | Total | % of Variance | Cumulative % |
| 1 | 2.578 | 17.188 | 17.188 | 2.578 | 17.188 | 17.188 | 1.904 | 12.696 | 12.696 |
| 2 | 1.639 | 10.927 | 28.115 | 1.639 | 10.927 | 28.115 | 1.720 | 11.466 | 24.163 |
| 3 | 1.401 | 9.343 | 37.458 | 1.401 | 9.343 | 37.458 | 1.614 | 10.759 | 34.922 |
| 4 | 1.214 | 8.095 | 45.553 | 1.214 | 8.095 | 45.553 | 1.482 | 9.882 | 44.804 |
| 5 | 1.114 | 7.428 | 52.981 | 1.114 | 7.428 | 52.981 | 1.185 | 7.898 | 52.702 |
| 6 | 1.047 | 6.983 | 59.964 | 1.047 | 6.983 | 59.964 | 1.089 | 7.262 | 59.964 |
| 7 | .961 | 6.409 | 66.373 | | | | | | |
| 8 | .892 | 5.948 | 72.322 | | | | | | |
| 9 | .816 | 5.438 | 77.759 | | | | | | |
| 10 | .737 | 4.911 | 82.670 | | | | | | |
| 11 | .653 | 4.352 | 87.022 | | | | | | |
| 12 | .618 | 4.123 | 91.145 | | | | | | |
| 13 | .558 | 3.719 | 94.865 | | | | | | |
| 14 | .406 | 2.706 | 97.571 | | | | | | |
| 15 | .364 | 2.429 | 100.000 | | | | | | |

Extraction Method: Principal Component Analysis.

Figure 5.3: Scree Plot for the Entire Variables Dataset



A completely different behavior than the one shown on the *Dependent* variables and their respective components is the one from the *Independent* variables. Component five, which contains the *Mirroring Hypothesis* shows how only the MIRRORNETWORK variable is loaded into this component while the other three variables are loaded elsewhere. The *Job Construct* variable in component number six shows similar behavior but in this case its two variables are successfully loaded into its component although also elsewhere. For both the *Dependent* and *Independent* variables there is literature that explain why some of these variables load into different components, for the *Independent* variables in particular,

given the large impact that both the *Job Construct* and the *Mirroring Hypothesis* have on both *Overserved* customers and the *Organizational Design* this behavior was somewhat expected.

Table 5.13: Rotated Component Matrix for the Entire Variables Dataset

| | <u>Dependent Variables</u> | | | | <u>Independent Variables</u> | | |
|---------------|--|--|---------------|---------------------|------------------------------|---------------|--------------------|
| | Impact of the Job Construct in Cross-Selling | Impact of the Job in Organizational Design | Cross-Selling | Overserved Consumer | Mirroring Hypothesis | Job Construct | Variance Explained |
| CROSS_LOW | 0.068 | -0.083 | <u>0.849</u> | -0.084 | 0.143 | 0.036 | |
| CROSS_HIGH | 0.016 | 0.068 | <u>0.843</u> | 0.129 | -0.104 | 0.059 | 10.76% |
| OVERNEED | 0.185 | <u>0.419</u> | -0.088 | <u>0.505</u> | 0.026 | 0.039 | |
| OVERDECISION | <u>0.382</u> | 0.031 | -0.244 | <u>0.388</u> | <u>0.318</u> | 0.019 | 9.88% |
| OVERMAX | -0.041 | 0.023 | -0.137 | -0.753 | -0.146 | 0.176 | - |
| JOBORG | -0.077 | <u>0.768</u> | 0.003 | 0.089 | 0.071 | -0.067 | |
| JOBPROD | 0.223 | <u>0.684</u> | 0.185 | 0.115 | 0.036 | -0.143 | 11.47% |
| JOBCROSS_LOW | <u>0.825</u> | 0.058 | 0.017 | 0.170 | 0.116 | -0.021 | |
| JOBCROSS_HIGH | <u>0.831</u> | 0.016 | 0.034 | 0.052 | 0.011 | -0.037 | 12.69% |
| JOBFUNCRELIAB | <u>0.298</u> | 0.117 | 0.048 | -0.203 | <u>0.607</u> | <u>0.353</u> | |
| JOBEMOTSOC | 0.109 | -0.019 | 0.005 | <u>0.583</u> | -0.177 | <u>0.322</u> | 7.26% |
| MIRRORSAFE | 0.062 | <u>0.624</u> | -0.189 | -0.175 | 0.044 | 0.199 | |
| MIRRORIMPETUS | <u>0.415</u> | 0.239 | 0.118 | 0.028 | -0.293 | -0.014 | |
| MIRRORNETWORK | -0.066 | 0.093 | 0.043 | 0.139 | <u>0.723</u> | -0.135 | |
| MIRRORORDERIV | -0.095 | -0.031 | 0.084 | 0.049 | 0.001 | <u>0.859</u> | 7.90% |

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

Descriptive Analysis Conclusions

This section expands the *Propositions* introduced before in order to prepare the survey that would be subsequently administered. In addition it links *Proposition 2* with the previous fieldwork to *Triangulate* the findings on the *Job Construct* elicited before. In this section the pieces that form the *Mirroring Hypothesis*, which are the *Organizational Design* and *Product Interdependence* are untangled to be subsequently operationalized. In the same fashion the branches of the *Job Construct* are also transformed into variables. A series of Hypothesis are then introduced to measure the phenomenon at hand and its implication on *Corporate Renewal*. The survey design captures exhaustively these efforts together with some preventive error techniques. The result is the key variables that would be used for this portion of the research and the control and dummy variables that would be used to control for the variety of outcomes. Dependent and control variables are then carefully described. Using a statistical technique called *Principal Components Analysis* the *Job Construct* branches obtained in the fieldwork and the components of the *Mirroring Hypothesis* are transformed into *Independent* variables that are then operationalized and measured in the survey. Finally a complete overview of the dataset is provided

with a careful description of the information captured in the variables. Consistent with the results obtained in the field research and with what has been *Inductively* described in the extant literature both the *Independent* variables have a widespread impact throughout the survey, while the *Dependent* variables have a moderate impact that's usually associated with just another variable. Simon's *Bounded Rationality* behavior is also captured in the survey. In this section, and using the entire dataset, we can understand what the entire dataset's tendencies are in the aggregate, but this is not enough yet to either disconfirm or fail to disconfirm any of the Hypotheses. The following section tests both these Hypotheses and the complex relationships between variables that might exist using regression analysis. This is a statistical technique that tests the relationship between the *Dependent* and *Independent* variables while controlling for the effects identified in this chapter.

5.3 Testing Hypotheses

The *Propositions*, and the subsequent Hypothesis, are structured in three phases. First the inability of firms who have the *Mirroring Hypothesis* to engage in *Cross-Selling* treated as a proxy for *Corporate Venturing*. Second the appearance of the *Job Construct* and its properties, and third how the *Job Construct* is able to overcome the limitations of the *Need Construct* and of the *Mirroring Hypothesis*. The first group of Hypotheses tests the first *Proposition*, first by testing for the congruence of the *Mirroring Hypothesis* (the relationship between *Organizational Design* and *Product Interdependence*) and then testing for its links to *Cross-Selling*.

5.3.1 Proposition 1: The Relationship between the Mirroring Hypothesis and Cross-Selling

The first formal hypothesis tests the *External Validity* of the *Mirroring Hypothesis*. Previous studies were developed in the software industry. Testing the *Mirroring Hypothesis* in detail in the *Retail Banking Industry* can empirically validate some of its findings and implications.

H1: A tightly-coupled Organizational Design is positively associated with Product Interdependence

To test Hypothesis 1, a *Multinomial Logistic Regression* was used, which classifies subjects and the strength of influence of the *Independent* variables on the *Dependent* variable²⁸⁹. The first information needed to perform this analysis is the reference category. To obtain the reference category a frequency table on the *Dependent* variable ORGDES was obtained. The reference category is “Strongly Agree” with a 52.3%. The model’s *Goodness-of-Fit* which is depicted in Table 5.14. This model strongly fits the data.

Table 5.14: Goodness-of-Fit Table for the Mirroring Hypothesis

| | Chi-Square | df | Sig. |
|----------|------------|-----|-------|
| Pearson | 826.807 | 164 | 1.00 |
| Deviance | 507.268 | 164 | 1.000 |

However not all the components contribute homogeneously to the model. Table 5.15 introduces the likelihood ratio tests, which show the contribution of each variable to the model. Thus the reduced model indicates that MIRRORNETWORK, NUMBRANCH, HQ, MONTH and BRANCH_STATUS were omitted from the final model²⁹⁰. This model has a (Pseudo) R^2 (Nagelkerke) = 57.6%.

Table 5.15: Likelihood Ratio Tests for the Mirroring Hypothesis Model

| Effect | Model Fitting Criteria | Likelihood Ratio Tests | | |
|-----------------|------------------------------------|------------------------|----|------|
| | -2 Log Likelihood of Reduced Model | Chi-Square | df | Sig. |
| Intercept | 507.268 | .000 | 0 | .000 |
| YEAR_EXPERIENCE | 518.109 | 10.841 | 4 | .028 |
| NUMBRANCH | 507.480 | .212 | 4 | .995 |
| MIRRORSAFE | 517.473 | 10.205 | 4 | .037 |
| MIRRORIMPETUS | 616.963 | 109.695 | 4 | .000 |
| MIRRORNETWORK | 511.092 | 3.824 | 4 | .430 |
| MIRRORORDERIV | 579.447 | 72.178 | 4 | .000 |
| ZONE_ECON | 526.556 | 19.288 | 8 | .013 |
| URBAN | 527.072 | 19.804 | 4 | .001 |
| POSITION | 522.482 | 15.214 | 8 | .055 |
| HQ | 507.409 | .141 | 4 | .998 |
| MONTH | 509.022 | 1.754 | 4 | .781 |
| BRANCH_STATUS | 509.018 | 1.750 | 4 | .782 |

Thus the strongest influence in ORGDES was generated by MIRRORIMPETUS and MIRRORORDERIV. Table 5.16 introduces the parameter estimates for the four categories^{291,292}.

²⁸⁹ The dependent variable – ORGDES – is a categorical variable with five categories.

²⁹⁰ The Null Hypothesis is that all parameters of each variable are equal to 0.

²⁹¹ The multinomial logit model estimates k-1 models.

Table 5.16: Parameter Estimates for the Mirroring Hypothesis Model

| ORGDES ^a | | B | Std. Error | Wald | df | Sig. |
|----------------------------|-----------------|--------|------------|--------|----|------|
| Strongly Disagree | MIRROIMPETUS | -3.171 | .662 | 22.917 | 1 | .000 |
| | MIRROORDERIV | -2.443 | .586 | 17.398 | 1 | .000 |
| Somewhat Disagree | MIRROIMPETUS | -3.449 | .515 | 44.868 | 1 | .000 |
| | YEAR_EXPERIENCE | 2.739 | .878 | 9.733 | 1 | .002 |
| | MIRROORDERIV | -2.208 | .395 | 31.231 | 1 | .000 |
| | [URBAN=0] | 3.221 | .827 | 15.174 | 1 | .000 |
| Neither Agree nor Disagree | MIRROSAFE | .798 | .300 | 7.088 | 1 | .008 |
| | MIRROIMPETUS | -1.611 | .322 | 25.098 | 1 | .000 |
| | MIRROORDERIV | -1.674 | .281 | 35.511 | 1 | .000 |
| Somewhat Agree | MIRROIMPETUS | -.974 | .196 | 24.738 | 1 | .000 |
| | MIRROORDERIV | -.771 | .181 | 18.206 | 1 | .000 |

a. The reference category is: Strongly Agree.

And the models generated are the following:

For “Strongly Disagree”:

$$ORGDES = -3.171 (MIRROIMPETUS) - 2.443 (MIRROORDERIV)$$

For “Somewhat Disagree”:

$$ORGDES = -3.449 (MIRROIMPETUS) + 2.739 (YEAR_EXPERIENCE) - 2.208 (MIRROORDERIV) + 3.221 (URBAN=0)$$

For “Neither Agree Nor Disagree”:

$$ORGDES = 0.798 (MIRROSAFE) - 1.611 (MIRROIMPETUS) - 1.674 (MIRROORDERIV)$$

For “Somewhat Agree”:

$$ORGDES = -0.974 (MIRROIMPETUS) - 0.771 (MIRROORDERIV)$$

Only the “Somewhat Disagree” model has control variables that were statistically significant. First YEAR_EXPERIENCE, which is positively related to the reference category. Suggesting that the more banking experience the more positive the association of the confirmation of the *Mirroring Hypothesis*. Second URBAN=0, which indicates that in rural areas, contrary to what might be expected, the association of the distance between the branch and the Headquarters is positively related. Another

²⁹² In this table, same as in the following Parameter Estimates tables, only the statistically significant variables are shown.

noticeable finding is the absence of NUMBRANCH, which measures the size of the bank. This variable has no effect in none of the models suggesting that bank's size is not a factor in the *Mirroring Hypothesis*.

Note how the MIRRORIMPETUS and MIRRORORDERIV's parameters are negative in all four models indicating that the multinomial log-odds of both MIRRORIMPETUS and MIRRORORDERIV would be expected to decrease by their coefficients as long as all the other variables in the model remain constant (Stüttgen et al., 2012). MIRRORIMPETUS contains the *Interdependence* of the products in *Marketing*, the product's service level (at the operational level) and the product characteristic of being more profitable than the previous one. MIRRORORDERIV links the costs of owning all the functional departments with the launch of product *Derivatives* and the *Interdependencies* with the regulator's that affect the products' costs and therefore its profitability. Being these two factors negative and considering that MIRRORSAFE, which measures the *Interdependence* of the regulators and the products, the branches and the bank's legal department, is only statistically significant in the neutral category and that MIRRORNETWORK, which measures the ownership of customer's information with the bank's legal department and how that information is used at the branch level, contributed to the final model we can conclude that although Hypothesis 1 has failed to be disconfirmed the *Mirroring Hypothesis* there is a lagging effect of how these interdependencies with the regulators are affecting the *Products*, but not the *Organizational Design*. We subsequently hypothesize that this is causing the inability of the firm to engage in *Cross-Selling* successfully. To understand in detail how these external effects are affecting the bank's products and therefore their *Organizational Design* which pivots around the bank's legal department a series of formal Hypotheses were developed in two groups that revolve around *Higher-Margin Cross-Selling Success* and *Lower-Margin Cross-Selling Success*. The two Hypotheses that revolve around *Higher-Margin Cross-Selling Success* were tested first.

H2a: *The Mirroring Hypothesis is negatively associated with Higher-Margin Cross-Selling Success*

H2b: *The Mirroring Hypothesis is positively associated with Higher-Margin Cross-Selling Success*

To test Hypotheses 2a and 2b we run again a *Multinomial Logistic Regression* using CROSS_HIGH as the dependent variable. For this variable the reference category is “Somewhat Agree” with a 32.7%. The model’s *Goodness-of-Fit* which is depicted in Table 5.17. This model adequately fits the data.

Table 5.17: Goodness-of-Fit Table for the Cross-Selling Higher Margin

| | Chi-Square | df | Sig. |
|----------|------------|------|-------|
| Pearson | 1182.627 | 1164 | .35 |
| Deviance | 862.496 | 1164 | 1.000 |

However, this model has a low (Pseudo) R^2 (Nagelkerke) = 16.5%. Table 5.18 introduces the likelihood ratio tests, which show the contribution of each variable to the model. In this case none of the variables except the Intercept were statistically significant. So no variables contribute statistically to the model. Table 5.19 introduces the parameter estimates for the three categories that had at least one statistically significant variable or the Intercept. At the “Strongly Disagree” category we find MIRRORIMPETUS, which indicates that the *Interdependence* between the *Marketing* department and the operations department is statistically significant and positively associated²⁹³ with launching new higher margin products. While at the neutral category a low ZONE ECONOMIC STATUS is negatively associated with launching higher margin products.

Table 5.18: Likelihood Ratio Tests for the Cross-Selling Higher Margin

| Effect | Model Fitting Criteria | Likelihood Ratio Tests | | |
|-----------------|------------------------------------|------------------------|----|------|
| | -2 Log Likelihood of Reduced Model | Chi-Square | df | Sig. |
| Intercept | 862.496 | .000 | 0 | .000 |
| YEAR_EXPERIENCE | 865.168 | 2.671 | 4 | .614 |
| NUMBRANCH | 865.109 | 2.613 | 4 | .625 |
| MIRRORSAFE | 866.074 | 3.578 | 4 | .466 |
| MIRRORIMPETUS | 869.753 | 7.257 | 4 | .123 |
| MIRRORNETWORK | 865.256 | 2.760 | 4 | .599 |
| MIRRORORDERIV | 867.370 | 4.874 | 4 | .301 |
| ZONE_ECON | 876.415 | 13.919 | 8 | .084 |
| URBAN | 864.173 | 1.677 | 4 | .795 |
| POSITION | 869.305 | 6.808 | 8 | .557 |
| HQ | 865.849 | 3.353 | 4 | .501 |
| MONTH | 863.056 | .560 | 4 | .967 |
| BRANCH_STATUS | 865.266 | 2.769 | 4 | .597 |

²⁹³ Note that the coefficient is negative and the category is “Strongly Disagree”.

Table 5.19: Parameter Estimates for the Cross-Selling Higher Margin

| CROSS_HIGH ^a | | B | Std. Error | Wald | df | Sig. |
|----------------------------|---------------|--------|------------|-------|-------|------|
| Strongly Disagree | MIRRORIMPETUS | -.617 | .274 | 5.086 | 1.000 | .024 |
| Neither Agree nor Disagree | [ZONE_ECON=0] | -2.501 | .886 | 7.972 | 1.000 | .005 |
| Strongly Agree | Intercept | -3.923 | 1.589 | 6.096 | 1.000 | .014 |

a. The reference category is: Somewhat Agree.

Considering the research results both Hypotheses H2a and H2b can be disconfirmed. The *Mirroring Hypothesis* is neither positively nor negatively associated with higher margin *Cross-Selling* initiatives. This indicates that higher margin *Cross-Sold* products have no association with the *Organizational Design*, a research result that was expected given that there are no functional departments devoted to *Cross-Selling*. The two Hypotheses that revolve around *Lower-Margin Cross-Selling Success* were subsequently tested.

H2c: The Mirroring Hypothesis is negatively associated with Lower-Margin Cross-Selling Success

H2d: The Mirroring Hypothesis is positively associated with Lower-Margin Cross-Selling Success

To test Hypotheses 2c and 2d we run again a *Multinomial Logistic Regression* using CROSS_LOW as the *Dependent* variable. For this variable the reference category is “Strongly Agree” with a 51.6%. The model’s *Goodness-of-Fit* which is depicted in Table 5.20. This model adequately fits the data.

Table 5.20: Goodness-of-Fit Table for the Cross-Selling Lower Margin

| | Chi-Square | df | Sig. |
|----------|------------|------|-------|
| Pearson | 1175.510 | 1164 | .40 |
| Deviance | 689.009 | 1164 | 1.000 |

The (Pseudo) R^2 (Nagelkerke) = 19.6% for this model. Table 5.21 depicts the likelihood ratio tests. This model is statistically significant and there are two variables that contribute significantly to the model. These are YEAR_EXPERIENCE and MIRRORIMPETUS. Table 5.22 depicts the parameter estimates for the sole categories that had at least one statistically significant variable or the Intercept, which was “Strongly Agree”. It seems that there is a clear pattern as to where the *Cross-Selling of Lower Margin*

Products is pointing at. This category is populated with three variables, two of them are *Control* variables. YEAR_EXPERIENCE and ZONE_ECON=1, the former is negatively related to the reference category, suggesting that the more banking experience the more negative association with engaging in selling *Lower Margin Products*. ZONE_ECON=1, which means that the branch is located at a medium economic zone is positively associated to the reference category suggesting that the more medium type of customers the more *Lower Margin Products* sold. The only predictor variable that was statistically significant was MIRRORIMPETUS, which indicates that the Interdependence between the *Marketing* department and the operations department is statistically significant and positively associated with the reference variable. This is very consistent with the extant evidence obtained in the field research, as the classical example used by the interviewees is the pressure they receive to sell insurance-related products to customers while buying a particular product. This type of insurance is very price competitive, which in a case where the product is the service makes *Lower Margin Products* very attractive for the banks, another example is related to *Bundle Selling*, where the second *Lower Margin Product* is sold at a discount.

The resulting model is:

$$CROSS_LOW = 0.339 (MIRRORIMPETUS) - 1.038 (YEAR_EXPERIENCE) + 0.857 (ZONE_ECON=1)$$

This research results suggest that Hypothesis H2c can be disconfirmed while Hypothesis H2d is failed to be disconfirmed. The *Mirroring Hypothesis* is positively associated with *Lower-Margin Cross-Selling Success*. MIRRORIMPETUS shows that when it comes to selling *Lower Margin Products* both the *Marketing* and the *Operations* departments are well (and positively) synchronized to help the branch introduce new products that can be sold either in the yearly campaigns or during the sale of another product although not necessarily in a *Cross-Selling* process.

Table 5.21: Likelihood Ratio Tests for the Cross-Selling Lower Margin

| Effect | Model Fitting Criteria | Likelihood Ratio Tests | | |
|-----------------|------------------------------------|------------------------|----|------|
| | -2 Log Likelihood of Reduced Model | Chi-Square | df | Sig. |
| Intercept | 689.009 | .000 | 0 | .000 |
| YEAR_EXPERIENCE | 701.366 | 12.357 | 4 | .015 |
| NUMBRANCH | 691.943 | 2.934 | 4 | .569 |
| MIRRORSAFE | 692.743 | 3.734 | 4 | .443 |
| MIRRORIMPETUS | 700.074 | 11.065 | 4 | .026 |
| MIRRORNETWORK | 692.710 | 3.701 | 4 | .448 |
| MIRRORORDERIV | 690.135 | 1.126 | 4 | .890 |
| ZONE_ECON | 700.871 | 11.862 | 8 | .157 |
| URBAN | 690.494 | 1.485 | 4 | .829 |
| POSITION | 698.342 | 9.333 | 8 | .315 |
| HQ | 690.974 | 1.965 | 4 | .742 |
| MONTH | 690.078 | 1.069 | 4 | .899 |
| BRANCH_STATUS | 691.948 | 2.939 | 4 | .568 |

Table 5.22: Parameter Estimates for the Cross-Selling Lower Margin

| CROSS_LOW ^a | | B | Std. Error | Wald | df | Sig. |
|------------------------|-----------------|--------|------------|-------|----|------|
| Somewhat Agree | YEAR_EXPERIENCE | -1.038 | .330 | 9.873 | 1 | .002 |
| | MIRRORIMPETUS | .339 | .153 | 4.912 | 1 | .027 |
| | [ZONE_ECON=1] | .857 | .414 | 4.275 | 1 | .039 |

a. The reference category is: Strongly Agree.

5.3.2 Proposition 2: Overserved Consumers, the Job Construct and Bounded Rationality

Two tests were run to test Hypothesis 3. A Chi-Square Test that compares the observed and expected frequencies of the variable OVERMAX in each of its categories. The Chi Square Test will also reveal if all categories contain the same proportion of values.

H3: Customer Maximizing Behavior is negatively associated with choosing the Optimal product

Table 5.23 introduces the Chi-Square Frequencies for the OVERMAX variable. For the same proportion of values we test if the *Expected* values column is uniform. The residuals indicate that there are noticeable differences between the “Strongly Disagree” and the “Somewhat Agree” categories suggesting that there is no equality among the categories.

Table 5.23: Chi-Square Frequencies Table for the OVERMAX Variable

| | Observed N | Expected N | Residual |
|----------------------------|------------|------------|----------|
| Strongly Disagree | 16 | 61.2 | -45.2 |
| Somewhat Disagree | 53 | 61.2 | -8.2 |
| Neither Agree nor Disagree | 53 | 61.2 | -8.2 |
| Somewhat Agree | 129 | 61.2 | 67.8 |
| Strongly Agree | 55 | 61.2 | -6.2 |
| Total | 306 | | |

The Chi-Square statistic equals 111.320 ($p < 0.000$)²⁹⁴, the low significance value indicates that the OVERMAX categories really do differ. Having established that the proportionality of the variable OVERMAX is not homogeneously distributed Table 5.23 also reveals that there are strong divergences within this variable. To understand where these divergences come from a second test was performed. Another *Multinomial Logistic Regression* where OVERMAX is the *Dependent* variable and where the *Independent* variables are CROSS_LOW, CROSS_HIGH, OVERNEED; OVERDECISION and JOBPROD together with the *Control* and *Dummy* variables. Consistent with Table 5.23 for OVERMAX the reference category is "Somewhat Agree". The model's *Goodness-of-Fit* is depicted in Table 5.24. This model adequately fits the data and has a (Pseudo) R^2 (Nagelkerke) = 48.6%.

Table 5.24: Goodness-of-Fit Table for OVERMAX vs. Optimal Product

| | Chi-Square | df | Sig. |
|----------|------------|------|-------|
| Pearson | 993.139 | 1100 | .990 |
| Deviance | 689.978 | 1100 | 1.000 |

Table 5.25 depicts the likelihood ratio test. This model is statistically significant and there are three *Independent* variables that contribute significantly to the model. These are CROSS_HIGH, OVERNEED and OVERDECISION. No *Control* or *Dummy* variables were statistically significant.

In the case of *Overserved* customers to have CROSS_HIGH as a statistically significant variable is consistent with the evidence obtained in the field research. Highly sophisticated customers do actually purchase very sophisticated products and these products have more risk and therefore more margin for the bank. However, the statistically significant variable OVERNEED somewhat contradicts Simon's *Bounded Rationality* model in the sense that Simon's model indicates that there is a non-return continuum between the sophistication of the customer and his predictable response. OVERNEED is a

²⁹⁴ The degrees of freedom were the expected 4.

variable that relates the plain vanilla functionalities of a product to the sophistication of the customer. Contrary to this evidence, it was expected that this relationship wouldn't be statistically significant. OVERDECISION's statistical significance reproduces the previous results without the *Bounded Rationality* model. Again is unexpectedly statistically significant suggesting that a portion of very sophisticated and advanced customers do end up buying a product just because of its main *Functionalities*. Table 5.26 depicts the parameter estimates for the four categories and the resulting models are subsequently introduced.

Table 5.25: Likelihood Ratio Tests for OVERMAX vs. Optimal Product

| Effect | Model Fitting Criteria | Likelihood Ratio Tests | | |
|-----------------|------------------------------------|------------------------|----|------|
| | -2 Log Likelihood of Reduced Model | Chi-Square | df | Sig. |
| Intercept | 689.978 | .000 | 0 | .000 |
| YEAR_EXPERIENCE | 693.543 | 3.565 | 4 | .468 |
| NUMBRANCH | 694.215 | 4.238 | 4 | .375 |
| CROSS_LOW | 703.236 | 13.258 | 16 | .654 |
| CROSS_HIGH | 733.995 | 44.017 | 16 | .000 |
| OVERNEED | 728.618 | 38.640 | 16 | .001 |
| OVERDECISION | 723.810 | 33.832 | 16 | .006 |
| JOBPROD | 707.078 | 17.100 | 16 | .379 |
| ZONE_ECON | 705.144 | 15.166 | 8 | .056 |
| URBAN | 691.956 | 1.978 | 4 | .740 |
| POSITION | 695.375 | 5.397 | 8 | .714 |
| HQ | 691.369 | 1.392 | 4 | .846 |
| BRANCH_STATUS | 694.734 | 4.756 | 4 | .313 |

Table 5.26: Parameter Estimates for OVERMAX vs. Optimal Product

| OVERMAX ^a | | B | Std. Error | Wald | df | Sig. |
|----------------------------|------------------|--------|------------|-------|----|------|
| Strongly Disagree | [OVERNEED=4] | -2.459 | 1.154 | 4.542 | 1 | .033 |
| Somewhat Disagree | [CROSS_HIGH=3] | 1.561 | .674 | 5.362 | 1 | .021 |
| Neither Agree nor Disagree | [ZONE_ECON=1] | 1.789 | .701 | 6.520 | 1 | .011 |
| Strongly Agree | [OVERNEED=1] | 2.090 | .846 | 6.105 | 1 | .013 |
| | [OVERDECISION=1] | 1.572 | .768 | 4.193 | 1 | .041 |

a. The reference category is: Somewhat Agree.

For "Strongly Disagree":

$$OVERMAX = - 2.459 (OVERNEED=4)$$

For “Somewhat Disagree”:

$$OVERMAX = 1.561 (CROSS_HIGH=3)$$

For “Neither Agree Nor Disagree”:

$$OVERMAX = 1.789 (ZONE_ECON=1)$$

For “Strongly Agree”:

$$OVERMAX = 2.090 (OVERNEED=1) + 1.572 (OVERDECISION=1)$$

Only in the “Strongly Disagree” category the relationship is negative and that OVERNEED= 4 corresponds to the category “Somewhat Agree” while in the “Strongly Agree” model the relationships are positive but the categories of both OVERNEED=1 and OVERDECISION=1 correspond to their respectively “Strongly Disagree” categories. Therefore all these relationships are positive; therefore H3 is disconfirmed because it indicated a negative relationship between the customer’s *Maximizing Behavior* and choosing the optimal product.

The next group of formal hypotheses is designed to understand better the anatomy and implications of the *Job Construct* and its relationship with the *Overserved* customer itself and its *Maximizing Behavior*. We start by testing that the *Job Construct* branches are mutually exclusive.

H4: In Overserved Customers the Job Construct’s Functionality and Reliability branches are not associated with the Emotional and Social branches

Recall from the previous section that the variables JOBFUNCRELIAB and JOBEMOTSOC were generated from the PCA. This means that they belong to different components and hence there shouldn’t be any positive association between the branches, as Hypothesis 4 states. To test H4 we run an Independent Sample T-Test which compares the means of the two variables. Table 5.27 shows the results.

As expected, considering that both variables are normal the Levene’s Test indicates there is an equality of variances. The T-Test for the comparison of the means indicates that there is a statistically significant

difference between the means and therefore between these variables and their corresponding *Job Construct* related branches. Therefore Hypothesis 4 is failed to be disconfirmed.

Table 5.27: Independent Sample T-Test for the Complementarity of the Job Construct’s Branches

| | Levene’s Test for Equality of Variances | | t-test for Equality of Means | | | | | | |
|-----------------------------|---|------|------------------------------|---------|-----------------|-----------------|-----------------------|----------------------------|-----------|
| | F | Sig. | t | df | Sig. (2-tailed) | Mean Difference | Std. Error Difference | Interval of the Difference | |
| | | | | | | | | Lower | Upper |
| Equal variances assumed | .198 | .657 | .000 | 610 | 1.000 | .00000000 | .08084521 | -.15876872 | .15876872 |
| Equal variances not assumed | | | .000 | 610.000 | 1.000 | .00000000 | .08084521 | -.15876872 | .15876872 |

We now test a series of formal hypotheses that are triangulated from the field research and that test the association between the *Overserved* customer and the *Job Construct*. We start with the relationship between the customer’s *Maximizing Behavior* and the *Job Construct*.

H5a: In Overserved Customers the Job Construct’s Functionality and Reliability branches are positively associated with the Customer’s Maximizing Behavior

H5b: In Overserved Customers the Job Construct’s Emotional and Social branches are positively associated with the Customer’s Maximizing Behavior

To test Hypotheses H5a and H5b a *Multinomial Logistic Regression* was run where OVERMAX is the dependent variable and where the *Independent* variables are the two *Job Construct* branches JOBFUNCRELIAB and JOBEMOTSOC and the usual *Control* and *Dummy* variables. For OVERMAX the reference category is “Somewhat Agree”. The model’s *Goodness-of-Fit* is depicted in Table 5.28. This model adequately fits the data and has a (Pseudo) R^2 (Nagelkerke) = 14.8%.

Table 5.28: Goodness-of-Fit Table for OVERMAX vs. Job Construct

| | Chi-Square | df | Sig. |
|----------|------------|------|-------|
| Pearson | 1156.279 | 1168 | .591 |
| Deviance | 826.243 | 1168 | 1.000 |

Table 5.29 depicts the likelihood ratio test from this statistically significant model. Notice how the only variable that is related to the customer’s *Maximizing Behavior* is one of the *Job Construct’s* variables. No *Control* or *Dummy* variables were statistically significant.

Table 5.29: Likelihood Ratio Tests for OVERMAX vs. Job Construct

| Effect | Model Fitting Criteria | Likelihood Ratio Tests | | |
|-----------------|------------------------------------|------------------------|----|------|
| | -2 Log Likelihood of Reduced Model | Chi-Square | df | Sig. |
| Intercept | 829.016 | .000 | 0 | .000 |
| YEAR_EXPERIENCE | 831.064 | 2.048 | 4 | .727 |
| NUMBRANCH | 836.520 | 7.504 | 4 | .112 |
| JOBFUNCRELIAB | 829.581 | .565 | 4 | .967 |
| JOBEMOTSOC | 843.700 | 14.684 | 4 | .005 |
| ZONE_ECON | 839.278 | 10.262 | 8 | .247 |
| URBAN | 831.019 | 2.003 | 4 | .735 |
| POSITION | 836.835 | 7.819 | 8 | .451 |

Table 5.30 depicts the parameter estimates for OVERMAX the resulting models which are:

For “Strongly Disagree”:

$$OVERMAX = 0.981 (JOBEMOTSOC)$$

For “Neither Agree nor Disagree”:

$$OVERMAX = 1.584 (ZONE_ECON=1)$$

For “Strongly Agree”:

$$OVERMAX = 15.979 (POSITION=0)$$

Table 5.30: Parameter Estimates for OVERMAX vs. Job Construct

| OVERMAX ^a | | B | Std. Error | Wald | df | Sig. |
|----------------------------|---------------|--------|------------|---------|----|------|
| Strongly Disagree | JOBEMOTSOC | .981 | .388 | 6.384 | 1 | .012 |
| Neither Agree nor Disagree | [ZONE_ECON=1] | 1.584 | .657 | 5.803 | 1 | .016 |
| Strongly Agree | [POSITION=0] | 15.979 | .770 | 431.070 | 1 | .000 |

a. The reference category is: Somewhat Agree.

These results are consistent with the field research. Hypothesis 5a, that indicates a positive association between the *Overserved Customers* and the *Functionality* and *Reliability* of the *Product* designed according to the architecture of the *Job Construct* is disconfirmed, while Hypothesis 5b, that indicates a positive association between *Overserved Customers* and the *Emotional* and *Social* dimensions of the *Product* designed according to the architecture of the *Job Construct* is failed to be disconfirmed. The field research indicated that the Customer’s *Maximizing Behavior* doesn’t come from selecting between

the best products and their performance but from checking with the customer's inner fore if that's what's right and double checking that result externally with acquaintances.

To understand in detail the behavior of the customer in front of the *Job Construct* two additional Hypotheses were developed that focus on how the customer evaluates a product that just been introduced to him by a person from the branch.

H6a: In Overserved Customers the Job Construct's Functionality and Reliability branches are positively associated with the Customer's Decision-Making

H6b: In Overserved Customers the Job Construct's Emotional and Social branches are positively associated with the Customer's Decision-Making

To test Hypotheses H6a and H6b another *Multinomial Logistic Regression* where OVERDECISION is the *Dependent* variable and where the *Independent* variables are the two *Job Construct* branches JOBFUNCRELIAB and JOBEMOTSOC together with the usual *Control* and *Dummy* variables. For OVERDECISION the reference category is "Somewhat Agree". The model's *Goodness-of-Fit* is depicted in Table 5.31. This model adequately fits the data and has a (Pseudo) R^2 (Nagelkerke) = 17%.

Table 5.31: Goodness-of-Fit Table for OVERRELIAB

| | Chi-Square | df | Sig. |
|----------|------------|-----|-------|
| Pearson | 1176.611 | 168 | .424 |
| Deviance | 774.005 | 168 | 1.000 |

Table 5.32 depicts the likelihood ratio test. This model is statistically significant and one of the *Independent* variables is statistically significant together with the intercept. Table 5.33 introduces the parameter estimates for OVERDECISION. The models that these parameter estimates generated are the following:

Table 5.32: Likelihood Ratio Tests for OVERDECISION

| Effect | Model Fitting Criteria | Likelihood Ratio Tests | | |
|-----------------|------------------------------------|------------------------|----|------|
| | -2 Log Likelihood of Reduced Model | Chi-Square | df | Sig. |
| Intercept | 778.164 | .000 | 0 | .000 |
| YEAR_EXPERIENCE | 786.982 | 8.818 | 4 | .066 |
| NUMBRANCH | 780.980 | 2.816 | 4 | .589 |
| JOBFUNCRELIAB | 795.847 | 17.683 | 4 | .001 |
| JOBEMOTSOC | 783.598 | 5.434 | 4 | .246 |
| ZONE_ECON | 785.813 | 7.649 | 8 | .468 |
| URBAN | 781.549 | 3.386 | 4 | .495 |
| POSITION | 787.399 | 9.235 | 8 | .323 |

Table 5.33: Parameter Estimates for OVERDECISION

| OVERDECISION ^a | | B | Std. Error | Wald | df | Sig. |
|----------------------------|-----------------|--------|------------|--------|----|------|
| Neither Agree nor Disagree | YEAR_EXPERIENCE | -1.647 | .588 | 7.852 | 1 | .005 |
| Strongly Agree | JOBFUNCRELIAB | .559 | .174 | 10.251 | 1 | .001 |

a. The reference category is: Somewhat Agree.

For “Neither Agree nor Disagree”:

$$OVERDECISION = - 1.647 (YEAR_EXPERIENCE)$$

For “Strongly Agree”:

$$OVERDECISION = 0.559 (JOBFUNCRELIAB)$$

Hypotheses H6a and H6b help us understand in detail how the *Maximizing Behavior* adaptive response works. Hypothesis H6a indicates a positive association between the *Overserved Customers* decision making process and the *Functionality* and *Reliability* of the *Product* designed according to the architecture of the *Job Construct*. Hypotheses H6a is failed to be disconfirmed as this positive association is statistically significant. Hypothesis H6b on the other hand, that indicates a positive association between the *Overserved Customers* decision making process and the *Emotional* and *Social* dimensions of the *Product* designed according to the architecture of the *Job Construct* is disconfirmed. Again this is consistent with both the field research and the *Choice Model* introduced in the literature review. Due to the nature of mutually exclusive branches of the *Job Construct* what the *Overserved*

customer's adaptive response is telling us is that it's a *Satisficing* sequential process. Absence of the *Job Construct Functionality* and *Reliability* the decision making process stops. The presence of the *Job Construct Functionality* and *Reliability* causes the *Overserved* customer to evaluate the *Emotional* and *Social* branches. Absence of the *Emotional* and *Social* dimensions of the *Job Construct* the decision making process also stops.

To conclude the *Proposition 2* to we develop one last pair of formal hypotheses to test the relationship between the *Needs Construct* and the *Job Construct* for *Overserved* customers. That's just one step in the way of understanding if the results obtained could also have been obtained with the *Need Construct*²⁹⁵.

H7a: In Overserved Customers the Job Construct's Functionality and Reliability branches are positively associated with the Needs Construct

H7b: In Overserved Customers the Job Construct's Emotional and Social branches are positively associated with the Needs Construct

To test Hypotheses H7a and H7b another *Multinomial Logistic Regression* where *OVERNEED* is the dependent variable and where the independent variables are the two *Job Construct* branches *JOBFUNCRELIAB* and *JOBEMOTSOC* together with the usual control and dummy variables. For *OVERNEED* the reference category is "Somewhat Agree". The model's *Goodness-of-Fit* is depicted in Table 5.34. This model adequately fits the data and has a (Pseudo) R^2 (Nagelkerke) = 18.6%.

Table 5.34: Goodness-of-Fit Table for OVERNEED

| | Chi-Square | df | Sig. |
|----------|------------|------|-------|
| Pearson | 1185.526 | 1168 | .354 |
| Deviance | 887.678 | 1168 | 1.000 |

Table 5.35 depicts the likelihood ratio test. This model is statistically significant and one of the independent variables is statistically significant together with the intercept and one control variable.

²⁹⁵ There are two instances that couldn't be tested in this research due to the length of the survey. The first one is about understanding the effect of the *Job Construct* in *Underserved* customers. Does the *Job Construct* and the *Need Construct* have the same effect in *Underserved* customers? The second is understanding the effect of the *Need Construct* in *Overserved* customers an effect that, considering the results of Hypotheses H7a and H7b seems to be marginal and on a case per case basis.

Table 5.36 introduces the parameter estimates for OVERNEED. The models that these parameter estimates generated are the following:

Table 5.35: Likelihood Ratio Tests for OVERNEED

| Effect | Model Fitting Criteria | Likelihood Ratio Tests | | |
|-----------------|------------------------------------|------------------------|----|------|
| | -2 Log Likelihood of Reduced Model | Chi-Square | df | Sig. |
| Intercept | 891.837 | .000 | 0 | .000 |
| YEAR_EXPERIENCE | 896.643 | 4.807 | 4 | .308 |
| NUMBRANCH | 898.994 | 7.157 | 4 | .128 |
| JOBFUNCRELIAB | 903.420 | 11.584 | 4 | .021 |
| JOBEMOTSOC | 901.166 | 9.330 | 4 | .053 |
| ZONE_ECON | 899.043 | 7.206 | 8 | .515 |
| URBAN | 894.248 | 2.412 | 4 | .661 |
| POSITION | 908.984 | 17.148 | 8 | .029 |

Table 5.36: Parameter Estimates for OVERNEED

| OVERNEED ^a | | B | Std. Error | Wald | df | Sig. |
|----------------------------|---------------|--------|------------|---------|----|------|
| Neither Agree nor Disagree | [POSITION=0] | 14.439 | 1.123 | 165.233 | 1 | .000 |
| Strongly Agree | JOBFUNCRELIAB | .607 | .243 | 6.255 | 1 | .012 |
| | JOBEMOTSOC | .456 | .216 | 4.474 | 1 | .034 |

a. The reference category is: Somewhat Agree.

For “Neither Agree nor Disagree”:

$$OVERNEED = 14.439 (POSITION=0)$$

For “Strongly Agree”:

$$OVERNEED = 0.607 (JOBFUNCRELIAB) + 0.456 (JOBEMOTSOC)$$

Both Hypotheses H7a and H7b have failed to be disconfirmed. Which indicates that for *Overserved* customers the *Functionality*, *Emotional* and *Social* dimensions of a *Product* are key when it comes to buying new products. The *Job Construct* adds to these dimensions its branches *Exhaustiveness* and *Variability*, which makes it a better predictor of the future behavior of *Overserved* customers.

5.3.3 Proposition 3: Limitations of the Need Construct and How the Job-Construct Overcomes Them

The last set of formal Hypotheses, embedded in *Proposition 3*, tests for the new branches that belong to the architecture of the *Job Construct* and if these new dimensions are enough to overcome the

limitations in *Cross-Selling* that are present in the *Needs Construct* (see Hypotheses H2a, H2b, H2c and H2d, where only H2d, that indicated a positive relationship between the *Mirroring Hypothesis* and *Lower-Margin Cross-Selling* success was failed to be disconfirmed). To understand in detail how the *Job Construct* influences both *High-Margin* and *Low-Margin Cross-Selling* success two sets of formal Hypotheses were developed.

H8a: The Job Construct's Functionality and Reliability branches are positively associated with Lower-Margin Cross-Selling Success

H8b: The Job Construct's Emotional and Social branches are positively associated with Lower-Margin Cross-Selling Success

H8c: The Job Construct's Functionality and Reliability branches are positively associated with Higher-Margin Cross-Selling Success

H8d: The Job Construct's Emotional and Social branches are positively associated with Higher-Margin Cross-Selling Success

We test first the *Lower-Margin Cross-Selling* Success, to test Hypotheses H8a and H8b another *Multinomial Logistic Regression* was run where *JOBCROSS_LOW* is the *Dependent* variable and where the *Independent* variables are the two *Job Construct* branches *JOBFUNCRELIAB* and *JOBEMOTSOC*, the four *Mirroring Hypotheses* variables and all together with the usual *Control* and *Dummy* variables. For *JOBCROSS_LOW* the reference category is "Somewhat Agree". The model's *Goodness-of-Fit* is depicted in Table 5.37. This model doesn't adequately fit the data even though it has a (Pseudo) R^2 (Nagelkerke) = 24%. The reason that it doesn't fit the data is grounded in the nature of the *Independent* variables. Both the *Job Construct* and the *Mirroring Hypothesis* variables measure two different phenomena and the *Pearson* statistical coefficient is just pointing out that fact. Since our objective is to understand the influence of the *Job Construct* on *Lower-Margin Cross Selling* the fact that the model in the aggregate is not significant is not a deterrent in this research²⁹⁶.

²⁹⁶ Two additional models were run with the *Job Construct* variables and the *Mirroring Hypothesis* variables separated. For the *Job Construct* the Pearson's Chi Square was 1210.87 (0.187) and the model was statistically significant, for the *Mirroring Hypothesis* the Pearson's Chi Square was 1275.850 (0.022), still not statistically significant.

Table 5.37: Goodness-of-Fit Table for JOBCROSS_LOW

| | Chi-Square | df | Sig. |
|----------|------------|------|-------|
| Pearson | 1258.653 | 1168 | .033 |
| Deviance | 749.212 | 1168 | 1.000 |

Table 5.38 depicts the likelihood ratio test, it is just displayed here for consistency purposes. Although in the aggregate MIRRORIMPETUS and JOBFUNCRELIAB are statistically significant, because the model doesn't fit the data we can't take the variables in the aggregate as significant. We can only consider them on a case per case basis. Table 5.39 introduces the parameter estimates for JOBCROSS_LOW. The models that these parameter estimates generate are the following:

Table 5.38: Likelihood Ratio Tests for JOBCROSS_LOW

| Effect | Model Fitting Criteria | Likelihood Ratio Tests | | |
|-----------------|------------------------------------|------------------------|----|------|
| | -2 Log Likelihood of Reduced Model | Chi-Square | df | Sig. |
| Intercept | 749.212 | .000 | 0 | .000 |
| YEAR_EXPERIENCE | 754.533 | 5.321 | 4 | .256 |
| NUMBRANCH | 750.707 | 1.496 | 4 | .827 |
| MIRRORSAFE | 750.751 | 1.539 | 4 | .820 |
| MIRRORIMPETUS | 759.652 | 10.440 | 4 | .034 |
| MIRRORNETWORK | 757.260 | 8.048 | 4 | .090 |
| MIRRORORDERIV | 751.818 | 2.606 | 4 | .626 |
| JOBFUNCRELIAB | 767.360 | 18.148 | 4 | .001 |
| JOBEMOTSOC | 756.458 | 7.247 | 4 | .123 |
| ZONE_ECON | 758.917 | 9.705 | 8 | .286 |
| URBAN | 753.061 | 3.849 | 4 | .427 |
| POSITION | 751.281 | 2.070 | 8 | .979 |

Table 5.39: Parameter Estimates for JOBCROSS_LOW

| JOBCROSS_LOW ^a | | B | Std. Error | Wald | df | Sig. |
|---------------------------|-----------------|-------|------------|-------|----|------|
| Strongly Disagree | YEAR_EXPERIENCE | 1.530 | .753 | 4.131 | 1 | .042 |
| | MIRRORIMPETUS | -.848 | .320 | 7.019 | 1 | .008 |
| Somewhat Disagree | JOBEMOTSOC | -.406 | .190 | 4.559 | 1 | .033 |
| Strongly Agree | MIRRORNETWORK | .505 | .215 | 5.551 | 1 | .018 |
| | JOBFUNCRELIAB | .616 | .205 | 9.004 | 1 | .003 |

a. The reference category is: Somewhat Agree.

For "Strongly Disagree":

$$JOBCROSS_LOW = 1.530 (YEAR_EXPERIENCE) - 0.848 (MIRRORIMPETUS)$$

For “Somewhat Disagree”:

$$JOB_CROSS_LOW = - 0.406 (JOBEMOTSOC)$$

For “Strongly Agree”:

$$JOB_CROSS_LOW = 0.505 (MIRRORNETWORK) + 0.616 (JOB_FUNCRELIAB)$$

The three resultant models have all of them *Independent* variables. The first model indicates a negative²⁹⁷ relationship between the years of experience of the branch personnel and the *Lower-Margin Cross-Selling*. This is exactly as it has been depicted in the field research, experienced branch managers try to sell to the customer what they think it suits him best, and if they are not successful with that they try to sell them “something”, but they don’t really consider the product that is in campaign (MIRRORIMPETUS) as the first or the most sellable product. For instance one branch manager (that since the interview for this thesis has been promoted and is now in the bank’s headquarters said: “these systems (he meant the CRM campaigns) never work, and they never show the right product for the person that I have right in front of me, so I recommend almost anything as long as the customer ultimately buys something”). Hypothesis H8b is failed to be disconfirmed as the *Job Construct’s Emotional* and *Social* branches is positively related to JOB_CROSS_LOW. Hypothesis H8a is failed to be disconfirmed. And it also validates one of the main implications of this thesis. The *Job Construct* has implications that affect the *Organizational Design*. Consistent with the adaptive response of *Overserved* customers described previously we observe in this model how some of the branches of the *Job Construct* are inextricable linked to the *Organizational Design*, a clear connection that shows that the *Functionality* and the *Reliability* of a product are contingent on how the *Organizational Design* is configured.

We subsequently test for *Higher-Margin Cross-Selling Success*, to test Hypotheses H8c and H8d another *Multinomial Logistic Regression* was run where JOB_CROSS_HIGH is the *Dependent* variable and where the *Independent* variables are the two *Job Construct* branches JOB_FUNCRELIAB and JOBEMOTSOC, the four *Mirroring Hypotheses* variables and all together with the usual *Control* and *Dummy* variables. For

²⁹⁷ This is the “Strongly Disagree” category where the negative disagreement changes the sign of the relationships depicted in the model.

JOBCROSS_HIGH the reference category is “Somewhat Agree”. The model’s *Goodness-of-Fit* is depicted in Table 5.40. This model again in the aggregate doesn’t adequately fit the data even though it has a (Pseudo) R² (Nagelkerke) = 24.8%.

Table 5.40: Goodness-of-Fit Table for JOBCROSS_HIGH

| | Chi-Square | df | Sig. |
|----------|------------|-----|-------|
| Pearson | 1422.743 | 168 | .000 |
| Deviance | 797.656 | 168 | 1.000 |

Table 5.41 depicts the likelihood ratio test, again it is just displayed here for consistency purposes. Although in the aggregate only the intercept is statistically significant, since this model doesn’t fit the data in this case this doesn’t have any implications. We can only consider the relationships between variables on a case per case basis²⁹⁸. Table 5.42 introduces the parameter estimates for JOBCROSS_HIGH. The models that these parameter estimates generated are the following:

For “Strongly Disagree”:

$$JOBCROSS_HIGH = 2.084 (YEAR_EXPERIENCE) - 0.934 (MIRRORIMPETUS)$$

For “Neither Agree nor Disagree”:

$$JOBCROSS_HIGH = 16.214 (POSITION=0)$$

For “Strongly Agree”:

$$JOBCROSS_HIGH = 0.457 (JOBFUNCRELIAB) + 0.482 (JOBEMOTSOC) + 16.921 (POSITION=0)$$

Two of the three resultant models have *Independent* variables. Consistent with the previous analysis for *Lower-Margin Cross-Selling* the first model indicates a negative²⁹⁹ relationship between the years of experience of the branch personnel and the *Higher-Margin Cross-Selling*. This replicates the same behavior described above, where experienced branch personnel ignore the *Organizational Design* to sell “something” to the customer, although in this case is a *Higher-Margin* product. Hypotheses H8c and H8d are both failed to be disconfirmed. These indicate that the statistically significant relationship

²⁹⁸ Here again two additional models were run separating between the *Job Construct* variables and the *Mirroring Hypothesis* variables. For the *Job Construct* the Pearson's Chi Square was 1215.13 (0.165) and the model was statistically significant, for the *Mirroring Hypothesis* the Pearson's Chi Square was 1323.245 (0.002), again still not statistically significant.

²⁹⁹ Again this is the “Strongly Disagree” category, where double negatives mean positive.

between the *Functional, Emotional, Social* and *Reliability* branches of the *Job Construct* and its power to overcome the *Organizational Design's* rigidities (note that no *Mirroring Hypothesis* variables are present in this model) and generate a successful *Higher-Margin Cross-Selling*. A *Cross-Selling* initiative that the *Overserved* consumer happily accepts, because it increases his *Willingness-to-Pay*.

Table 5.41: Likelihood Ratio Tests for JOBCROSS_HIGH

| Effect | Model Fitting Criteria | Likelihood Ratio Tests | | |
|-----------------|------------------------------------|------------------------|----|------|
| | -2 Log Likelihood of Reduced Model | Chi-Square | df | Sig. |
| Intercept | 797.656 | .000 | 0 | .000 |
| YEAR_EXPERIENCE | 806.022 | 8.366 | 4 | .079 |
| NUMBRANCH | 800.191 | 2.535 | 4 | .638 |
| MIRRORSAFE | 801.877 | 4.221 | 4 | .377 |
| MIRRORIMPETUS | 806.079 | 8.423 | 4 | .077 |
| MIRRORNETWORK | 800.139 | 2.483 | 4 | .648 |
| MIRRORORDERIV | 802.765 | 5.109 | 4 | .276 |
| JOBFUNCRELIAB | 805.841 | 8.185 | 4 | .085 |
| JOBEMOTSOC | 806.219 | 8.563 | 4 | .073 |
| ZONE_ECON | 804.966 | 7.310 | 8 | .504 |
| URBAN | 798.889 | 1.233 | 4 | .873 |
| POSITION | 809.179 | 11.523 | 8 | .174 |

Table 5.42: Parameter Estimates for JOBCROSS_HIGH

| JOBCROSS_HIGH ^a | | B | Std. Error | Wald | df | Sig. |
|----------------------------|-----------------|--------|------------|---------|----|------|
| Strongly Disagree | YEAR_EXPERIENCE | 2.084 | .853 | 5.965 | 1 | .016 |
| | MIRRORIMPETUS | -.934 | .367 | 6.485 | 1 | .011 |
| Neither Agree nor Disagree | [POSITION=0] | 16.214 | .755 | 461.443 | 1 | .000 |
| Strongly Agree | JOBFUNCRELIAB | .457 | .212 | 4.640 | 1 | .031 |
| | JOBEMOTSOC | .482 | .188 | 6.567 | 1 | .010 |
| | [POSITION=0] | 16.921 | .775 | 476.875 | 1 | .000 |

a. The reference category is: Somewhat Agree.

5.4 Summary and Results

In the previous two sections this thesis *Propositions* and the findings that emerged from the field research were extensively tested. Chapter 5 complements with a *Mixed Method* the *Multi-Method* design used in the field research (Tashakkori and Teddlie, 2003). The nature of the data used to *Triangulate* (Jick, 1979) the findings on the *Job Construct* obtained in the field research was a survey (Dillman, 2006). The survey's design also untangled this thesis *Propositions* whose questions and variables emerged from the literature review and that were also refined by the field research. The result

is a total of seventeen hypotheses grouped in eight sets of formal hypotheses. Before testing the hypotheses the *Dependent*, *Control*, *Dummies* and *Independent* variables were carefully explained. A total of nine *Dependent* variables are obtained, together with seven *Control* variables, four *Dummies* and six *Independent* variables.

The *Independent* variables were obtained as components of a *Principal Component Analysis* (PCA). The first two of the *Independent* variables belong to the *Job Construct*. First JOBFUNCRELIAB, that contains responses that value the products *Functionality* and *Reliability*³⁰⁰ and a reasonably high *Exhaustiveness*. These results were surprisingly consistent with those that emerged from both the field research (see Chapter 4) and the extant literature where an *Overserved* customer needs a balance between these two branches (Von Hippel et al., 2011). Additionally, *Exhaustiveness* is not only a branch of the *Job Construct* but also a multidimensional variable that for it to have a value of one it would have to consider a significant number of firms from a given industry. The results obtained, where the variable loaded up to 48%, indicate that the customer's bank has more weight in the customer's *Exhaustiveness* perception than the rest of the banks of the industry. The second variable that builds the *Job Construct* (JOBEMOTSOC) contains the other two branches of the *Job Construct* that emerged from the field research, the *Emotional* and *Social*. There are two more branches from the *Job Construct* that were left untested. First are the *Industry Related* variables. Second the *Perception* variables (Thagard, 1996). These were left untested because of the limitations of the survey and the difficulty of the questions. JOBEMOTSOC loaded very strongly as a second component. Therefore a first conclusion on the *Job Construct* emerges, the *Functional*, *Emotional* and *Social* branches that were inductively described in the literature do exist. But so do the *Exhaustiveness*, *Reliability*, *Industry-Related* and *Perceptive* branches. Additionally, although we don't know about the last two, we do know that these branches do not interact between them equally. Some are closer to each other than others. On top of that we do know that these branches are also present in the *Underserved* customers, but because of the nature of this research we just don't know today how they interact for that type of customers.

The last four *Independent* variables belong to the *Mirroring Hypothesis*. The first one is MIRRORSAFE that contains variables related to banking regulations that can either come from the regulators or the

³⁰⁰ *Reliability* understood as having a small variability in customer's usage.

bank itself. The second one is MIRRORIMPETUS which indicates that the initiatives that gain *Impetus* in the banks are decided months in advance by the *Marketing* and *Business Development* Departments, that they require minor modifications in the banks systems and that they have to be at least as profitable, if not more, than the ones being *Exploited* today (Gibson & Julian Birkinshaw 2004; Wagner 2011), as mentioned before, this is a classical *Literal Replication* of the *Resource Allocation Theory* and has been extensively documented (Bower & Gilbert 2005; Bower 1986). The third one is MIRRORNETWORK that focuses on *Interdependence*. This variable states that everything is owned and managed by the bank and is held under the careful supervision of the legal department. The fourth one, MIRRORORDERIV indicates that the product platforms that the bank is using are fairly standardized across the industry. What really differentiates competitors are the *Derivatives* that they launch and the profitability of these *Derivatives* (King, 2010; Walter, 2009). This is the reason why all banks have mathematicians working on both the products and the customers databases all year round with just one assignment, to find the most attractive and profitable product *Derivatives*. Part of the confidential information of this research was the access that the researcher had to a product list on mortgages of one particular bank. The *Product* list featured the plain vanilla mortgage on the first page, the other ninety pages were variations of the first one where one or more than one of the parameters had been modified. At the bottom of each page there was a box that counted the number of times that this particular *Derivative* had been sold last year and a rank number that depicted how profitable was this product compared to the other mortgages. Therefore a first conclusion also emerges from this research. The *Mirroring Hypothesis*, usually obtained using a *Design Structure Matrix* (Baldwin et al. 2007; LaMantia et al. 2007) assumes equality of weights (and therefore equality of *Tightness*) among the departments. What it says is that in the aggregate if the *Organizational Design* is tightly coupled the interdependence of the *Organizational Design* will also be embedded into the products. What this portion of the research suggests is that this is not a linear relationship but rather a curvilinear relationship where the slope of each segment of the curve is determined by one department or by one nested group of departments. In this research it's the bank's internal legal department and the *Marketing* and *Business Development* departments. Changes in these departments behavior with respect to products can still present a tightly coupled *Organizational Design* but greatly diminish the

effect of the *Mirroring Hypothesis*. This has been partially tested as the *Organizational Design* variables from this research were run independently and they all fitted into one component.

Finally to check for *Robustness* of the data and *Internal Validity* a PCA of the entire dataset was performed. All the *Dependent* variables loaded cleanly into their corresponding categories. The *Independent* variables however loaded into their own categories and also onto others. This suggests a widespread influence of the *Independent* variables across the entire dataset.

In this chapter the hypotheses have been formally tested. Table 5.43 depicts the *Propositions*, the Hypotheses and the research results. Hypothesis #1 tests the *Mirroring Hypothesis*. It predicts that a tightly coupled *Organizational Design* is positively associated with *Product Interdependence*. Note that it doesn't say that *Organizational Design* "causes" *Product Interdependence*. The *Mirroring Hypothesis* was measured with the categorical variable ORGDES. The predicted relationship was confirmed. However one *Independent* variable (MIRRORNETWORK) wasn't statistically significant. This indicates that what's relevant for *Product Interdependence* are the *Organizational Design* links to the product that reside on the first tier. MIRRORNETWORK contains three variables. First ORGCUS, that measures who owns the customer's database, ORGLAW, that measures if the bank has its own legal department and third PRODOP, that measures the IT department's product databases³⁰¹. These results reinforce the previous conclusion. Not only has each department had a different weight but also *Modular* departments and departments that are not tightly linked to the product (second, third tier, etc.) have no relationship with *Product Interdependence*.

The group of four formal Hypotheses #2a, #2b, #2c and #2d are deeply related to the inherent *Rigidities* derived from the *Mirroring Hypothesis* and in particular to the firm *Cross-Selling* abilities. Hypotheses #2a and #2b refer to *Higher-Margin Cross-Selling* success. *Higher-Margin Cross-Selling* success was measured with the categorical variable CROSS_HIGH that came from the survey. Hypothesis #2a predicted that this relationship was negative, while Hypothesis #2b predicted a positive association. Both Hypotheses were disconfirmed, indicating that the *Mirroring Hypothesis* and *Higher-Margin Cross-Selling* success are neither positively nor negatively associated. Hypotheses #2c and #2d refer to *Lower-*

³⁰¹ One bank was kind enough to explain to the researcher how the product databases for each customer is built and how does the entire system work. That information needs to remain confidential but suffice is to say that if a *Design Structure Matrix* would be run on that architecture it would reveal that this is a fully *Modular* design (Karim 2006; Galunic & Eisenhardt 2001; Baldwin & Clark 2004; Baldwin 2012).

Margin Cross-Selling success. *Lower-Margin Cross-Selling* success was measured with the categorical variable CROSS_LOW. Hypothesis #2c predicted a negative association and Hypothesis #2d predicted a positive one. Hypothesis #2c was also disconfirmed while Hypothesis #2d was confirmed. There is a strong relationship between the *Mirroring Hypothesis* and *Lower-Margin Cross-Selling* success. However, not the entire *Mirroring Hypothesis* is statistically related to *Lower-Margin Cross-Selling* success. Only the *Independent* variable MIRRORIMPETUS is. This variable measures the portion of the *Mirroring Hypothesis* that measures the activity of the *Marketing* department, that the products that are presented to the customer need to have minimal impact in the bank's processes and that they have to be sold at a profit. With Hypotheses #2a, #2b, #2c and #2d we accept the evidence that the *Mirroring Hypothesis* is not associated with *Higher-Margin Cross-Selling*, a call to the incompatibility of selling two *Interdependent* products at the same time and that the *Impetus* the bank's usually generate are geared to low price and low margin highly *Modular* products, such as insurance.

Hypothesis #3 tests Simon's *Bounded Rationality* model. According to *Bounded Rationality*, once customers are *Overserved* their expertise will overrule their *Satisfactor* threshold and will cause them to have a *Maximizing* response when a new product is introduced or when they decide to buy another product. *Bounded Rationality* was measured with the categorical variable OVERMAX. Hypothesis #3 predicts that the *Overserved* customer's *Maximizing Behavior* is negatively associated with choosing the optimal product; this is exactly what the *Bounded Rationality* model predicts. The results are nonetheless intriguing. First a Chi-Square test was performed to understand better OVERMAX, the test indicates that the categories differ significantly. The *Multinomial Logistic Regression* produced a model that adequately fitted the data. Hypothesis #3 was disconfirmed because the resulting models indicated that both instances were true. *Overserved Customers* do buy the optimal product but they also buy the sub-optimal one. Additionally in all the models the relationship is positive. In some models the relationship was expected, such as the positive and statistically significant one between *Higher-Margin Cross-Selling* and *Overserved* customers but it's also statistically significant with basic products. This results show that the *Bounded Rationality* model doesn't provide a binary customer *Maximizing Behavior* in all instances but rather that it is *Contingent* on other factors that will cause the customer to behave differently. Some of these factors are included in the anatomy of the *Job Construct*.

Table 5.43: Results of the Propositions and Hypotheses

| Proposition or Hypothesis | Description | Result |
|---|--|--------------|
| Proposition 1: Firms that have the Mirroring Hypothesis can't launch Cross-Selling, Corporate Entrepreneurship or Corporate Venturing initiatives that are Competence- Destroying | | Accepted |
| H1 | A tightly-coupled Organizational Design is positively associated with Product Interdependence | Confirmed |
| H2a | The Mirroring Hypothesis is negatively associated with Higher-Margin Cross-Selling Success | Disconfirmed |
| H2b | The Mirroring Hypothesis is positively associated with Higher-Margin Cross-Selling Success | Disconfirmed |
| H2c | The Mirroring Hypothesis is negatively associated with Lower-Margin Cross-Selling Success | Disconfirmed |
| H2d | The Mirroring Hypothesis is positively associated with Lower-Margin Cross-Selling Success | Confirmed |
| Proposition 2: In Overserved industries there is a normative proxy that is more precise than the Need Construct to predict Customer behavior. This proxy is the Job Construct and it has a particular anatomy that influences heavily the rest of the fundamental pieces of the Organizational Design. It not only influences them in their behavior but also in their order. | | Accepted |
| H3 | Customer Maximizing Behavior is negatively associated with choosing the Optimal product | Disconfirmed |
| H4 | In Overserved Customers the Job Construct's Functionality and Reliability branches are not associated with the Emotional and Social branches | Confirmed |
| H5a | In Overserved Customers the Job Construct's Functionality and Reliability branches are positively associated with the Customer's Maximizing Behavior | Disconfirmed |
| H5b | In Overserved Customers the Job Construct's Emotional and Social branches are positively associated with the Customer's Maximizing Behavior | Confirmed |
| H6a | In Overserved Customers the Job Construct's Functionality and Reliability branches are positively associated with the Customer's Decision-Making | Confirmed |
| H6b | In Overserved Customers the Job Construct's Emotional and Social branches are positively associated with the Customer's Decision-Making | Disconfirmed |
| H7a | In Overserved Customers the Job Construct's Functionality and Reliability branches are positively associated with the Needs Construct | Confirmed |
| H7b | In Overserved Customers the Job Construct's Emotional and Social branches are positively associated with the Needs Construct | Confirmed |
| Proposition 3: The Needs Construct and its corresponding (Underserved circumstance) Dominant Design is incompatible with Corporate Venturing as it doesn't provide enough information for managers to eliminate uncertainty. It introduces a significant variability in the Corporate Venturing initiatives that gain Impetus. The Jobs Construct and its corresponding Dominant Design is not only compatible with Corporate Venturing but also provides enough information to develop the Strategic and Structural Contexts | | Accepted |
| H8a | The Job Construct's Functionality and Reliability branches are positively associated with Lower-Margin Cross-Selling Success | Confirmed |
| H8b | The Job Construct's Emotional and Social branches are positively associated with Lower-Margin Cross-Selling Success | Confirmed |
| H8c | The Job Construct's Functionality and Reliability branches are positively associated with Higher-Margin Cross-Selling Success | Confirmed |
| H8d | The Job Construct's Emotional and Social branches are positively associated with Higher-Margin Cross-Selling Success | Confirmed |

Hypothesis #4 is the first one developed to *Triangulate* the findings of the *Job Construct*. This Hypothesis represents a litmus test originated in the field research. It's related to the complementarity of the branches of the *Job Construct*, specifically it states that the *Functionality* and *Reliability* branches are independent to the *Emotional* and *Social* branches, in other words, that they are mutually exclusive. The *Functionality*, *Exhaustiveness* and *Reliability* branches were measured with the scale variable JOBFUNCRELIAB and the *Emotional* and *Social* branches were measured with the scale variable JOBEMOTSOC. To test Hypothesis #4 a simple independent sample T-Test was run. The result indicates that there is a statistically significant and very strong difference between the means, therefore confirming Hypothesis #4.

In Hypotheses #5a and #5b we re-test OVERMAX but instead of using *Bounded Rationality* we use the *Job Construct*. Thus another *Multinomial Logistic Regression* was run where OVERMAX was the *Dependent* variable and the *Independent* variables were JOBFUNCRELIAB JOBEMOTSOC. Hypothesis #5a predicts a positive relationship between a given customer *Maximizing Behavior* and the *Functional*, *Exhaustiveness* and *Reliability* branches of the *Job Construct*. While Hypothesis #5b predicts a positive relationship between a given customer *Maximizing Behavior* and the *Job Construct's Emotional* and *Social* branches. Consistent with the field research Hypothesis #5a was disconfirmed while Hypothesis #5b was confirmed. This suggests that *Overserved* customers decision making process is positively related to the *Emotional* and *Social* branches of the *Job Construct*, this finding complements the one obtained in Hypothesis #3.

Hypotheses #6a and #6b expand the results from Hypothesis #5a and #5b. If the *Overserved* customer's *Maximizing Behavior* is positively associated with the *Emotional* and *Social* aspects of the *Job Construct* when it comes to deciding which product to buy, how does the *Job Construct* fare when the product is introduced to the customer? Hypotheses #6a and #6b are related to the *Choice Model* and the mechanism that the customer uses to keep selecting which products he will finally be making the decision upon and which one will he will ultimately buy. This decision making process was measured with the categorical variable OVERDECISION. Hypothesis #6a predicted a positive relationship between the *Functional*, *Exhaustiveness* and *Reliability* branches of the *Job Construct* and the customer decision making process while Hypothesis #6b predicted a positive relationship between the *Emotional* and

Social branches of the *Job Construct* and the customer decision making process. Evidence was found confirming Hypothesis #6a, therefore it was confirmed. Hypothesis #6b was disconfirmed. This relates to the sequential response of the *Overserved* customer and how he processes the enriched information provided by the *Job Construct*. This two-step process for predicting *Customer Impetus* as both groups of branches of the *Job Construct* are processed in the customer's mind adds substantial predictability to the customer's response. This research shows that the customer's *Maximizing Behavior* is *Contingent* on how much *Interdependence* there is between the *Emotional* and *Social* branches of the *Job Construct* and the customer's validity checks. The less there is, the more *Maximized* the response is and the less optimal the product chosen. The more there is the less *Maximized* the response is and the more checks and balances will be introduced, making the optimal the product the one that will be ultimately purchased.

Hypotheses #7a and #7b compare the *Job Construct* with the *Needs Construct*. These Hypotheses are related to understanding if the *Needs Construct* and the *Job Construct* contain the same information. The *Needs Construct* was measured with the categorical variable OVERNEED. Hypothesis #7a predicted a positive relationship between the *Functional*, *Exhaustiveness* and *Reliability* branches of the *Job Construct* and the *Needs Construct* while Hypothesis #7b predicted a positive relationship between the *Emotional* and *Social* branches of the *Job Construct* and the *Needs Construct*. Both Hypotheses were confirmed. The *Needs Construct* contains the information of the *Job Construct* when observed from the customer's point of view. However, as the next group of Hypotheses is going to show, the *Job Construct* can overcome *Organizational Rigidities* derived from the *Mirroring Hypothesis* that the *Needs Construct* can't.

Is the *Job Construct* capable of reigniting organizational growth? The previous group of Hypotheses showed that in firms that have the *Mirroring Hypothesis* the *Needs Construct* only was positively associated with *Lower-Margin Cross-Selling* success (see Hypotheses #2s). Can the *Job Construct* overcome a large portion of the problems that have been identified in the extant literature, where most of them derive from the *Mirroring Hypothesis*? The group of four formal Hypotheses #8a, #8b, #8c and #8d are related to understanding in detail how the *Job Construct's Interdependence* with *Organizational Design* can overcome the inherent rigidities derived from the *Mirroring Hypothesis* and in particular in

the case of *Cross-Selling* initiatives directed at generating new net-growth (*High-Margin Cross-Selling*). We start with Hypotheses #8a and #8b that refer to *Lower-Margin Cross-Selling* success. *Lower-Margin Cross-Selling* success was measured with the categorical variable JOBCROSS_LOW. Hypothesis #8a predicted a positive relationship between the *Functional*, *Exhaustiveness* and *Reliability* branches of the *Job Construct* and *Lower-Margin Cross-Selling* success while Hypothesis #8b predicted a positive relationship between the *Emotional* and *Social* branches of the *Job Construct* and *Lower-Margin Cross-Selling* success. Both Hypotheses were confirmed. The *Job Construct's* architecture is not as affected by the rigidities inherent in the *Organizational Design* due to the *Mirroring Hypothesis* as the *Needs Construct* is. The positive and statistically significant association between all the branches of the *Job Construct* and *Lower-Margin Cross Selling* success explain the variety of cases documented in the field research where customers made purchases of highly *Modular* products. Hypotheses #8c and #8d refer to *Higher-Margin Cross-Selling* and are the acid test of new net growth. *Higher-Margin Cross-Selling* success was measured with the categorical variable JOBCROSS_HIGH. Hypothesis #8c predicted a positive relationship between the *Functional*, *Exhaustiveness* and *Reliability* branches of the *Job Construct* and *Higher-Margin Cross-Selling* success while Hypothesis #8d predicted a positive relationship between the *Emotional* and *Social* branches of the *Job Construct* and *Higher-Margin Cross-Selling* success. Both Hypotheses were confirmed. All of the *Job Construct's* branches, its entire architecture, were capable of generating new net growth. This positive and statistically significant relationship indicates that, controlling for all variable effects and in particular for the *Mirroring Hypothesis'* rigidities, the *Job Construct* can overcome a significant number of the rigidities identified in the extant literature and reignite new net-growth while increasing the customer's *Willingness-to-Pay*.

The tests performed present robust statistical findings that capture the complex effects of the *Job Construct*. The *Job Construct* was *Triangulated* (Jick 1979; Tashakkori & Teddlie 2003; Lee 1999; Miles & Huberman 1994), measured with a notable level of *Reliability* and tested for its incidence on *Cross-Selling*. To add *Internal Validity* to the research (Campbell 1957; Kirk 1994) the effects of the *Needs Construct* were also tested while its limitations, extensively documented in the extant literature, were also empirically observed (Rust et al. 2006; Gounaris & Koritos 2012). This research shows the incidence of the *Job Construct* in all the variables from the dataset together with its ability to overcome

Organizational Rigidities (Moorman & Miner 1997; Leonard-Barton 1995; Danneels 2007; Sull 1999; Levitt & March 1988; Levinthal & March 1993; March & Simon 1958; Burgelman 1994). This evidence was measured by its ability to generate both (organizational) *Impetus* (Bower & Gilbert 2005; Nutt 1984; Bower 1986; Veryzer 1998), *External Impetus* (Bagozzi & Lee 1999; Talke & Hultink 2010) and *Customer Impetus*. Additionally this research shows that the case of *Bounded Rationality* (Simon 1955; Simon 1991; Weber & Mayer 2010), although it was confirmed that it occurs in some instances (Posen et al. 2013; Gounaris & Koritos 2012; Adner & Levinthal 2008), it doesn't always explain all the variance, while the *Job Construct*, with the two-step process for customer decision making, not only complements *Bounded Rationality* but also the *Choice Model* (McFadden & Manski 1981; Chintagunta & Nair 2011; Kahneman & Tversky 1984; Tversky & Kahneman 1986; Stüttgen et al. 2012) adding a new *Compensatory Screening Rule* (Gilbride and Allenby, 2004) that selects for a different cadre of product-related attributes that were postponed for evaluation in the first screening step. Finally, and perhaps most importantly, even when controlling for *Organizational Design* and market variables, the *Job Construct* is capable of overcoming both cognitive and organizational obstacles and generate corporate renewal driven by new net growth.

Chapter 6: Conclusions

In the fields of observation chance favors only the prepared mind.

-- Louis Pasteur³⁰²

This chapter summarizes this thesis aim, the research results and its implications for both theory and practice. The chapter is divided into four sections: 1) Summary of findings; 2) Implications for the literature; 3) Implications for future research; and 4) Implications for management.

6.1 Summary of Findings

This research has identified that, consistent with the extant literature, when customers are classified according to *Attributes*, the number of statements of *Association* that can be generated out of *Attributes* rank in the order of the thousands. If instead customers are classified according to the *Circumstances* in which they find themselves (and the same methodologies for the *Attribute* based phenomena are not used but instead a different method that controls specifically for *Circumstances*) there are a few highly dense “zones” in these groups of customers’ brains that predict *Customer Impetus*. These highly dense “zones” are the branches of a previously *Inductively* identified “Cell” named the *Job Construct*. The nature of the information contained in the *Job Construct* extends beyond the boundaries of the customer to include both the *Industry* and the *Organizational Design* therefore it can exert a strong influence on the *Resource Allocation* process to reignite growth in what would otherwise remain a stagnant firm.

This research isolates for the first time a *Job Construct*. This allows us to start understanding its anatomy and how it works. Understanding this *Construct* is the first step in reducing the extremely high *Customer Variability* present in both *Corporate Venturing* and in particular *Corporate Entrepreneurship* initiatives. The influence of the *Job Construct* extends beyond the limits of the established firm, as it has the potential to significantly reduce the high failure rate that today populates most of the entrepreneurial endeavors.

³⁰² http://en.wikiquote.org/wiki/Louis_Pasteur. Accessed April 2011.

The retail banking industry in Spain was selected for seven reasons. First, the banking industry has invested significantly in customer information, which was instrumental for both obtaining and *Triangulating* data. The second one is having access to the data. Third, the banking industry is very aware of their *Business Model* fatigue and some of the most relevant players in the industry were very helpful in this research. Fourth, intra-industry similarity, in retail banking revenue and profits are a function of the *Derivatives* that the banks sell and their *Market Share*. *Business Models* are relatively homogeneous which makes their problems quite widespread. Fifth industry regulation, which in this industry is extensive, was instrumental in the research for understanding the implications of regulation in *Organizational Design*. Sixth the possibility of large sample comparisons among competitors was present due to the nature of the data and the similarity of the competitors. The seventh reason is the ability to develop both *Literal* and *Theoretical Replications* in other industries because of the Retail banking's industry nature of the data.

The research methodology has two parts. First a *Qualitative – Quantitative Sequential Multi-Method Model* was used to isolate the *Job Construct* and visualize it for the first time. This method is based on *Qualitizing* data and was particularly helpful for reaching a level of detail unprecedented in most qualitative studies. In particular it's especially suited for controlling for *Context* related variables, a fundamental ingredient needed to isolate *Causal* based variables. Additionally it replaces critical parts of the research process with purely quantitative methods, a feature that increases both the research *Robustness* and *Internal Validity*. Coding the data obtained from the case studies took about nine months; the entire first part process took about fifteen months. During the process a total of sixty two *Deductive* codes that were obtained from the literature review were tested and a total of thirty four *Inductive* codes (most of them with no precedent in the literature) were elicited, therefore most of the 35% of the new *Inductive* codes that were finally processed quantitatively were completely new to the literature. Seven control codes were used to delimitate the relevant parameters of the study. In total the codes were elicited 106,452 times in the twelve datasets. An unusual richness of data that allows us to go to the utmost detail for understanding this phenomenon. The second part of the research methodology uses a large sample survey analysis to understand both the influence of the *Mirroring Hypothesis* in the process of stagnation of firms and the influence of the *Job Construct* on the *Resource*

Allocation process to reignite new net growth. The total survey response was 306 registers, making it one the largest industry level surveys of the year for the entire industry. Blending these two research methodologies the study was able to combine a detailed observation of a new entity with the *Rigor* and *Relevance* required in any large sample research design (Tushman et al. 2007; Chintagunta et al. 2013). Some survey researchers would instead have gone directly to the quantitative research and by the time they would have done it they would have started to see questions that they could have asked in the first place. In this research by first outlining the *Propositions*, then obtaining the *Job Construct* with exceptional detail and then designing the survey this problem was not only addressed beforehand but the coherence and *Robustness* of the research was maintained throughout the study³⁰³.

Consistent with the three *Propositions* there are three important findings that emerged from this research. First, the limitations of the *Mirroring Hypothesis* for engaging in new net growth; Second, observations on the *Job Construct* and its anatomy; and third how the *Job Construct* overcomes the *Mirroring Hypothesis*' limitations and is capable of reigniting new net growth.

The Limitations of the Mirroring Hypothesis for Engaging in New Net Growth:

The *Mirroring Hypothesis* describes the resemblance of the architectures of the *Product* and the *Organizational Design*. When there is a high resemblance, which indicates that the *Mirroring Hypothesis* is present, the capabilities of firms to engage in growth initiatives are significantly affected. One of the main criteria used by firms to select which initiatives to pursue is the net margin. Firm's *Competences* have a cost and firms will try to pursue as many high margin initiatives as possible. Although for a firm the optimal scenario would involve selling as many high margin products as possible this research shows that the *Mirroring Hypothesis* consistently prevents all initiatives from gaining *Impetus* except the lower margin ones. These results, identical in both the qualitative and quantitative parts of the study, are quite revealing. Firm's *Competence Enhancing* Capabilities will help the firm to sell its high margin product but only that one product, the firm's *Mirroring Hypothesis* will consistently prevent the firm from selling other higher margin products, leaving the sales force with the only option of selling lower margin

³⁰³ The researcher is indebted to Clayton M. Christensen for introducing this research approach when tackling a new research problem.

products. One of the main reasons for that to happen resides in the amount of information managers have at their disposal to understand this process. The main building block for understanding customer information is the *Needs Construct*. Although banks segment their customers using thousands of fields of data, this data is categorized in either *Product* or *Customer* information, which is the architecture of the *Needs Construct*. This architecture doesn't offer enough information on the many variables needed to defend the creation of a new highly *Interdependent* product inside the firm. This problem is compounded when we introduce *Bounded Rationality*, because even though is very insightful for explaining the failure of new *Interdependent* products, it's not exhaustive enough, therefore it doesn't explain why there are customers that having extensive knowledge of the products of the industry still select the main or least sophisticated ones.

Observations on the Job Construct and Its Anatomy:

There is a new architecture that does contain more information than the *Needs Construct*, it's the *Job Construct*. The *Job Construct* emerged from eliciting *Context* related variables from the minds of dozens of consumers. Therefore the depth of data about how the decision-making process unfolds was carefully obtained, a pattern emerged, and that was categorized in branches. This research identified five branches in the *Job Construct*. They were obtained using both research methodologies and they were sorted in two groups. First there is the *Exhaustiveness, Variability and Functionality*. Second we have the *Emotional* and *Social*. The implications of the information contained in each of these branches is relative. *Exhaustiveness* is related to the industry in the aggregate, *Variability* refers to the *Product*, same as *Functionality*, the *Emotional* branch is a form of *Variability* but that is measured against the customer inner fore while *Social* is another form of *Exhaustiveness* that is measured against the customer's network of acquaintances. Since each of these branches refers to a different contrast the richness of information provided in the *Job Construct* is much higher than that of the *Needs Construct*. Therefore, although for every type of customer there is a *Job Construct* and a *Needs Construct* the differences in both explanatory power and, most importantly, predictive power are striking. First the *Needs Construct* is built with *Attributes*, while the *Job Construct* is built with *Causal Variables*. Second the *Needs Construct's Unit of Analysis* is the customer and its architecture is categorized in two groups,

Product related characteristics and *Customer* related characteristics. The *Job Construct's Unit of Analysis* is represented by the situations where there is a highly dense area of *Context*-related variables that invariably form a pattern and the information is categorized in five branches that are measured against constant scales that remain highly related to that highly dense area. Both research methodologies were *Triangulated* during this research and the findings were identical. The *Job Constructs* that were obtained from each of the research methodologies were identical and had both the same properties and predictive behavior.

How the Job Construct Overcomes the Mirroring Hypothesis Limitations Reengaging the Firm in New Net Growth:

The *Job Construct* is capable of reigniting new net growth in stagnant firms by overruling just with information what was before a purely personal opinion-based environment. As mentioned previously the limitation in terms of information of the *Needs Construct* coupled with the ambiguous response that comes from *Bounded Rationality* make it difficult inside the organization to “defend the case”. This causes that the *Mirroring Hypothesis* ends up becoming the “decision making ruler” and the *Mirroring Hypothesis* is only going to give a pass to project that *Mirrors* the *Organizational Design* because of its rule of fix-based processes. The *Job Construct* is capable of overruling the *Mirroring Hypothesis* just because the information that has embedded. This research shows how the *Job Construct* is successful by overruling the portions of the *Organizational Design* that would block the *Needs Construct* while capitalizing on the pieces of the *Organizational Design* where *Interdependence* is minimal. This is what it's been found throughout this research. Using the *Job Construct* the firms are capable of pursuing as many high-margin initiatives as resources allow. The *Job Construct* is capable of turning some *Competence-Destroying* initiatives and turned them into new products. Suddenly the firm is not only limited to selling low margin products but also new high margin products that have a much deeper effect both in terms of sales and profitability.

6.2 Implications for the Literature

This thesis results have strong implications for the four literatures described in the literature review. These are the *Technological Change*, *Marketing*, *Organizational Design* and *Entrepreneurship* literatures. Although the last two were treated as lagging literatures that were being mostly impacted by the first two. This thesis started introducing two groups of firms, those that cherish the *Products* and those that cherish the *Customers*, each belonged to their own research stream, the *Technological Change* and *Marketing* literatures. It was mentioned that these literatures were at a point of convergence in one research question: what explains and predicts what product will the customer buy next? Each of these literatures has a research line that tries to answer that question satisfactorily and this thesis has findings that contribute to each of these discussions.

Technological Change Literature

As described at the beginning of this thesis one of the most sought after research streams in the *Technological Change* field is related to launching new successful products at the *Fuzzy Front End*, when uncertainty is high (Brentani & Reid 2012; Magnusson 2009). This interest is compounded when what the firm is planning to launch is a *Breakthrough* product (Bettencourt, 2010). This research sheds some light on how to do that. The poster child of a firm that has done that recently is Apple. The beginning of this thesis mentions how Mr. Jobs had the ability to "see" new products that would gain widespread acceptance. The recent history of Apple is closely linked with rebuilding a stagnant firm that instead of selling the *nth Derivative* of the Mac started to sell new high-margin products that had a highly *Interdependent* architecture (Van der Rhee et al. 2012; Cooper 2011). This is exactly what the findings of this thesis are. In the case of Apple the source of information to do that was *Tacit* and it came from Mr. Jobs, in the future firms will be able to get that information in an *Explicit* form and they will be able to do that by introducing in their processes the information provided in the *Job Construct*.

Bower's (1986) seminal work on *Resource Allocation* identified the *Construct Impetus*. Subsequent research has refined this *Construct* and tested its *External Validity* (Bower & Gilbert 2005). Additional research has shown that *Impetus* is also present when the *Unit of Analysis* changes, for instance, in the

firm's channel there is also *Impetus*, which was named *External Impetus* (Talke & Hultink 2010; Bagozzi & Lee 1999). This research shows that outside the firm *Impetus* exists too, the *Job Construct* is in fact the leading variable of *Customer Impetus*, a new type of *Impetus* that is elicited by targeting the *Job Construct* and whose presence reduces significantly customer uncertainty. Additionally *Customer Impetus* can contribute significantly by adding *Context* to the discussion on *Quality* (Hopkins, 2010). One of the main discussions of *Quality* is related to its relationship with *New Product Development* (Cooper & Kleinschmidt 1995a) and *Speed-to-Market* (Stanko et al., 2012). Two discussions that are heavily influenced by the *Quality* threshold that's required from the product (Groen & Walsh 2013). The *Job Construct* is capable of contributing significantly to these literatures, especially its *Exhaustiveness* and *Reliability* branches.

Interdependence and *Modularity* affect the *Margins* and therefore the *Profitability* of the firm (Lenox et al., 2009). The extant literature indicates that on average *Interdependent* products have higher *Margins* than *Modular* products (Liu & Tyagi 2011). Since performance is a multidimensional variable (Kleinschmidt et al., 2010) and *Interdependence* and *Modularity* have to be determined within each nested architecture (Katz & Shapiro 1994) the *Job Construct* can contribute significantly to the discussion by establishing which architecture has to be *Interdependent* and why. This is particularly relevant depending on the *Industry* and the role of the regulator.

Marketing Literature

The research on customer behavior has been recently grappling with observations on *Consumption Smoothing*. Which has been measured by *Intertemporal*, *Intercategory* and *Intracategory* change in the patterns of consumption (Dutt and Padmanabhan, 2011). This change has been more acute in best performing products (Deshpandé et al., 1993) indicating that utility changes in the customer's minds are changing significantly (Chintagunta & Nair 2011). This discussion is at heart about the transition from *Underserved* to *Overserved* customers. The transition from *Underserved* to *Overserved* is not an event but a process that we need to understand much better (Ulwick, 2005). The *Marketing* discussion on that sense revolves around how to understand this processes better especially in front of *Discontinuous* change (Lynn et al., 1996). However recent data suggests *Marketing* is failing to deliver on its promise,

and that firms still don't consider *Marketing* indispensable. The average tenure of a *Chief Marketing Officer* has been shortening and is now about three and a half years (Kotler et al., 2012). At heart one of the main research areas of the *Marketing* is about *Predicting* customer behavior to increase a firm's advantage (Day and Wensley, 1988), the *Job Construct* can significantly reduce the *Variability* associated with this process therefore increasing the influence of *Marketing* on firms.

Social data and user generated content are dramatically changing the *Marketing* environment (Fader and Winer, 2012). Still, the dominant *Model* is the *Segmentation Target Positioning* (STP) (Adner, 1998; Schieffer, 2005) and this *Model* is based on the *Needs Construct*, the more error the *Needs Construct* contains the less it will impact firm's performance (Hult et al., 2005). To improve on these error rates the *Units of Analysis* used to analyze the *Needs Construct* have varied over time, some of them are the *Product, Customer, Situation, Occasion, Use, Benefit, Solution, Specification*, etc. the type of study on the other hand hasn't changed that much, statements of association and ethnographic studies being the more most often used. The *Job Construct* not only provides an additional *Unit of Analysis* but also a new methodology that's particularly useful for a type of customer that no longer knows exactly what it really wants (Crain, 2010).

The literature on the *Choice Rules* that customers use for selecting a product has recently shifted from functions whose assumption was that customers are *Utility Maximizers* to a *Satisficing Model* (Stüttgen et al., 2012). The discussion on the *Satisficing Model* borrows from *Bounded Rationality* and introduces the option that above a certain threshold the customer considers that particular product characteristic *Good Enough* (Dawes, 1964). Recent studies show that 92% of respondents screen alternatives on more than one product characteristic, and the three *Rules* more often used are *Conjunctive, Disjunctive* and *Compensatory* (Gilbride and Allenby, 2004). The *Job Construct* can add to this discussion with its two-step *Rule* for decision making. It would be a case of a *Compensatory* rule where product characteristics that pass to the following phase are different from the ones on the first phase.

Organizational Design Literature

The duality of *Product* and *Organizational Design*, the *Mirroring Hypothesis*, has been recently studied in the *Organizational Design* literature (MacCormack et al. 2012; Cabigiosu & Camuffo 2011). Mainly because of its influence on *Product Performance*. The *Mirroring Hypothesis* is an organizational response to a necessity, which is to coordinate *Interdependent* tasks as efficiently as possible while minimizing error (Colfer & Baldwin 2010). Another research stream in the *Organizational Design* literature studies the differences of a variety of designs controlling for the external environment (Hrebiniak and Joyce, 1985; Lawrence and Lorsch, 1967). One of the environments, identified previously as the *Resource Dependence* theory, explains that customers and shareholders control the firm. Christensen (1997c) identifies a customer *Circumstance* that strongly favors a tightly coupled *Organizational Design* which is customers that are *Underserved*. *Underserved* means that products are just not good enough, they have to improve on its main performance metric, in this *Circumstance* customers are in a strong *Maximizing* strategy (exactly the same way as the early *Choice Models* depicted in the literature review) therefore the more *Interdependent* the *Organizational Design* the faster the *Cycle Time* of product improvement (Bstieler 2006; Cooper & Edgett 2008) which translates directly into product performance (Corsino and Gabriele, 2010; Cucculelli and Ermini, 2012). However, as identified in the literature, *Bounded Rationality* is also present at the firm level (Conner and Prahalad, 1996). Some *Functional Units* start to become *Good Enough* and customers start reaching their *Satisfactory* thresholds while engaging in the process called *Overserved* (Christensen & Raynor 2003a). Paradoxically this happens when the *Mirroring Hypothesis* is truer than ever, as it's the result of year after year of work from the best professionals in the best firms, with the best knowledge and all to deliver the best performing product year after year. The reward for all this effort is a mismatch in *Organizational Design* that causes about 90% of the firms to stagnate and eventually perish (Foster & Kaplan 2001). There are three ways through which the *Job Construct* can contribute to these literatures. The first one is the *Growth* problem. Research streams have identified three causes that severely impede growth, *Competency Traps* (Poole & Van De Ven 2004; William Barnett & Hansen 1996), *Inertia* (Hannan & Freeman 1984) and fear of *Cannibalization* (Bresnahan et al., 2011; Chandy and Tellis, 1998). We hypothesize that these causes are not causes themselves but effects, empirical observations of a collection of symptoms that have been validated

over time. We suggest these are lagging variables from the *Mirroring Hypothesis*. Therefore, as suggested in this thesis research results, to reignite growth the real cause that is blocking high-growth initiatives is the mismatch between the *Mirroring Hypothesis* and *Overserved* customers. The second way is introducing additional information that can help firms find a better *Organizational Design*. Firms have been struggling to find ways to shelter new initiatives outside of the margin pressure (Armour and Teece, 1978; Eisenmann and Bower, 2000) the *Job Construct* can provide critical information not only on what features to shelter but also which activities have to be driven bottom-up or top-down. The third way is contributing to the *Corporate Venturing* and *Corporate Entrepreneurship* discussion which according to the literature are ways of classifying *Impetus* (Bryce and Dyer, 2007). *Corporate Venturing* is cyclical (Burgelman and Välikangas, 2005) and it has periods when many initiatives are shut down. The *Job Construct*, the leading variable of *Customer Impetus*, can significantly improve the odds of success in both *Corporate Venturing* and *Corporate Entrepreneurship* initiatives, today only 7% of firms recover strong growth (Olson & Van Bever 2008; Chakravorti 2010).

Entrepreneurship Literature

Entrepreneurship success is still an infrequent event. Contrary to popular belief new ventures' failure rates are so high that the trend shows a steady reduction in new company creation (Shane 2010). One of the main research streams in *Entrepreneurship* research is focused on understanding the *Opportunity* (Stevenson and Jarillo, 1990), quite often the *Opportunity* comes from the people that would like to have that product in their day-to-day lives (Shah & Tripsas 2007). Regardless, *Entrepreneurship* is still a process, not an embodiment of a type of person (Sorenson & Stuart 2008; Shane 2012). The *Job Construct* is already contributing into that discussion because when a person creates a firm to satisfy a *Need* he may have for himself the information he is using is much richer than the one that comes from the *Needs Construct*. It's much closer to the *Job Construct*. Still, there is work to do in parameterizing that information and making it a process predictable and reliable for future entrepreneurs.

Additionally there are three research streams in *Entrepreneurship* where the *Job Construct* discussion can contribute significantly. First is the duality between *Product Uncertainty* and *Customer Uncertainty*. In *Entrepreneurship*, same as for established firms one of the main ways to reduce uncertainty is

Imitation (Semadeni & Anderson 2010). But there is a fundamental difference, established firms suffer mainly from *Product Uncertainty* while most new ventures actually fail because of *Customer Uncertainty* (Blank, 2006). Some authors even describe a start-up as a temporary vehicle in search of a *Business Model* and a type of customer (Blank and Dorf, 2012). The *Job Construct* carries information that can contribute significantly to the discussion on *Uncertainty*. Second the research on *Venture Capital*. Research shows that Venture Capital investments have a dismal failure rate and that the trend shows this high failure rate is not being reduced (Gage, 2012; Sahlman, 1990). The discussion on *Venture Capital* tries to reduce this failure rate by having firms or partners specialized in either industries or technologies (this is an example of how *Description* – the left hand side pyramid from Appendix A – does not imply *Prediction*). The *Job Construct* can significantly contribute to this discussion by adding additional ways of *Venture Capital* firms to both structure themselves and develop an expertise that would help the new firm focus on the *Job Construct* better, faster and with less error (Samila and Sorenson, 2010). Third there is the discussion on *Fail Fast*. There is a research stream in *Entrepreneurship* research that suggests that rather than use theory to predict outcomes what *Entrepreneurs* ought to do is just to "get out of the office" and try things until they find the one that works (McGrath 2010). That there is no problem changing the entire *Business Model* concept if the new one just works (a process called *Pivot*), in fact there is evidence that the survival of new firms is somewhat linked to using this approach combined with minimizing the *Burn Rate* (Bhidé, 2000). The *Job Construct* can add to this discussion by helping researchers understand that this process of brutal experimentation is just one very early stage phase on the formation of a new scientific field (Fayolle, 2007b), and that the *Job Construct* can contribute significantly to start reducing the variability associated with *Entrepreneurial* activities (Bhidé, 2008).

6.3 Implications for Future Research

The findings from this research have broad implications in a variety of research streams. However we suggest that the best way to start is by reorganizing the literature of a particular research stream according to the methodology depicted in Appendix A. Today, the most common way of deciding upon the viability of a new paper is the gap that's been identified in a particular literature. This methodology

is very useful for identifying huge gaps in the literatures that are unbelievably relevant and that just haven't been addressed yet, especially when the *Descriptive* and the *Normative* realms are carefully accounted for. The two main contributions of this research are discussed in this section. For each of them we look for ways to extend the current study and the emerging issues that might be addressed in subsequent research.

Mirroring Hypothesis

The main finding on the *Mirroring Hypothesis* – that its presence severely limits the firm to engage in new net growth – was obtained using a survey study. However these methodologies only capture information at one point in time. A longitudinal analysis of how these limitations came to be would be instrumental for researchers on *Organizational Design*. Additionally this research also shows that not all the elements of the *Product Design* and the *Organizational Design*, although *Mirrored*, generate *Rigidities*, and that the elements of the *Organizational Design* that contain the *Commercialization Channel* play a significant role. This research controls for these elements and therefore acknowledges a curvilinear relationship between the *Mirroring Hypothesis* and *Organizational Rigidities*, but it doesn't explore how and why these *Rigidity Hubs* came to be and how do they precisely block growth.

There are two emerging issues that would require further exploration. First there is the issue of *Modularity*, second *External Validity*. Additional studies could be developed that control for cases where the *Organizational Rigidity* was removed by reorganizing that *Functional* department to make it more modular. Or cases where the reorganization was related to dealing with a new initiative that was externalized as an independent *Business Unit*. Second, this research adds *External Validity* to the *Mirroring Hypothesis* by testing it in the banking industry, additional studies could continue testing for it in a variety of industries and again specifically controlling for where and how the *Organizational Rigidities* it generates are consistent with previous evidence and with growth related initiatives. And in particular why the *Needs Construct* can't overcome them when the evidence supports that the *Job Construct* does.

Job Construct

This research barely scratches the surface on the research needed to understand the *Job Construct* and its implications for management. We have seen in this research that the *Job Construct* branches are *Exhaustiveness, Reliability, Functionality Emotional and Social*. And we know all of them relate to their own scale and that their implications extend to the *Industry, the Organizational Design, the Product and the Customer*. This research shows that these branches can overcome the rigidities derived from the *Mirroring Hypothesis*, but we don't know how they do it or why they do it. This research also shows that these branches are not the only ones, that at least there are two more that are related to *Customer Perceptions* and the *Industry*. A particularly useful way to extend this research would be to repeat the survey that *Triangulates* on the *Job Construct* in *Underserved* customers. Issues related to the length of the survey have prevented the researcher from doing so in this research. In particular, it would be interesting to see how the *Job Construct* differs from the *Needs Construct* in *Underserved* customers.

Additionally there are two main issues that deserve further exploration. First, in the case of *Overserved* customers, we need to understand the effect of the *Need Construct* in them. We suspect that this is a case of *Descriptive vs. Normative* differences, but this particularity was not included in this research design and therefore it wasn't tested. Understanding this effect would be very helpful for both scholars and practitioners because as time goes by both *Industries* and *Customers* are every time more and more *Overserved*. Second, the methodology used for obtaining the *Job Construct* was a *Qualitative – Quantitative Sequential Multi-Method Model* (Tashakkori and Teddlie, 2003) and its results were *Triangulated* with a *Mixed Method*. All the process is completely replicable for other researchers and this research has placed a considerable effort in *Positivizing* every step of the process (Tsang and Kwan, 1999). Therefore it is suggested that the issue of *External Validity* should be pursued in the case of the *Job Construct*. We need to understand how it looks like in other industries, if it's stable enough over time to build an entire business over it and if the number of branches that it can have is limited. Which would be consistent with *Normative* based research. Only by rigorously applying sound research methodologies in a variety of industries and research settings we will be able to develop a solid research stream around the *Job Construct* (Campbell 1957; Miles & Huberman 1994).

6.4 Implications for Practice

This research deals with one of the most critical issues in the practice of management, how to achieve consistent and repeatable sustainable growth. Once sustainable growth is achieved most of the other management problems, although fundamental for the firm's sustainability, are often seen in relative terms.

One of the main – and most probably cruel – realities of large established firms today is that, because they eventually become largely *Interdependent* they eventually caused the customers of most industries to transition from being *Underserved* to being largely *Overserved*. As mentioned before this is a process, not an event and the signals that it emits throughout the firm are very confusing to management, that ends up witnessing how margins are declining and how new competitors start to take over. On top of that CEOs become desperate when they see how initiatives that were successful in the past are diminishing in terms of returns year after year. Firms eventually end up changing their CEOs for more “open to change” individuals (Datta et al., 2003) who most of the time end up launching new product *Derivatives* (usually together with a reorganization and massive layoffs). More often than not this will deliver some good short-term results. Unfortunately it's not sustainable growth so firms will end up *Stagnating* again. Evidence suggests this is a quite widespread situation for most firms. In the U.S. 87% companies stalled growth during 1955-2006, from those only 46% of them recovered growth within ten years after the stalled. And only 7% ultimately recovered strong growth (Chakravorti, 2010) and this is good news, there are companies that have recovered sustainable growth, in some cases because they *Disrupted* themselves (Immelt et al., 2009). *Disrupting* yourself is based on launching low-end margin products or services in usually independent business units. This is consistent, and has been tested for the most part, in this research. However, this research has also three implications for the other 93% that never regained sustainable growth.

First, if your firm has the *Mirroring Hypothesis* (if the architecture of your product looks like the architecture of your firm) you can't launch new high-margin products, you can only launch product *Derivatives* that would replace the products now being sold together with some low price and low margin ancillary products. This will not deliver sustainable growth over the long term. There might be other ways to shatter this glass ceiling but this research clearly identifies two factors that contribute to

this. The first is the weight of some *Functional Departments* in the generation of this *Corporate Rigidity*. Second, the insufficiency of the customer information system, and especially of the *Needs Construct* to contribute significantly to the decision making process. As a conclusion: if your firm has the *Mirroring Hypothesis* and your customer information is based on *Segmentation, Target* and *Positioning* (STP) the objective of reaching sustainable growth is going to remain elusive, same as your position in the firm.

Second, while looking for ways to break the *Mirroring Hypothesis* you will stumble with how to reorganize the firm. This research shows that the *Causality* of growth doesn't work in the direction: reorganizing the firm will give us *Growth*, but instead, *Growth* will tell us how to reorganize. There are literally thousands of firms out there today that are reorganizing to obtain *Growth*. This is not going to work. *Growth* on the other hand comes from *Customer Impetus* and the way to embed *Customer Impetus* in the firm is through the *Job Construct*. The *Job Construct* will tell managers what features to improve on (and which to take out), what reliability levels are needed, how to communicate the new product and yes, what should be the new *Organizational Design*. In other words, we are transitioning from the opinion-based realm in management to methods and tools that provide much more information and predictably and reliably deliver on what's being asked.

The third and final implication is a message to CEOs. In the last fifty years of management the scientific approach has been based on documenting phenomena that has been observed in a variety of firms. As Appendix A depicts, this represents the normal evolution of science. Thousands of cases have been documented and thousands of theories have emerged. This is again consistent with the normal evolution of any scientific field. This research shows that the scientific field of management is starting to change, patterns are starting to emerge and do and don'ts are becoming more and clearer. The era where companies "do stuff" and scholars document and make theories out of it is (slowly) fading away. A new era where *Prescriptive* theories will make the difference in firm's performance is slowly starting to emerge. It is hoped that this research is just one step in the early stages of this thrilling process. Scholars and students have a lot to be thankful to practitioners for; and we plan to repay you with what you are looking for: Answers. So the message is: Stay tuned.

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Appendices

A. Accommodating Causal-Based Research in the Process of Theory Building

It is not uncommon for students that, during their educational period, they find themselves in the middle of a discussion between professors and scholars on research methods. These debates tend to be somewhat confrontational, although they usually come out as a consequence of a well-grounded argument. One of the causes might be that some schools³⁰⁴ tend to reinforce a particular way of researching problems (Mintzberg, 1979, 2004). Another quite common reason comes from a variety of preconceptions each scholar has received from his mentor. The issues most often discussed revolve around three classical research extremes. The first is the eternal debate between when it is appropriate to research a problem from the *Inductive* point of view and when the *Deductive* point of view is the appropriate approach. Second, the problem of determining what type of data is the most appropriate for a determined set of research questions. Debates about the objectivity of quantitative data compared to qualitative data are quite common, especially if there is a previous piece of research that has somehow laid out a foundation about what is the “best” type of data for it. The third one is quite more confusing and unclear, as it refers to building a common language between those who have written about the research process and those who think they understand and practice it proficiently. Perhaps one of the most common misunderstandings the researcher has been exposed to regarding this issue comes from the development of *Contingent* statements³⁰⁵ that emerge from *Descriptive* research. Although there is a solid mathematical foundation for not using statements of correlation to describe *Causal* relationships (Field, 2005), the pressure for relevance of each research project often pushes academics into writing papers where, although they use only *Descriptive* models, they usually describe and elaborate on statements of *Contingency* (Von Krogh et al., 2012). As a consequence it is not difficult to find in the literature papers that contain a very robust and solidly grounded model – built with statements of correlation – where you can read “if this relationship is present then that one will appear” instead of “when this relationship is present the other is present too in such and such degree” (Christensen & Carlile 2009; Christensen & Carlile 2006; Christensen & Raynor 2003b). This difference is really important because when relationships are described using a conditional they often provoke

³⁰⁴ Or groups of scholars in a particular school.

³⁰⁵ Statements that describe a *Cause and Effect* relationship.

misunderstandings in practitioners, who end up using the firm's resources to pursue a specific objective because they *Expect* a specific phenomenon to happen. Unfortunately in most of the cases their expensive investment ends up proving empirically that the relationship between variables is correct but the *Causal* results they were expecting never materialize.

A.1 Key Building Blocks for Unbundling Previous Research³⁰⁶

This section contains a process for building theory. Although it's not the only one that exists for theory building, this one is particularly useful for accomplishing the objectives described previously. Each of the literature reviews has been unbundled as described in this process. This method of theory building is particularly useful for framing the different lines of research in a variety of research fields. It's also quite helpful for comparing how two independent fields have evolved and where the research questions of this thesis fit into the existing literature.

As depicted in Figure A.1 the process of building theory has two stages, one *Descriptive* and one *Normative*. Each of these stages has three steps. First we are going to describe the three steps that belong to the *Descriptive* stage. We will then describe the relationship between the *Descriptive* and the *Normative* stages (or how a theory transitions from identifying and grouping relationships to finding their cause and effect). We will subsequently describe the *Normative* stage. Finally we will outline some of the most frequent misunderstandings that, once clarified, help position a paper in the previous research.

Step 1 – Observation

In this step scholars observe phenomena and carefully describe and measure what they see. This step is particularly important because if scholars do not agree on what they see then improving on each other's findings becomes particularly difficult and extremely confusing. Early management studies and cases are very *Descriptive* and often very valuable because they help scholars to be "in the same page". The phenomena described here include everything; people, organizations, processes, etc. and data comes

³⁰⁶ Most of the contents of this section come from the following papers on theory building (Christensen & Carlile 2009; Christensen & Carlile 2006; Christensen & Sundahl 2001)

from everywhere as well, quantitative databases, qualitative materials, everything is considered as a potential source for a phenomena to be described.

Researchers at this stage often develop *Constructs* (Bagozzi et al. 1991; Gibbert et al. 2008; Campbell & Stanley 1963; Campbell 1957; Campbell & Fiske 1959). *Constructs* are abstractions that help us rise above the messy detail to understand precisely what it is and how it is measured. For example, standards³⁰⁷, *Needs, Segment, Brand, Checking Account, Deposit, Willingness-To-Pay, Loan*, etc. are all *Constructs* that have a largely accepted definition of what they mean and how they are measured. It is quite remarkable that when a new *Construct* is found for the first time it usually changes the way of seeing the world for both scholars and practitioners. For example, most of the *Constructs* outlined above helped scholars frame better research questions and at the same time helped practitioners direct their resources towards a more refined target. However, *Constructs* are not theories, they are just parts of a theory (the building blocks namely), they help understand how a portion of the overall phenomena whose mechanism we are trying to uncover behaves. In a relatively high number of occasions *Constructs* have been brought to the academic and practitioner's worlds with a significant hype. They have been confused for theories and consequently have failed to deliver the expected results, in most of the times creating a quite notorious disappointment once it was proven they weren't able to meet expectations (Sutton & Staw 1995). On the other hand there are situations where constructs are replicated because they are present in different fields of study where scholars usually neither communicate nor interact. For example the economic *Willingness-To-Pay* (Anderson & Dana 2009; Graves 2009), the banking *Share-of-Wallet* (Dodd and Favaro, 2006; Frei et al., 1998; Guillen and Tschoegl, 2008), the *Customer Perceived Value* (Dolan, 1999; Subramanian et al., 2007) and the *Organizational Behavior's Good Enough* (Simon 1956; March & Simon 1958; Simon 1955) all intend to describe the readiness of the customer to acquire a specific product or service under a specific *Circumstance*. However all this constructs refer to different parts of the customer's decision making process and measure completely different things. In this thesis we plan to expose some of these overlaps and how they are creating confusion among scholars from both the *Marketing* and the *Technological Change* research fields.

³⁰⁷ A fundamental component for differentiating between *Interdependence* and *Modularity*.

Step 2 – Classification

Once the number of *Constructs* has reached a certain critical mass scholars and practitioners tend to naturally observe that there are some constructs that seem to be closer to each other than the rest. They start realizing some *Constructs* are not the same but can be grouped into a specific category. For example classifying a group of *Constructs* related to the customer such as age, marital status, etc. as a *Segment* (Claycamp and Massy, 1968) represents a useful way to classify the *Attributes* of the customer without losing too much information. In the case of banking, useful categorizations have been: *Debit vs. Credit, Long-Term vs. Short-Term*, etc. Perhaps the most important requirement for these *Attribute* based categorization schemes³⁰⁸ is for them to be *MECE* (Agresti, 1996, 2002). *MECE* stands for *Mutually Exclusive and Collectively Exhaustive*. *Mutually Exclusive* indicates that a particular *Construct* must fit into one and only one category. *Collectively Exhaustive* means there must be at least enough categories for all the *Constructs* to be categorized. Management researchers often refer to this *Descriptive* categorization schemes as *Frameworks*³⁰⁹ or *Typologies* (Walsh et al. 2007; Edmondson & McManus 2007). *Frameworks* are instrumental for theory building because they represent a polynomial abstraction of a phenomenon where debate about what it is and how it is measured has been ruled out. They are also very useful for the *Deductive* part of theory building as it will later be explained.

Interestingly it seems that at the methodological level there is a clear consensus on the research methods. Scholars consider both quantitative and qualitative methods equally valid for coming up with new *Frameworks* or *Categories*. Provided they control for *Robustness, Internal Validity* and *External Validity*. Therefore it's possible to infer a category just because it is clear that something is missing while it is also possible to obtain a category just because a significant portion of the data can't be allocated in none of the previously existent categories³¹⁰. Finally it is noticeable in the *Attribute* based categorization schemes that as research keeps accumulating in the form of *Frameworks* it contributes to the ongoing

³⁰⁸ At this stage we name them *Attribute-Based Categorization Schemes* because the constructs identified previously represent descriptions and measurements of the *Attributes* of the phenomena. Therefore in the *Descriptive* stage of theory building the elements that are discussed are mainly *Attributes*.

³⁰⁹ *Frameworks* are extensively used by management professors. The most common form of *Framework* used in Business Schools is the 2x2 matrix. As it will be explained later, *Frameworks* are a fundamental part for both theory building and effective management. However they are just one more step in the process so they shouldn't be treated as if they were the outcome of the process.

³¹⁰ Notice that in the case of *Categories*, same as in the previous case of *Descriptive* constructs, the objective is to find something that hadn't been detected before and make it appear through research. This way of analyzing *Descriptive* data – looking for something hidden – is in no way present when scholars transition to the *Circumstance* based realm, where there is an implicit assumption in many research pieces that suggests *Circumstances* are an exogenous variable and that are a "given". In this situation scholars tend to accommodate *Descriptive* models into the somewhat "fixed" environments.

process of refining the categories that were previously researched. This seemingly never ending process has its roots in the fact that the number of *Attributes* a particular phenomenon has embedded is practically infinite. Therefore the more research methods there are available the more *Frameworks* on a particular research question will accumulate. This is the reason that there are so many *Attribute-Based Categorization Schemes* that explain some part of the phenomena but that at the same time suffer anomalies other categorization schemes can account for. As long as the building block is an *Attribute* this problem will be present. In the next step, the transition from *Frameworks* to *Models*, because the *Attribute* is still the fundamental piece that holds the entire structure, this problem persists.

Step 3 – Defining Relationships

In this step researchers compare how well the *Categories of Attributes* previously described work together. In order to do so they bundle them using *Statements of Association*, being the most common one the correlation analysis. Then they use correlation analysis to build a *Model* that tries to explain the outcome observed. The *Statement of Association* chosen helps quantifying the difference between what actually happens and what the bundled categories can actually describe³¹¹. Techniques such as regression analysis are often used in this process and their output is often labeled a *Model* (Hoetker, 2007).

For example, one of the most researched areas in banking is *Cross-Selling*. Dozens and dozens of *Models* have been designed to explain customer loyalty in banking as a first step to successful *Cross-Sell* (Beerli et al., 2004). However, since a large part of this research uses *Attributes* to build *Descriptive Models*, these efforts have been only able to determine probabilistic *Statements of Association* based on average tendencies. For example Beerli, Martín & Quinatana (2004) were able to assert that satisfaction together with personal switching costs explain a significant portion of *Customer Loyalty*. However this statement can only assert what *Attribute* relationships are on average associated with these results. Another bank in a different situation cannot try to pursue this average formula in hope of obtaining the same results for his specific situation. Even the same bank can't replicate the experiment today expecting to obtain the results that were obtained before. *Situations* are not described by *Attributes*, that is the subject of the *Normative* stage. In most of the cases scholars make tremendous efforts

³¹¹ *Describe* is the right way to express it because *Explain* implies prediction and that is a characteristic obtained in the second phase of theory building.

controlling for exogenous (external) variables to help the *Model* fit better with the *Circumstance*. When this research efforts yield *Anomalies* scholars face the best opportunities for improving a theory.

A.2 How Descriptive Theories are Improved

As depicted in the left-hand side pyramid of Figure A.1, when researchers move from the bottom of the pyramid throughout the three steps described above; *Observation*, *Categorization* and *Association* and in so doing they elaborate *Constructs*, *Frameworks* and *Models*, they have followed the *Inductive* portion of the theory building process. Researchers can then test the accuracy of the *Model* by using it to *Explain* the phenomena. This is the *Deductive* portion of the theory building process. In running up and down of the pyramid researchers are likely to find three different types of outcomes (Yin 2003; Yin 2002). The first one is a *Literal Replication*, where they do find the same outcomes they were expecting. For example, when researchers use a new data set with a previously researched model and the outcome can be perfectly explained researchers have obtained a *Literal Replication* and the theory has proved it is of use if the *Circumstances* don't change. In that case the *Model* doesn't get modified and it stays on top of the *Descriptive* pyramid, tested, but unimproved (Whetten, 1989). In some other cases researchers obtain a result that is not what the *Model* predicted but still renders the *Model* capable of explaining the mechanism through which this outcome was obtained. This has been labeled a *Theoretical Replication*. It is most often seen in the *Deductive* portion of theory building and the most common result is the creation of a new category or having one category divided into two. The third possible outcome is an *Anomaly*. It represents an outcome the model cannot account for. When researchers are in front of an *Anomaly* they have an opportunity to improve the theory by revising the three steps and adding or refining each step of the process to accommodate for the unexpected result.

Every complete lap around the theory-building pyramid contains both an *Inductive* and a *Deductive* side. No theory building effort is complete if a paper stops halfway. The *Descriptive* stage of theory building is the first stage of any theory. Before analyzing when and how a mechanism works it is necessary to specify clear *Constructs* and effective measurement systems. However, since the *Descriptive* stage is grounded on *Attributes*, and correlations between *Attributes* are relatively easy to obtain, Kuhn (1962) after some laps we observe confusion and proliferation of *Constructs*, *Frameworks* and *Models*.

Different lines of research seem to overlap (Chalmers, 1976; Lakatos and Musgrave, 1974) and there is no feasible way to determine what *Model* has fewer *Anomalies* compared to the others (Popper, 1968). Each seems to explain the *Anomalies* present in the other *Models* but at the same time suffer *Anomalies* on their own (Chalmers, 1976).

A.3 From Descriptive to Normative – What Causes What and Why

In one of the laps described above researchers suddenly find a change in a variable that can't be accommodated in the *Descriptive* side of theory building. It usually can't be accommodated there because this variable in particular is not an *Attribute* itself. As Figure A.1 describes, researchers – normally through field-based research³¹² – make a significantly large contribution to a theory when they identify the *Circumstances* that predictably explain the phenomena. Hence, they identify what *Causes* the outcome of interest, not what is correlated with it. These results become really useful to managers because they understand in what *Circumstances* the actions they are undertaking will deliver the *Expected* results (Levitt 1974). For example investing in *Complementary Assets* to increase the firm's sustainability by profiting from technological innovation (Teece, 1986) was suggested to be always a good option. However, later research indicated sometimes *Complementary Assets* are a liability both in economic (Christensen 1997c) and organizational terms (Sull et al., 1997). Walking upwards from the *Descriptive* side of the pyramid Tripsas (1996) indicates that even if the two previous *Attributes* are present it is still appropriate to continue investing in *Complementary Assets* because of their *Buffer Effect*. It wasn't until researchers identified when the interactions between the activities of firms drive complementarities (Porter & Siggelkow 2008) that the *Normative* theory was made explicit, adding *Causality* to the recommendations managers will finally implement.

The process of improving *Normative* theory works like the one *Described* previously. The main difference between the two however lies in the very foundational building blocks. In the case of the *Descriptive* theory, the main building block is a *Construct*. In the case of *Normative* Theory the main building block is the *Circumstance*. The *Normative* portion of theory building also unfolds in three steps.

³¹² Qualitative research plays a remarkable role here since it is often through empirical and ethnographic observation where *Circumstances* gain prominence.

A.4 Steps for Building Normative Theory

Step 1 – Observation

The base of the right hand side pyramid depicted in Figure A.1 captures independent *Constructs* that appear as the outcome of the experiment or the research process. These *Constructs* can be of three types. In the first type they are identical to the *Descriptive Constructs* elaborated previously. This means that the *Circumstance* where the experiment has been done is either the same or is a new one that doesn't change the outcome. The second type constitute a group of *Constructs* that were identified previously but that have suffered a significant transformation in either the way they express themselves or the way they must be measured. The third type of *Constructs* are the new ones, these appear unexpectedly and leave researchers with the opportunity to uncover the mechanism that causes them to appear³¹³. Among the third group there is a particular type. These are *Constructs* that are not formed of *Attributes* and that occasionally spring up to researchers³¹⁴. In this case researchers have the option of either extracting the *Attribute* part of their composition and climb the *Descriptive* ladder or realize it might be an expression of a *Normative* theory and try to understand the *Circumstance* that is causing it to appear.

Step 2 – Circumstance-Based Classification Schemes

Despite the fact that the distinction from *Descriptive* to *Normative* is relatively new, it is distinguishable in the research and methodological literatures that scholars suspected that the intriguing role of the *Circumstances* in the development of theory might be instrumental. This suspicion became quite prominent in the sixties. From these times scholars left us wonderful methodologies to classify phenomena according to its *Circumstances*. For example Lawrence and Lorsch (1967) talked about “these findings suggest a contingency theory of organization which recognizes their systemic nature” or “organizational variables are in a complex interrelationship with one another and with conditions in the environment” (p. 157). Lawrence and Lorsch's book explains how the best way to organize a company depends on the *Circumstances* in which the company is operating. However we must emphasize,

³¹³ For the sake of clarity we usually refer to these as *Normative Constructs*.

³¹⁴ In the *Technological Change* literature it is often used as observation of the effectiveness of a theory *Constructs* such as *new entrant gains foothold in a market* or *incumbent survives*. These are *Normative Constructs*, they represent lagging observations of other effects that appear ex-post the situation described. Unbundling this *Normative Constructs* into *Attributes* can be done by parameterizing their characteristics. i.e. in the case of *new entrant gains foothold* two *Descriptive Constructs* can be *sales reach €1 million* or *sales growth of at least 5%*.

Contingency is not a theory but a categorization scheme indispensable for every *Normative* theory. Another example is Glaser and Strauss treatise (1967), where they indicate a theory has two stages, the term *Substantive Theory* corresponds to the *Descriptive* theory described previously and the term *Formal Theory* corresponds to the *Normative* part of theory building³¹⁵.

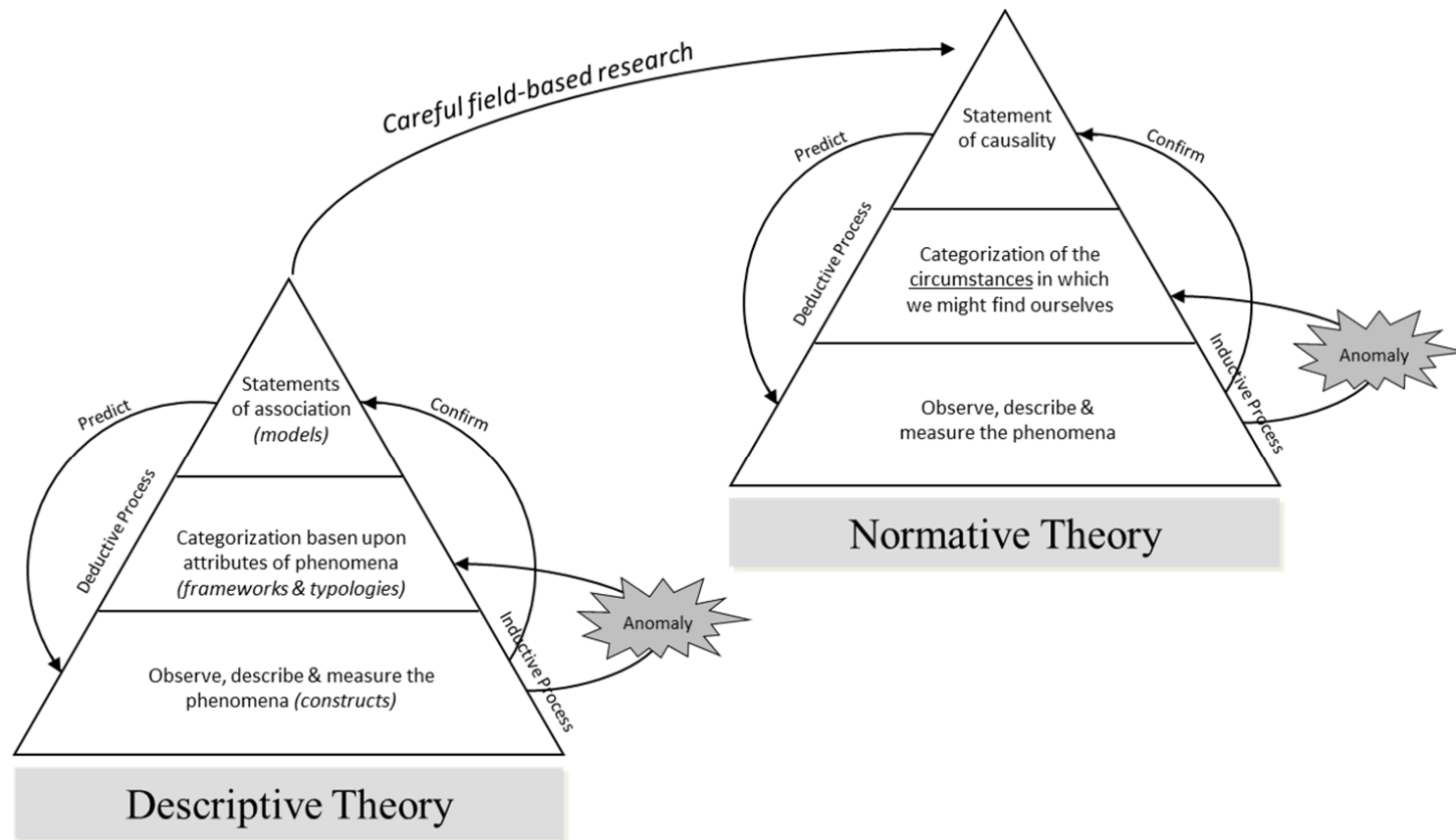
Step 3 – Defining Contingent Relationships

As explained previously Thomas Kuhn (1962) described in his book how the proliferation of non-*Attribute* based phenomena helps researchers transition from *Descriptive* to *Normative* theory. He describes how the preliminary period of confusion and debate plants the seeds of the emergence of a *Paradigm*. A *Paradigm* shapes the way subsequent scholars undertake their research efforts. Additionally it defines ways of thinking about a particular research problem and how that tends to cause resistance for abandoning a *Paradigm* and adopting a new one. This is the reason that the first *Paradigm* gains acceptance quite rapidly and that the new *Paradigm* that is going to replace it will take much longer³¹⁶.

³¹⁵ Management fads are often created when a researcher studies a group of successful companies and outlines the *Attributes* they have in common. He then writes a book without taking into account the *Circumstance-based Categorization Scheme* asserting this one size fits all solution will deliver the expected results once implemented in your company. When managers implement the formula, in most of the cases the end result is disappointment and reluctance to implement the next business book that might appear in the market. In the Spanish retail banking industry this phenomenon is best described through the *Customer Relationship Management* (CRM) software for customers. These tools have captured thousands and thousands of data fields per client (almost all of them are either *Product* or *Consumer Attributes*). Then they went on to try to *Cross-Sell* or *Predict* client behavior using exclusively *Descriptive* analysis, only to find disappointing results.

³¹⁶ Of course time here must be measured taking into account the normal *Cycle Time* of the evolution of science which means the first paradigm can take longer than fifty years to be accepted (Nag et al., 2007; Venkataraman et al., 2012).

Figure A.1: The Process of Theory Building



SOURCE: Christensen & Carlile 2009

B. Interview Survey Population

| Interview Number | Bank | Contact F_Name | Contact L_Name | Position | Zone Economic |
|------------------|-------------|----------------|----------------|---------------------|---------------|
| 1 | Grupo BMN | Jaume | Gavalda | Branch Director | High |
| 2 | Grupo BMN | Antonio | Reche | Branch Director | High |
| 3 | Grupo BMN | Ricard | Balcells | Branch Director | Medium |
| 4 | Grupo BMN | Felix | Rodrigo | Branch Director | Medium |
| 5 | Grupo BMN | Eduardo | Garcia | Branch Director | High |
| 6 | Grupo BMN | David | Gisbert | Branch Director | Medium |
| 7 | Grupo BMN | Juan Miguel | Ramon | Branch Director | Low |
| 8 | Grupo BMN | Roberto | Fernandez | Branch Director | Medium |
| 9 | Grupo BMN | Eduardo | Vela | Branch Director | Medium |
| 10 | Grupo BMN | Marien | Obregon | Branch Director | Low |
| 11 | Grupo BMN | Ruben | Checa | Branch Director | Low |
| 12 | Top 10 Bank | Unsung | Hero | Branch Director | Low |
| 13 | Grupo BMN | Rafael | Carrallo | Branch Director | High |
| 14 | Grupo BMN | Marta | Pinto | Branch Director | High |
| 15 | Grupo BMN | Alberto | Garcia | Branch Director | Low |
| 16 | Grupo BMN | Alberto | Martinez | Branch Director | Low |
| 17 | Grupo BMN | Jose Vicente | Amador | Branch Director | Low |
| 18 | Grupo BMN | Carmen | Robles | Branch Sub-Director | High |
| 19 | Grupo BMN | Alfonso | Estrada | Branch Director | High |
| 20 | Grupo BMN | Javier | Manero | Branch Director | High |
| 21 | Grupo BMN | Alberto | Robles | Branch Sub-Director | Low |
| 22 | Grupo BMN | Lorena | Martinez | Branch Sub-Director | Low |
| 23 | Grupo BMN | Sonia | Martinez | Branch Sub-Director | Medium |
| 24 | Top 10 Bank | Unsung | Hero | Branch Director | Low |
| 25 | Top 10 Bank | Unsung | Hero | Branch Director | Medium |
| 26 | Grupo BMN | Gema | San Juan | Branch Director | Low |
| 27 | Grupo BMN | Sonia | Pescador | Branch Director | High |
| 28 | Grupo BMN | Gonzalo | Pascual | Branch Sub-Director | Medium |
| 29 | Grupo BMN | Sergi | Bozzo | Branch Director | High |
| 30 | Grupo BMN | Carles | Aymerich | Branch Director | Low |
| 31 | Grupo BMN | Joaquim | Lozano | Branch Director | Medium |
| 32 | Top 3 Bank | Unsung | Hero | Branch Director | High |
| 33 | Grupo BMN | Maria Isabel | Bustamante | Branch Director | High |
| 34 | Grupo BMN | Roberto | Bolarin | Branch Director | Low |
| 35 | Grupo BMN | Sara | Criado | Branch Sub-Director | Low |
| 36 | Grupo BMN | Raquel | Santos | Branch Sub-Director | Low |
| 37 | Grupo BMN | Angel | Fuentes | Branch Sub-Director | High |
| 38 | Grupo BMN | Elena | Llompert | Branch Sub-Director | High |
| 39 | Grupo BMN | Manuel | Lopez | Branch Director | High |
| 40 | Grupo BMN | Alfonzo | Antequera | Zone Director | Low |
| 41 | Top 5 Bank | Unsung | Hero | Branch Director | Low |
| 42 | Grupo BMN | Jose Antonio | Huertas | Zone Director | Medium |
| 43 | Grupo BMN | Olga | Garcia | Zone Director | High |
| 44 | Grupo BMN | Elena | de la Cruz | Branch Sub-Director | High |
| 45 | Grupo BMN | Maria Blanca | Moriñigo | Branch Director | High |
| 46 | Grupo BMN | Ines | Garcia | Branch Sub-Director | High |
| 47 | Grupo BMN | Javier | Marquez | Branch Director | High |
| 48 | Top 3 Bank | Unsung | Hero | Branch Director | Medium |

C. Key Variables Independent Sample t-test for Time Lag Between Survey Responses

Independent Samples Test

| | | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | | |
|---------------|-----------------------------|---|------|------------------------------|--------|-----------------|-----------------|-----------------------|---|-------|
| | | F | Sig. | t | df | Sig. (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference | |
| | | | | | | | | | Lower | Upper |
| ORGDES | Equal variances assumed | .277 | .599 | .979 | 304 | .328 | .198 | .202 | -.200 | .596 |
| | Equal variances not assumed | | | .937 | 32.089 | .356 | .198 | .211 | -.232 | .629 |
| ORGCUS | Equal variances assumed | 1.193 | .276 | -.671 | 304 | .503 | -.103 | .153 | -.403 | .198 |
| | Equal variances not assumed | | | -.730 | 34.064 | .470 | -.103 | .140 | -.388 | .183 |
| ORGLAW | Equal variances assumed | 8.224 | .004 | -1.545 | 304 | .123 | -.268 | .173 | -.609 | .073 |
| | Equal variances not assumed | | | -2.694 | 53.896 | .009 | -.268 | .099 | -.467 | -.069 |
| ORGBRANCH | Equal variances assumed | .467 | .495 | .284 | 304 | .777 | .034 | .121 | -.203 | .271 |
| | Equal variances not assumed | | | .220 | 29.992 | .827 | .034 | .155 | -.283 | .351 |
| PRODREG | Equal variances assumed | 2.769 | .097 | -.951 | 304 | .342 | -.154 | .162 | -.472 | .164 |
| | Equal variances not assumed | | | -1.204 | 37.492 | .236 | -.154 | .128 | -.412 | .105 |
| PRODLAW | Equal variances assumed | .202 | .653 | -.150 | 304 | .881 | -.030 | .199 | -.422 | .362 |
| | Equal variances not assumed | | | -.149 | 32.645 | .882 | -.030 | .200 | -.436 | .377 |
| PRODSTAND | Equal variances assumed | 2.575 | .110 | -1.101 | 304 | .272 | -.308 | .280 | -.859 | .243 |
| | Equal variances not assumed | | | -1.227 | 34.500 | .228 | -.308 | .251 | -.818 | .202 |
| PRODMKT | Equal variances assumed | .012 | .914 | -.343 | 304 | .732 | -.066 | .191 | -.441 | .310 |
| | Equal variances not assumed | | | -.333 | 32.282 | .741 | -.066 | .196 | -.466 | .335 |
| PRODOP | Equal variances assumed | .719 | .397 | .027 | 304 | .978 | .005 | .189 | -.367 | .377 |
| | Equal variances not assumed | | | .031 | 34.729 | .976 | .005 | .168 | -.335 | .346 |
| PRODTCOST | Equal variances assumed | 2.410 | .122 | .740 | 304 | .460 | .151 | .204 | -.250 | .552 |
| | Equal variances not assumed | | | .613 | 30.531 | .544 | .151 | .246 | -.351 | .653 |
| PRODNEXT | Equal variances assumed | .300 | .584 | 1.389 | 304 | .166 | .276 | .199 | -.115 | .667 |
| | Equal variances not assumed | | | 1.511 | 34.041 | .140 | .276 | .183 | -.095 | .647 |
| CROSS_LOW | Equal variances assumed | .021 | .884 | -.484 | 304 | .628 | -.110 | .227 | -.555 | .336 |
| | Equal variances not assumed | | | -.497 | 33.070 | .622 | -.110 | .221 | -.559 | .339 |
| CROSS_HIGH | Equal variances assumed | .190 | .663 | .790 | 304 | .430 | .196 | .248 | -.292 | .684 |
| | Equal variances not assumed | | | .799 | 32.841 | .430 | .196 | .245 | -.303 | .695 |
| OVERNEED | Equal variances assumed | .264 | .608 | -.661 | 304 | .509 | -.183 | .276 | -.726 | .361 |
| | Equal variances not assumed | | | -.684 | 33.180 | .499 | -.183 | .267 | -.726 | .361 |
| OVERDECISION | Equal variances assumed | .038 | .846 | -.143 | 304 | .886 | -.034 | .239 | -.505 | .436 |
| | Equal variances not assumed | | | -.146 | 33.028 | .885 | -.034 | .234 | -.509 | .441 |
| OVERMAX | Equal variances assumed | 2.895 | .090 | -.335 | 304 | .738 | -.075 | .224 | -.516 | .366 |
| | Equal variances not assumed | | | -.401 | 36.056 | .691 | -.075 | .187 | -.454 | .304 |
| OVEREXHAUST | Equal variances assumed | .650 | .421 | .284 | 304 | .776 | .054 | .189 | -.318 | .425 |
| | Equal variances not assumed | | | .272 | 32.090 | .787 | .054 | .197 | -.348 | .455 |
| OVERRELIAB | Equal variances assumed | 2.427 | .120 | 1.694 | 304 | .091 | .300 | .177 | -.049 | .648 |
| | Equal variances not assumed | | | 1.467 | 30.950 | .152 | .300 | .204 | -.117 | .716 |
| OVERFUNCT | Equal variances assumed | 4.227 | .041 | 1.222 | 304 | .223 | .230 | .189 | -.141 | .602 |
| | Equal variances not assumed | | | .922 | 29.776 | .364 | .230 | .250 | -.280 | .741 |
| OVEREMOT | Equal variances assumed | 1.700 | .193 | 1.151 | 304 | .251 | .278 | .241 | -.197 | .753 |
| | Equal variances not assumed | | | 1.015 | 31.135 | .318 | .278 | .274 | -.280 | .836 |
| OVERSOC | Equal variances assumed | 4.064 | .045 | 1.248 | 304 | .213 | .228 | .183 | -.132 | .589 |
| | Equal variances not assumed | | | 1.026 | 30.460 | .313 | .228 | .223 | -.226 | .683 |
| JOBORG | Equal variances assumed | .153 | .696 | -.006 | 304 | .995 | -.002 | .244 | -.483 | .480 |
| | Equal variances not assumed | | | -.006 | 32.900 | .995 | -.002 | .241 | -.492 | .489 |
| JOBPROD | Equal variances assumed | .028 | .867 | .424 | 304 | .672 | .090 | .211 | -.326 | .506 |
| | Equal variances not assumed | | | .423 | 32.625 | .675 | .090 | .212 | -.342 | .522 |
| JOBCROSS_LOW | Equal variances assumed | .000 | .986 | 1.097 | 304 | .274 | .227 | .207 | -.180 | .633 |
| | Equal variances not assumed | | | 1.138 | 33.243 | .263 | .227 | .199 | -.178 | .632 |
| JOBCROSS_HIGH | Equal variances assumed | .410 | .523 | .465 | 304 | .643 | .104 | .223 | -.335 | .542 |
| | Equal variances not assumed | | | .439 | 31.919 | .664 | .104 | .236 | -.377 | .584 |

D. Complete Internet Survey

Cuestionario Tesis Doctoral sobre Venta Cruzada

- **IMPORTANTE!** Este cuestionario forma parte de la investigación de una tesis doctoral, no se va a utilizar para nada más.

- Es muy importante que contestes pensando en lo que pasa en realidad, no en lo que te gustaría que pasase o en lo que crees que debería ser.

- Si no sabes la respuesta a alguna pregunta la puedes preguntar, lo que es importante es que pongas lo que pasa en realidad, no lo que crees que pasa.

- Para contestar considera solo el negocio puramente bancario, no consideres en ningún caso el negocio no bancario ni los seguros.

- En términos de esta encuesta tanto los productos como los servicios se denominan "producto".

- En tus respuestas asume que tanto la economía como el sector están en circunstancias normales (no hay crisis, etc.).

- Este cuestionario consta de 5 preguntas sobre tu perfil (que están al inicio del cuestionario) y 25 preguntas sobre banca. Esta hecho con un lenguaje coloquial debido al diseño de la investigación de esta tesis.

- El tiempo total estimado para completarlo es de unos 15 minutos como máximo (ya verás como se tarda menos...).

Muchas Gracias por ayudarme con mi Tesis Doctoral...!!!

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Survey for a Doctorate Dissertation on Cross-Selling

- **IMPORTANT!** This survey is **ONLY** for a Doctorate Dissertation
- Please answer considering what happens in reality, not what you would like to happen or what should be happening
- If you don't know the answer to one question you can ask your peers, what's important is that you answer what is really going on, not what you think is going on
- Please answer just considering the retail banking business, don't consider non-banking related businesses that go on in the branch or the insurance business
- In this survey both products and services are called "products"
- When you answer consider normal economic circumstances, not the current crisis situation or any other situation that is not normal
- At the beginning of this survey you'll find 5 questions about your profile and 25 questions about banking. The questions are phrased in a colloquial manner to be consistent with this thesis's research design
- The survey shouldn't take longer than 15 minutes to be completed (you'll see it takes even less than that...)

Thank you so much for helping me out with my doctorate dissertation...!!!

Cuestionario Tesis Doctoral sobre Venta Cruzada

* Required

PRIMERO UNAS PREGUNTAS SOBRE TI

Son las únicas preguntas que hay sobre ti en todo el cuestionario, prométidol!!

Tu oficina está en una zona socioeconómica *

- Baja
 Media
 Alta

Indica la población donde se encuentra situada tu oficina (algunos ejemplos: Barcelona ciudad, Leganes, Murcia ciudad, Alcobendas, Cartagena, etc.) *

Cuantos años llevas trabajando en banca (en total, no solo en esta entidad)? *

Indica cual es tu posición actual en el banco (Director Oficina, Sub-director, Interventor, etc.) *

Cuantos años llevas en la posición actual (la que has indicado en la pregunta de arriba)? *

¿Cuántas oficinas tiene tu entidad? (Si no te lo sabes con un dato aproximado es suficiente) *

Tu entidad proviene de: *

- Siempre ha sido un Banco
 Es una integración de Cajas

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Survey for a Doctorate Dissertation on Cross-Selling

FIRST SOME QUESTIONS ABOUT YOU

These are the only ones in the entire survey, I promise!!!

Your branch is in a Socio-economical zone:

- Low
- Medium
- High

Please indicate the place where your office is located (some examples are: Barcelona city, Leganes, Murcia city, Alcobendas, Cartagena, etc.)

How many years have you been working in banking (in total, not just where you are)?

What your current position (Director, Sub-Director, Interventor, etc.)?

How many years have you been in this position (the position you stated in the previous question)?

How many branches does your bank have (if you don't know the exact number an educated guess is enough)?

NOTE: The number that went into the survey data came from the annual reports, not from this field

Your bank comes from:

- It has always been a bank
- It's a Savings Bank integration

NOTE: During the financial crisis almost all of the savings banks were forced by the government to integrate into banks

Pregunta 1 de 25 - Los productos que comercializa la entidad son diseñados internamente por uno o más de un departamento específico de la entidad (por ejemplo el de marketing, el de producto, etc.) No se comercializan productos hechos por comunidades abiertas (como por ejemplo hace la industria del software libre). *

- Totalmente en Desacuerdo
- Algo en Desacuerdo
- Neutral
- Algo de Acuerdo
- Totalmente de Acuerdo

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Question 1 of 25 – The banking products that you sell are designed internally at one or more than one of the bank’s department(s) (for instance marketing, product department, etc.). You don’t sell products that were made from open communities (such as in the software industry).

- **Totally Disagree**
- **Somewhat Disagree**
- **Neither Agree Nor Disagree**
- **Somewhat Agree**
- **Totally Agree**

NOTE: the answers are only provided in the first question because they were identical in all the questions

Pregunta 2 de 25 - La base de datos con la información de los clientes es propiedad de la entidad y se encuentra dentro de las instalaciones de la entidad. *

Question 2 of 25 – The customer database that contains all the customer’s information is owned by the bank and it’s physically located inside the bank

Pregunta 3 de 25 - La entidad tiene su propio departamento legal con sus propios abogados. *

Question 3 of 25 – The bank has its own legal department with its own lawyers

Pregunta 4 de 25 - Actualmente cuando un cliente contrata un producto la firma del contrato se hace en la oficina (no consideres en tu respuesta productos que se deban firmar ante notario). *

Question 4 of 25 – Today when a customer buys a product the signing of the contract has to be done at the branch (don’t consider in your answer the products that have to be signed at the Notary)

Pregunta 5 de 25 - Los productos son diseñados atendiendo todos los requerimientos del regulador, que influye significativamente en el producto que se comercializa finalmente. *

Question 5 of 25 – The products are designed considering all the requirements from the regulator, that has a strong influence on the final outcome

Pregunta 6 de 25 - Normalmente el departamento legal interno de la entidad es más exigente en sus requerimientos legales que el regulador. *

Question 6 of 25 – Usually the bank’s internal legal department is more demanding in terms of new product requirements than the regulator

Pregunta 7 de 25 - Los productos originados por la entidad son comercializados por las oficinas en varias versiones (por ejemplo una hipoteca a 20 años y otra a 15 años serían 2 versiones de una hipoteca, etc.). *

Question 7 of 25 – The products made by the bank are usually sold in “versions” at the branches (for example a mortgage that lasts 20 years and another that lasts 15 years would be two different “versions” of the same product)

Pregunta 8 de 25 - El departamento de marketing del banco decide qué características del producto se comunican y en qué época del año (campañas, promociones, etc.). *

Question 8 of 25 – The bank’s marketing department decides what features of the product are going to be communicated to customers and the time of the year when it will be done (campaigns, promotions, etc.)

Pregunta 9 de 25 - Tanto la base de datos del producto como los procesos internos del banco que hacen que el producto funcione (la operativa, los procesos, etc.) son propiedad del banco. *

Question 9 of 25 – The bank owns both the products database and the internal processes that make the product work (product operations, processes, etc.).

Pregunta 10 de 25 - La rentabilidad esperada del producto, los costes que se añaden en su aprobación por el regulador y los costes de marketing y promoción del producto aumentan el coste total del producto. *

Question 10 of 25 – The product’s expected profitability, the costs incurred while getting the product’s approval from the regulator and the marketing and promotion costs end up increasing the total cost of the product

Pregunta 11 de 25 - En cada línea de productos, cada producto que lanza el banco es más rentable que el anterior. *

Question 11 of 25 – For every product type, every new product that the bank introduces is more profitable than the previous one

Pregunta 12 de 25 - Si a un cliente nuevo se le concede una hipoteca (se le da solo la hipoteca, sin ningún producto más excepto el obligatorio seguro de incendio o de hogar) y no eres su entidad de referencia al cabo de unos meses cuando le llames por teléfono será más difícil venderle una tarjeta de crédito. *

IMPORTANTE: Al contestar esta pregunta ten en cuenta SOLO lo que quiere el cliente, no consideres los intereses de la entidad, es decir, aunque para la entidad fuese a perder dinero, si el cliente lo quiere debes contestar afirmativamente.

Question 12 of 25 – If a new customer gets a mortgage (only the mortgage, no other product but the compulsory fire or house insurance) and your bank is not the customer’s primary bank, when you call him up in a few months it will be more difficult to sell to him a credit card

IMPORTANT: Please keep in mind that you should answer considering ONLY what would the client want, not what the bank would like, that means that even if you bank is going to lose money, if the client wants it you should answer affirmatively.

Pregunta 13 de 25 - Si a un cliente nuevo se le concede una hipoteca (se le da solo la hipoteca, sin ningún producto más excepto el obligatorio seguro de incendio o de hogar) y no eres su entidad de referencia al cabo de unos meses cuando le llames por teléfono será más difícil venderle un préstamo revolving para usos puntuales. *

IMPORTANTE: Al contestar esta pregunta ten en cuenta SOLO lo que quiere el cliente, no consideres los intereses de la entidad, es decir, aunque para la entidad fuese a perder dinero, si el cliente lo quiere debes contestar afirmativamente.

Question 13 of 25 – If a new customer gets a mortgage (only the mortgage, no other product but the compulsory fire or house insurance) and your bank is not the customer’s primary bank, when you call him up in a few months it will be more difficult to sell to him a revolving credit loan

IMPORTANT: Please keep in mind that you should answer considering ONLY what would the client want, not what the bank would like, that means that even if you bank is going to lose money, if the client wants it you should answer affirmatively.

Pregunta 14 de 25 - Cuando un cliente posee un ALTO GRADO de conocimientos financieros y de Internet, simplemente explicándole las características básicas o la necesidad básica que satisface una tarjeta de crédito es suficiente para que este cliente la contrate. Por ejemplo diciéndole a un cliente que sabe mucho frases como: "con esta tarjeta podrás pagar en comercios sin llevar dinero en efectivo". *

Question 14 of 25 – When a customer knows A LOT about banking and how the internet works, just by explaining to him the basic characteristics or the basic need that satisfies a credit card is more than enough to sell it to him. For example with sentences such as: "with this credit card you'll be able to pay elsewhere without carrying any other sort of cash"

Pregunta 15 de 25 - Si un cliente posee un alto grado de conocimientos financieros y de Internet tu labor está más relacionada con recomendarle y presentarle productos que con ayudarlo a decidir, porque es él mismo el que decide. *

Question 15 of 25 – If a customer knows a lot about banking and how the internet works your job is more related to recommend products to him than with helping him decide, because he is ultimately going to decide anyway.

Pregunta 16 de 25 - Es frecuente que un cliente que posee un alto grado de conocimientos financieros y de Internet no acabe eligiendo el producto que más le conviene, aunque normalmente no se le dice nada porque fue su elección. *

Question 16 of 25 – It's frequent that a customer that knows a lot about banking and how the internet works almost never ends up choosing the product that would be best for him, but you don't say a word because, after all, he chose it himself.

Pregunta 17 de 25 - Antes de tomar una decisión sobre qué producto contratar, un cliente que posee amplios conocimientos financieros y de Internet ha revisado una gran cantidad de productos, tanto de tu entidad como de otras. *

Para contestar esta pregunta asume que el cliente posee amplísimos conocimientos financieros y de Internet, y que además busca productos que le solucionan problemas puntuales que se encuentra a lo largo del día, del mes o del año. Cada vez que se encuentra con uno de estos problemas su intención es solucionarlo lo antes posible, sin invertir mucho tiempo ni energía en ello y seguir con su vida.

Question 17 of 25 – Before deciding what product to purchase a customer how knows a lot about banking and how the internet works has checked a substantial number of products, both from your bank and elsewhere. To answer this question please assume that the customer knows a lot about banking and the internet and that is looking for products that solve specific problems that he faces during the day, month or year. Every time he is in front of any of these problems he tries to solve it as soon as possible and with he minimum investment of energy or time so he can resume with his day.

Pregunta 18 de 25 - Un cliente con amplios conocimientos financieros y de Internet quiere fiabilidad, es decir, que el producto o servicio haga lo que dice que hace siempre y de forma continua, sin sorpresas (que no falle, no de errores el sistema, que la rentabilidad esperada que el mismo se calculó se cumpla, etc.). *

Para contestar esta pregunta asume que el cliente posee amplísimos conocimientos financieros y de Internet, y que además busca productos que le solucionan problemas puntuales que se encuentra a lo largo del día, del mes o del año. Cada vez que se encuentra con uno de estos problemas su intención es solucionarlo lo antes posible, sin invertir mucho tiempo ni energía en ello y seguir con su vida.

Question 18 of 25 – A customer that knows a lot about banking and how the internet works wants reliability, that means that the product must always do what is expected, no surprises (no failures, no errors in the system, that it meets the expected profitability, etc.)

To answer this question please assume that the customer knows a lot about banking and the internet and that is looking for products that solve specific problems that he faces during the day, month or year. Every time he is in front of any of these problems he tries to solve it as soon as possible and with he minimum investment of energy or time so he can resume with his day.

Pregunta 19 de 25 - Un cliente con amplios conocimientos financieros y de Internet quiere poder hacer una operación ahora mismo para no tener que acordarse de hacerla en el futuro, por ejemplo, poner una transferencia hoy y que se emita la semana que viene. *

Para contestar esta pregunta asume que el cliente posee amplísimos conocimientos financieros y de Internet, y que además busca productos que le solucionan problemas puntuales que se encuentra a lo largo del día, del mes o del año. Cada vez que se encuentra con uno de estos problemas su intención es solucionarlo lo antes posible, sin invertir mucho tiempo ni energía en ello y seguir con su vida.

Question 19 of 25 – A customer that knows a lot about banking and how the internet works wants to do everything right now, so he doesn't have to remember to do it in the future, for instance, program a bank transfer that will be sent next week.

To answer this question please assume that the customer knows a lot about banking and the internet and that is looking for products that solve specific problems that he faces during the day, month or year. Every time he is in front of any of these problems he tries to solve it as soon as possible and with he minimum investment of energy or time so he can resume with his day.

Pregunta 20 de 25 - Un cliente con amplios conocimientos financieros y de Internet se divierte y se entretiene analizando la entidad y sus productos y de vez en cuando le gusta que le digas frases como "pues tiene usted razón" o "eso no lo sabía" o "me has pillado". *

Para contestar esta pregunta asume que el cliente posee amplísimos conocimientos financieros y de Internet, y que además busca productos que le solucionan problemas puntuales que se encuentra a lo largo del día, del mes o del año. Cada vez que se encuentra con uno de estos problemas su intención es solucionarlo lo antes posible, sin invertir mucho tiempo ni energía en ello y seguir con su vida.

Question 20 of 25 – A customer that knows a lot about banking and how the internet works wants to have fun analyzing your bank and your products and sometimes he wants to hear phrases such as: "you were right" or "I didn't know that" or "you got me".

To answer this question please assume that the customer knows a lot about banking and the internet and that is looking for products that solve specific problems that he faces during the day, month or year. Every time he is in front of any of these problems he tries to solve it as soon as possible and with he minimum investment of energy or time so he can resume with his day.

Pregunta 21 de 25 - Un cliente con amplios conocimientos financieros y de Internet quiere tener la certeza de que consigue mejores precios en sus productos que gente que conoce de su entorno social, independientemente de si finalmente acaba presumiendo de ello o no. *

Para contestar esta pregunta asume que el cliente posee amplísimos conocimientos financieros y de Internet, y que además busca productos que le solucionan problemas puntuales que se encuentra a lo largo del día, del mes o del año. Cada vez que se encuentra con uno de estos problemas su intención es solucionarlo lo antes posible, sin invertir mucho tiempo ni energía en ello y seguir con su vida.

Question 21 of 25 – A customer that knows a lot about banking and how the internet works wants to know that he got better prices than people he knows, irrespective of if he brags about it or not.

To answer this question please assume that the customer knows a lot about banking and the internet and that is looking for products that solve specific problems that he faces during the day, month or year. Every time he is in front of any of these problems he tries to solve it as soon as possible and with he minimum investment of energy or time so he can resume with his day.

Pregunta 22 de 25 - La manera en que está organizada tu entidad, la base de datos de clientes y el departamento de marketing (o el departamento equivalente donde se crean los productos en tu entidad) son mecanismos suficientes para que un cliente MUY SOFISTICADO y que tiene amplios conocimientos financieros y de Internet tenga una satisfacción total con la entidad. *

Question 22 of 25 – The way your bank is organized, the way the customer database is configured, and the marketing department (or the department where products are created) is enough to satisfy a VERY SOPHISTICATED customer that has extensive knowledge about banking and how the internet works.

Pregunta 23 de 25 - Los productos de tu entidad están hechos para ajustarse más o menos un cliente promedio, así se ajustan mejor a una gran variedad de clientes. Estos productos promedio son suficientes para que los clientes con amplios conocimientos financieros y de Internet obtengan una satisfacción total con los productos de la entidad. *

Question 23 of 25 – The products in your bank are made to satisfy an average customer, so they make sense to more customers. This average products are enough for customers that know a lot about banking and how the internet works to be totally satisfied with your bank's products.

Pregunta 24 de 25 - Para contestar esta pregunta considera un nuevo cliente al cual se le concede una hipoteca (se le da sin ningún producto más excepto el obligatorio seguro de incendio o de hogar) y no eres su entidad de referencia. Este cliente no tiene riesgo. Al cabo de unos meses le llamas para venderle una tarjeta de crédito que justo le soluciona un problema de hábitos de consumo, por ejemplo por el tipo de compras que hace. La tarjeta que le ofreces es de BAJO margen de ingresos para la entidad pero es la que tienes en tus objetivos de venta y es la que está en campaña. Como es un cliente con amplios conocimientos financieros y de Internet él por sí mismo ya ve que le conviene la tarjeta y te la comprará. *


Question 24 of 25 – To answer this question please consider a new customer who gets a mortgage (only the mortgage, no other product but the compulsory fire or house insurance) and your bank is not the customer's primary bank. This customer doesn't have any risk. A few months later you call him up to sell him a credit card that is perfect for a problem he has during the day, for instance for the type of purchases he usually makes. The credit card that you are offering to him has a LOW margin of income for your bank but it's the one that is in your objectives and the one that is currently in campaign. Since he is a customer that knows a lot about banking and how the internet works he will immediately notice that this credit card solves the problem and he will buy it from you at once.

Pregunta 25 de 25 - Para contestar esta pregunta considera un nuevo cliente al cual se le concede una hipoteca (se le da sin ningún producto más excepto el obligatorio seguro de incendio o de hogar) y no eres su entidad de referencia. Este cliente no tiene riesgo. Al cabo de unos meses le llamas para venderle una tarjeta de crédito que justo le soluciona un problema de hábitos de consumo, por ejemplo por el tipo de compras que hace. La tarjeta que le ofreces es de ALTO margen de ingresos para la entidad y es la que tienes en tus objetivos de venta y es la que está en campaña. Como es un cliente con amplios conocimientos financieros y de Internet él por sí mismo ya ve que le conviene la tarjeta y te la comprará. *

Question 25 of 25 – To answer this question please consider a new customer who gets a mortgage (only the mortgage, no other product but the compulsory fire or house insurance) and your bank is not the customer’s primary bank. This customer doesn’t have any risk. A few months later you call him up to sell him a credit card that is perfect for a problem he has during the day, for instance for the type of purchases he usually makes. The credit card that you are offering to him has a HIGH margin of income for your bank but it’s the one that is in your objectives and the one that is currently in campaign. Since he is a customer that knows a lot about banking and how the internet works he will immediately notice that this credit card solves the problem and he will buy it from you at once.

Questionario Tesis Doctoral sobre Venta Cruzada

Muchas Gracias por ayudarme con mi Tesis Doctoral...!!!

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Survey for a Doctorate Dissertation on Cross-Selling

Thank you so much for helping me out with my doctorate dissertation...!!!

E. Resumen en Español

Una de las patologías más frecuentes de las empresas modernas es conocida por el término *Estancamiento* (en inglés "*Stagnation*") (Olson and Van Bever, 2008). Más del 90% de empresas sufren este problema, cuya principal característica es definida como una súbita pérdida de crecimiento orgánico que viene sucedida de un prolongado periodo de crecimiento vegetativo (Foster and Kaplan, 2001). En la mayoría de las ocasiones la tasa de crecimiento sostenible no se recupera nunca, la empresa por tanto tiene crecimientos vegetativos y, en la medida de lo posible, mantiene su independencia a través de mecanismos de no mercado (Williamson, 1975).

Numerosos trabajos académicos y de consultoría han tratado esta patología y han buscado el modo de solucionarla. Sin embargo, hasta la fecha la tasa de empresas que sufre esta patología no mejora, y la prescripción adecuada para tratarla aún no se conoce (Chakravorti, 2010). Las recetas para tratarla sin embargo son numerosas y provienen de diferentes campos de investigación, algunos de ellos ni guardan una relación directa con este problema, un ejemplo se encuentra en la literatura de *Recursos Humanos*, donde se afirma que para prevenir esta patología se debe generar un cierto nivel de conflicto interno (Pascale, 1990). Aun así tradicionalmente, las tres literaturas que han analizado ese problema con mayor profundidad son las de *Cambio Tecnológico*, *Marketing* y *Diseño Organizacional*. Cada una de estas literaturas identifica una serie de constructos, marcos conceptuales y modelos organizacionales que se han obtenido tanto de forma inductiva como de forma deductiva, sin embargo, los resultados siguen sin mejorar. La presente tesis desarrolla una metodología de investigación que construye sobre estas tres literaturas citadas y desarrolla un marco teórico en el que los esfuerzos de los investigadores que han trabajado previamente en este problema han sido cuidadosamente introducidos. Para lograr este objetivo se ha buscado un marco conceptual de revisión de la literatura que no solo mencione relaciones y complemente las líneas de investigación de las literaturas citadas sino que además clasifique los esfuerzos de investigación en constructos, marcos conceptuales y modelos, pero diferenciándolos en función de los elementos usados para su concepción. Es posible que los elementos usados para desarrollar esta investigación, tanto en esta tesis como en el futuro, sean determinantes para hacer avanzar el estado del arte de varias líneas de investigación en las ciencias sociales.

El presente resumen consta de las siguientes secciones. En primer lugar se presentará brevemente el marco conceptual usado. En segundo lugar se introducirán los constructos, marcos conceptuales y modelos organizacionales revisados en las literaturas de *Cambio Tecnológico* y de *Marketing* junto con ciertos factores de control provenientes de las literaturas de *Diseño Organizacional*, específicamente los que se hallan dentro de la línea de investigación que trata iniciativas de expendedoría dentro de las empresas establecidas (en inglés "*Corporate Venturing*"). En tercer lugar se revisa la literatura de la industria de banca minorista en España. En cuarto lugar se presenta el Multi-Método usado para aislar y entender la anatomía de un constructo nuevo cuyas implicaciones exceden el ámbito de una literatura en concreto. En quinto lugar se presenta dicho constructo para un tipo de cliente y para una de las circunstancias controladas en la investigación. En sexto lugar se presenta el método mixto que es usado para el estudio cuantitativo, además de introducir las hipótesis que serán usadas para testear ciertas relaciones entre variables y para *Triangular* (Jick, 1979) los resultados del constructo nuevo identificado a través del Multi-Método. En séptimo lugar se explican las conclusiones de la investigación así como sus limitaciones e implicaciones para las literaturas anteriormente citadas.

Marco Conceptual:

La *Rigidez Científica* (Bourdieu and Wacquant, 1992) se define como una situación dentro del estado del arte de una línea de investigación en la que los académicos tienen dificultades para relacionar qué trabajos de investigación construyen sobre el anterior. Se observa que las nuevas contribuciones se pueden relacionar en diferentes puntos de la literatura y lo que acaba sucediendo es que los académicos son capaces de recitar largas listas de trabajos de investigación previos mientras que a la vez que tienen dificultades para desarrollar nuevas preguntas de investigación o desarrollar nuevos diseños de investigación que den lugar a nuevas investigaciones totalmente genuinas.

Existen varias maneras de elaborar una revisión de la literatura. En esta tesis se ha utilizado como plantilla el marco conceptual desarrollado por Christensen and Carlile (2009), que esta específicamente basado en separar no sólo los constructos, marcos conceptuales y modelos organizacionales sino que además diferencia dos áreas de clasificación, diferenciadas por los elementos que fueron usados en las pasadas investigaciones para construir dichos resultados. Estas dos áreas de clasificación son las basadas

en atributos y las basadas en circunstancias. Este investigador no conoce ningún trabajo académico previo en el que se explique cómo diferenciar entre atributos y circunstancias en una investigación. Sin embargo sí que son conocidos varios trabajos que muestran que tanto las descripciones de características de los productos (precio, nivel de rendimiento, durabilidad, etc.) así como las descripciones de los consumidores (edad, nivel socioeconómico, etc.) son atributos (Caves and Williamson, 1985). Mientras que el resto de factores se pueden clasificar como circunstancias. Esta aproximación a la literatura da lugar a cierto margen de error, puesto que no todos los elementos introducidos como circunstancias de hecho lo son, sin embargo, este error es menor que el que se genera al no controlar en las investigaciones por circunstancias, por atributos de productos y por atributos de los consumidores. Un ejemplo ilustra claramente este problema: Existen decenas de libros como *En Busca de la Excelencia* (Peters and Waterman, 1982) o *De Bueno a Genial: Como Algunas Compañías dan el Salto Mientras Otras No* (Collins, 2001) que están basados en obtener una larga muestra de empresas, aislar las que han tenido un crecimiento sostenido durante más de una década e identificar los atributos que estas compañías tienen en común. Normalmente utilizando algún tipo de técnica estadística basada en correlaciones. Entonces los autores concluyen que, si una empresa posee esos atributos, tendrá también causalidad en lo referente a crecimiento sostenido. Las correlaciones entre atributos no implican ningún tipo de causalidad. Por eso esta tesis obtiene los datos de fuentes primarias en las que se controla y buscan activamente los factores contextuales (las circunstancias) que rodean la respuesta condicionada que es tratada como variable de efecto. La causalidad se encuentra en el contexto (Morck and Yeung, 2011) y es por eso por lo que no sólo se hacen entrevistas específicamente diseñadas para obtener los datos del contexto, sino que además a posteriori se controla por los atributos que pudiesen quedar y que pertenecen a descripciones del consumidor o del producto. Una vez se ha eliminado lo imposible, lo que queda al final, aunque sea improbable, debe ser la verdad. El marco conceptual desarrollado por Christensen and Carlile (2009) y usado en esta tesis diferencia entre los constructos, marcos conceptuales y modelos organizacionales basados en atributos de sus equivalentes basados en circunstancias; que son los paradigmas (modelos basados en circunstancias), circunstancias (marcos conceptuales basados en atributos) y constructos normativos.

Revisión de la Literatura:

La revisión de la literatura en esta tesis analiza en profundidad dos estados del arte. El correspondiente al de *Cambio Tecnológico* y al de *Marketing*. Estas dos literaturas se encuentran actualmente convergiendo en algunas de sus líneas de investigación y en particular en una *Unidad de Análisis*, que es la referente a la incertidumbre relacionada con el consumidor. Predecir el comportamiento del consumidor es uno de los retos que mayores implicaciones tiene en las empresas. La tasa de fallo asociada a este proceso se sitúa en torno al 95% (AC Nielsen, 2010). Por ejemplo: cada año se lanzan en torno a 30.000 productos en el mundo. De media el 95% de los cuales será retirado antes de cuatro años, bien porque no se venden y pierden dinero o bien porque con lo que se vende, aunque se repagan sus gastos variables, no se contribuye significativamente a la empresa. Y todo esto sucede en las mejores empresas del mundo, con los profesionales más cualificados del mundo, con la aplicación de las últimas investigaciones y con unos presupuestos para investigación y lanzamiento de productos enormes. Sin embargo, existen anomalías. Hay empresas que, dentro de ese 5% restante, no sólo tienen éxito sino que además lo tienen de forma repetida. Un caso es Apple. ¿Qué conocimiento tácito poseía el Sr. Jobs que le permitía predecir con mayor nivel de fiabilidad que el de los demás el comportamiento futuro del consumidor? Esta tesis está construida sobre el concepto de elaboración de teoría, en el que los atributos y circunstancias sirven para explicar y predecir el comportamiento futuro del cliente y entender como ese constructo resultante impacta a empresas que sufren *Estancamiento*. La variable resultante de esta investigación es un constructo que ha sido previamente obtenido en la literatura de forma inductiva pero que hasta ahora no se ha podido aislar para entender su anatomía. Es el constructo llamado *Job* (Berstell and Nitterhouse, 2001; Christensen et al., 2007).

Tanto la literatura de *Cambio Tecnológico* como la de *Marketing* tratan de obtener este constructo, sin embargo para conseguirlo no sólo utilizan técnicas de análisis basadas en correlaciones (que muestran relaciones entre variables controladas por alguna contingencia, pero no causalidad) sino que además se circunscriben a sus líneas de investigación pasadas, sin dar lugar a la posibilidad de que este constructo tenga elementos que pertenecen a más de una línea de investigación y a más de una literatura. En esta tesis la aproximación de *Cambio Tecnológico* ha sido llamada la aproximación de la *Oferta*, porque son las características de los productos las que han sido analizadas para predecir el comportamiento futuro

del consumidor. Cuando son las características del consumidor las que están siendo investigadas, que es el caso de la literatura de *Marketing*, se la ha llamado la aproximación de *Demanda*. Cada una de estas aproximaciones tiene fuertes valedores en las industrias, empresas tecnológicas como Apple o Ford pertenecen al ámbito de la *Oferta*, mientras que empresas como Procter & Gamble o Coca Cola pertenecen al ámbito de la *Demanda*.

Los constructos revisados procedentes de la literatura de *Cambio Tecnológico* son los siguientes. Definición, *Impetus*, Discontinuidades en Consumidores, Discontinuidades en Tecnologías, Discontinuidades en Modelos de Negocio, Regímenes de "*Apropiabilidad*", Concepto Tecnológico, Componente Tecnológico, Estandarización, Especialización, Producto y Proceso. Estos constructos sientan las bases de los marcos conceptuales y modelos que serán posteriormente desarrollados en la literatura y que darán lugar a la concepción moderna de modelos de *Cambio Tecnológico*. Por ejemplo, la Definición, que es el acotamiento de una iniciativa dentro de una empresa va acompañada del *Impetus* que se mide si esa iniciativa está siendo promocionada internamente en la empresa. El rol de las Discontinuidades es clave para controlar la contingencia de si una determinada función es continua o discontinua y qué implicaciones tiene esta característica en el objeto del estudio. La "*Apropiabilidad*" es la semilla de uno de los tres factores utilizados por los académicos de Cambio Tecnológico para explicar cuando una nueva tecnología va a tener éxito, esta normalmente medida por el "proxy": número de patentes. Los constructos de concepto y componente tecnológicos, fundamentales para entender el diseño de un *Artefacto*, darán lugar unos años más tarde a uno de las investigaciones más citadas en esta literatura. Los constructos de estandarización y especialización son la base del diseño de productos en la era moderna y posteriormente darán lugar a un fundamento teórico y a la cohesión interna entre componentes de un producto y las características de la empresa, como su nivel de interdependencia, que influirá además en sistemas y en variables de *Diseño Organizacional*. Finalmente la diferenciación entre los constructos de Producto y Proceso será fundamental para diferenciar en que actividades se está invirtiendo dentro de la empresa y las rentabilidades, tasas de mejora y de error asociadas a cada una de ellas.

Los marcos conceptuales citados en la revisión de la literatura de *Cambio Tecnológico* son los siguientes: *Impetus* interno e *Impetus* externo, Contexto Estructural y Contexto Estratégico, Innovador, Seguidor e

Imitador, entrada de una empresa establecida contra entrada de una nueva empresa, actividades que se construyen sobre las actuales competencias en relación a actividades que destruyen las actuales competencias, innovaciones incrementales, modulares, arquitecturales y radicales. La separación entre *Impetus* interno y externo es fundamental para empezar a entender la tipología de tipos de *Impetus*. Esta distinción indica que el *Impetus* de un proyecto es multi escalar y que en el nivel más externo, que es el de la fuerza de ventas, si no hay *Impetus*, el proyecto va a fracasar. Esta distinción unida a la clasificación entre el Contexto Estructural y el Contexto Estratégico complementa este marco conceptual que no sólo considera la Definición y los tipos de *Impetus* sino que también incluye la situación de la empresa y de la industria en la medición del futuro de los proyectos. Innovador, Seguidor e Imitador es un marco conceptual que controla en qué momento se introduce la tecnología y como ese factor puede explicar si finalmente va a tener éxito o no. El Innovador es la empresa que la introduce, mientras que el seguidor introduce la misma tecnología un breve tiempo después y el imitador la introduce con ligeras modificaciones. Este marco conceptual ha dado origen a dos líneas de investigación, la primera relacionada con las ventajas o desventajas de ser el primero en una industria y la segunda que está enfocada en medir el éxito del imitador. Un marco conceptual que complementa al anterior es el que controla si quien introduce la nueva tecnología es una empresa establecida o una nueva empresa y cuáles son los efectos de ambas por adoptar este rol. Complementando este marco conceptual en el caso de la empresa establecida existe un marco conceptual adicional que controla el caso en que la nueva tecnología es incompatible en relación a las competencias que tiene desarrolladas la empresa establecida, es el caso de las actividades destructoras de competencias. Finalmente, el último marco conceptual revisado es el que clasifica las tecnologías en función de los constructos de concepto y componentes tecnológicos, dando lugar a la clasificación de incremental, radical, arquitectural y modular.

Los modelos revisados en la literatura de *Cambio Tecnológico* son el modelo del ciclo de vida de la industria, la curva de sustitución y el modelo de curva S. El modelo de ciclo de vida de una industria trata de explicar porque hay generaciones de empresas que perecen ante el cambio tecnológico y cuáles son los tipos de innovaciones, especialmente los diseños de innovaciones, que son ampliamente adoptadas por los consumidores y que por lo tanto premian a las empresas que las introducen con grandes

crecimientos. Cuando la tecnología introducida reemplaza a una existente se da el modelo de la curva de sustitución, donde, siempre que no haya discontinuidades en el futuro se puede calcular en cuanto tiempo una nueva tecnología va a obtener el 100% de cuota de mercado de una tecnología que está siendo actualmente utilizada. Finalmente el modelo de la curva S, muestra una de las primeras aproximaciones a las discontinuidades tecnológicas que están basadas en limitaciones físicas de tecnologías establecidas y como las nuevas pueden reemplazarlas tomando como puntos de partida niveles de desempeño inferiores a los de las tecnologías establecidas.

Los dos modelos paradigmáticos que se revisan en la literatura de *Cambio Tecnológico* son el de Innovación Disruptiva y el de los Activos Complementarios. El modelo de Innovación Disruptiva complementa el anterior modelo de la curva S pero añadiendo el contexto. Muestra como las nuevas tecnologías que son destructoras de competencias y que tienen un rendimiento inferior al de las tecnologías que están en uso y que actualmente comercializa la empresa establecida entran en el mercado a través de consumidores cuyas circunstancias han cambiado, en concreto, que están sobre servidos, y que por tanto no buscan la maximización de utilidad de un producto sino unos niveles de satisfacción determinados. El modelo de Activos Complementarios explora el efecto que tiene la influencia de las empresas establecidas en los diferentes activos de la industria, no de la empresa, y cómo cuanto mayor control sobre estos activos mayor es la resiliencia de las empresas establecidas ante la entrada de un nuevo competidor.

Las circunstancias que se revisan en la literatura de *Cambio Tecnológico* son las siguientes. Primero el nivel de especialización de los activos complementarios, segundo la presencia o ausencia del efecto acumulativo (*Buffer Effect*) y finalmente la capacidad e incentivos de contra atacar que puede tener la empresa establecida ante la llegada de una nueva tecnología. El nivel de especialización de los activos complementarios se basa en medir el nivel de estandarización o especialización del modelo paradigmático de activos complementarios descrito anteriormente. Esta circunstancia muestra como a mayor nivel de interdependencia mayor nivel de resistencia ante la entrada de una nueva tecnología. El efecto acumulativo indica que además la empresa establecida tiene cierta inercia en el control de sus ventas, lo cual la provee de un tiempo adicional para responder ante la amenaza de una nueva tecnología. Finalmente la circunstancia que muestra si una empresa establecida va a contra atacar o no

se basa en medir la amenaza en términos económicos. Cuando la nueva tecnología puede capturar clientes que para la empresa establecida son de alto margen la respuesta de la empresa establecida será inmediata. Cuando los clientes capturados son de bajo margen la respuesta es poco probable por dos motivos, primero porque un proyecto de bajo margen no consigue *Impetus* dentro de la organización ni *Impetus* externo con la fuerza de ventas y segundo porque la empresa establecida no lanza productos de bajo margen que sustituyen a los de alto margen por el miedo a la *Canibalización*.

Finalmente los constructos normativos revisados en la literatura de Cambio Tecnológico son; si la empresa establecida sobrevive a la entrada de una nueva tecnología a través de crear una unidad de negocio independiente (una forma de *Corporate Venturing*), si la empresa establecida no sobrevive, si la empresa entrante sobrevive o no y si la tecnología es inferior o superior. Casi todos estos constructos normativos son auto explicativos, aunque hay dos matizaciones relevantes. La primera es que todos estos constructos son ex-post, es decir, post experimento, este matiz es importante porque, por ejemplo, para que una empresa establecida sobreviva al ataque de una nueva empresa la nueva empresa tiene que haber atacado en un momento del tiempo pasado. Esta tesis controla específicamente por la temporalidad de los contextos causales como parte del diseño de la investigación. En segundo lugar y respecto al último constructo normativo relacionado con la superioridad o inferioridad de la tecnología, este constructo tiene también su contrapartida en la parte de los constructos basados en atributos. Aunque este constructo en concreto se ha omitido de la revisión de la literatura porque no era pertinente para esta investigación ya que comparaba atributos de una tecnología en relación a otra. La superioridad o inferioridad no se determina únicamente por la tecnología sino que lo que decide si una tecnología es superior o inferior en este ámbito se considera desde el punto de vista del consumidor y, de nuevo, es ex-post porque un consumidor sólo puede valorar una tecnología después de habérsela mostrado.

Los constructos revisados procedentes de la literatura de *Marketing* son los siguientes. Producto, Precio Promoción y Distribución. Especificaciones, Necesidad, Beneficio, Solución. Comprador, Cliente, Consumidor. Ocasión, Uso y Situación. Diferenciación. Marca Tradicional, Marca Propósito y Marca que Endorsa. Cada uno de estos constructos describe un conjunto de atributos. Como se ha indicado previamente lo más relevante de esta sección es que cada uno de ellos puede ser clasificado como un

conjunto de atributos de una persona física o de un producto concreto. Estos constructos son las bases sobre las que se fundamenta la investigación relacionada con el *Marketing*.

Los marcos conceptuales revisados en la literatura de *Marketing* son la Segmentación, las fases de adopción de una nueva tecnología, la separación entre el consumidor y la circunstancia, las ventas Consultivas, las ventas Relacionales y las ventas Transaccionales y los tipos de marcas, que pueden ser Inversa, de Ruptura y Hostil. La segmentación está basada en agrupar consumidores basándonos en los atributos y en grupos que sean heterogéneos entre ellos y homogéneos entre sí. Las fases de adopción de una nueva tecnología es una forma de segmentación en la que los consumidores son ordenados en función de su permeabilidad al cambio. La separación entre el consumidor y la circunstancia es muy relevante, a partir de esta diferenciación en *Marketing* se añadió una nueva línea de investigación enfocada a entender como el entorno influye en el consumidor. Los tipos de venta también muestran una tipología de consumidores diferente, hay ventas derivadas de una pregunta hecha por el consumidor, ventas en las que el vendedor tiene peso en la decisión y que son muy relacionales y ventas en las que simplemente se ejecuta una transacción. Además están los tipos de marcas, que en este caso se obtuvieron de atributos relacionados con la tipología de clientes, la inversa se relaciona con superioridades técnicas del producto, la de ruptura se relaciona con productos inferiores y la hostil se relaciona con clientes que no solo han de pagar por el producto sino que además deben trabajar para conseguirlo.

Los modelos revisados en la literatura de *Marketing* son el del Salto del Abismo, el del Ciclo de Vida del Producto y el de Bass. El del Salto del Abismo introduce una particularidad al marco conceptual de consumidores ordenándolos por su permeabilidad al cambio, en él se indica que a partir de cierto nivel de aceptación los tipos de producto y modelo de negocio que una empresa debe tener para conseguir una alta difusión de su producto son completamente distintos que los que la han llevado al éxito hasta ahora. El modelo de ciclo de vida del producto indica en qué fase se encuentra un producto en su vida y por tanto qué tipo de consumidores e inversiones se deben hacer en ese momento. El modelo de Bass, muy útil para explicar cómo se adopta un nuevo producto es el equivalente al modelo de sustitución pero con un tipo de ecuación distinta.

Los modelos paradigmáticos revisados en la literatura de *Marketing* son la Red de Valor, la Heterogeneidad de los consumidores y los Mapas de Posicionamiento. La red de valor es uno de los primeros modelos en los que no sólo se tiene en cuenta a los consumidores sino que también se considera a los productos medidos por sus márgenes. Los modelos de heterogeneidad de consumidores son muy relevantes porque la heterogeneidad está relacionada con la probabilidad de éxito tanto de un nuevo producto cómo de un nuevo competidor. Finalmente los mapas de posicionamiento influyen significativamente en la toma de decisiones de la empresa, aunque, como está indicado en la revisión de la literatura, si bien en la literatura de *Marketing* se consideran prescriptivos los elementos usados en su confección suelen ser atributos en la mayoría de los casos.

Las circunstancias que se revisan en la literatura de *Marketing* son las siguientes. Los tipos de consumidores que realizan una transición de buscar la maximización de los productos, denominados infra servidos, a los que se encuentran sobre servidos. En función de estos tipos de consumidores se elabora una categorización basada en su comportamiento. Respecto a la categorización basada en su comportamiento los consumidores se pueden clasificar en Conocedores, Oportunistas, Pragmáticos, Reticente y Leales. La categorización de infra servidos y sobre servidos, que será usada posteriormente como variables de control, es clave para predecir el comportamiento futuro del consumidor.

Finalmente los constructos normativos de la literatura de *Marketing* son racionalidad condicionada, el valor percibido, los modelos de elección, el *Impetus* externo, los parámetros de medición de rendimiento y las quejas. De todos ellos los modelos de elección son clave porque simulan la toma de decisiones de un consumidor. Existe literatura que muestra cómo cuando se controla por la racionalidad condicionada los modelos de elección varían significativamente. En los consumidores infra servidos los modelos de elección generan una respuesta por parte del cliente mal adaptativa, mientras que los consumidores sobre servidos responden con una respuesta de maximización a medida que cada una de las características del producto presentado supera ciertos niveles de satisfacción.

Dentro de la literatura de *Diseño Organizacional* debemos una mención especial a la *Hipótesis Espejo* (MacCormack et al., 2012). Dicha hipótesis se cumple en organizaciones donde la arquitectura del producto y la arquitectura de la empresa son prácticamente idénticas. Lo cual indica que la empresa se organizó de ese modo para mejorar cada uno de los conceptos y componentes del producto de forma

interdependiente con respecto a las demás áreas funcionales. Investigaciones previas muestran que los tres factores que más afectan a las empresas establecidas y les bloquean la posibilidad de reaccionar ante la entrada de un nuevo competidor son las *Trampas de Competencia* (William Barnett & Hansen 1996), la *Inercia* (Hannan & Freeman 1984) y las *Rigideces Organizativas* (Leonard-Barton, 1992). Estos constructos están claramente definidos en la literatura de *Diseño Organizacional* junto con la *Hipótesis Espejo* que también lo está. Con la metodología de investigación que se va a aplicar trataremos de averiguar cuál es el que causa que los demás constructos se expresen.

Después de la revisión de la literatura y con la intención de resolver el problema del *Estancamiento* esta tesis introduce las siguientes tres propuestas:

1. La *Hipótesis Espejo* crea una organización que es incompatible con el desarrollo de nuevas iniciativas de *Corporate Venturing* o *Venta Cruzada* y que únicamente permite el reemplazo de la plataforma principal de los productos y alguna venta puntual de productos modulares.
2. En industrias sobre servidas en lugar de utilizar el constructo *Necesidad* existe un constructo llamado *Job* que, aunque previamente no se ha podido aislar para ser comprendido, es capaz de predecir el comportamiento futuro del consumidor con mucha mayor predictibilidad.
3. Mientras que el constructo *Necesidad* no es capaz de superar a la *Hipótesis Espejo*, el constructo *Job* no sólo la supera sino que además, una vez introducido en una organización que sufre *Estancamiento* es capaz de reactivar de nuevo sus tasas de crecimiento hasta niveles sostenibles.

La Industria de la Banca Minorista en España como Área de Investigación:

Por lo menos desde hace más de veinte años los bancos minoristas en España tienen un sueño. En él visualizan a un cliente entrando por la puerta de la oficina (desde hace unos años también por internet a través de la banca online) y mientras hablan con el personal, que en la pantalla salga a un lado que productos tiene el cliente contratados y a la derecha que productos se le pueden ofrecer. En el sueño, cada vez que el personal de la oficina propone uno de los productos de la derecha de la pantalla el cliente contesta “claro que sí, eso es justo lo que estaba buscando”. Muy pocas industrias han invertido

más recursos y tiempo que la de la banca en perseguir este sueño. Sin embargo, los resultados no llegan. El modelo de negocio de la banca se fundamenta en tres pilares, el primero es la Penetración, que se mide en número de oficinas. En segundo lugar está el número de productos por cliente, a mayor número de productos mayor rentabilidad del cliente. Finalmente se encuentra la cuota de cliente, que se mide por el porcentaje total del negocio que tiene el banco de un cliente. Tradicionalmente los bancos españoles han avanzado mucho más que sus homólogos mundiales en la penetración de oficinas, y actualmente se encuentran en una fase de reducción de oficinas. El tercer pilar, la cuota de cliente, es problemático para los bancos, todos quieren el 100% del negocio del cliente pero ninguno quiere el 100% del riesgo asociado a ese cliente. Nos queda el segundo pilar, el número de productos por cliente. El factor que más incide en este pilar es la venta cruzada, y más cuando se trata de una época de gran recesión económica, crisis financiera y adopción de la normativa europea en medios de pago, que hace que uno de los últimos refugios de beneficios de los bancos, que son los medios de pago, vaya a ver reducidos sus márgenes de forma paulatina en los próximos cuatro años.

Además de la situación de su industria los bancos se enfrentan a serios cambios en el comportamiento de sus clientes. Los más rentables empiezan a dejar de ir a la oficina, lo cual genera un problema de selección inversa en el que solo los menos rentables van a la oficina. Los clientes están buscando más por internet los mejores productos, siendo la venta relacional en la oficina la mayor afectada por este cambio de hábito. Y además las técnicas de venta atada (dos productos unidos por la regulación) y de venta paquetizada (dos productos unidos y bonificados) se encuentran en franco retroceso en favor de la venta cruzada (dos productos unidos sin bonificación). Adicionalmente las rigideces corporativas de los bancos no les permiten hacer la transición del antiguo modelo de originar y mantener al actual de originar y distribuir. Y como factor adicional los bancos tienen que gestionarse en un entorno fuertemente regulado donde incluso las posibilidades de uso de la información del cliente para nuevas oportunidades de venta se encuentra supervisada por el regulador. Para conseguir venta cruzada los sistemas de *Customer Relationship Management* (CRM) no sólo son difíciles de implementar sino que además no están dando los resultados esperados.

Un Diseño de Investigación a Medida: el Multi-Método de Cualitización de Datos:

Desarrollar un nuevo constructo implica ser muy específico en su definición, delimitar sus límites con nitidez y mapear las relaciones con los constructos existentes (Bono and McNamara, 2011). En el diseño de esta investigación se enfatiza la claridad del constructo con el fin de asegurar que las definiciones son precisas y que las circunstancias contextuales son coherentes en todas las relaciones semánticas (Suddaby, 2010). El constructo *Job* que se busca en esta fase de la investigación se encuentra en la intersección de las literaturas de *Cambio Tecnológico* y *Marketing*, por tanto, separar entre la parte de la investigación deductiva y la inductiva es fundamental para entender la contribución real de esta investigación y el nuevo constructo como entidad propia. Por este motivo, el *Multi-Método* usado en esta investigación no solo separa las codificaciones entre inductiva y deductiva sino que también controla los códigos exógenos y endógenos y, lo más importante, distingue entre variables que representan atributos y variables causales. El encaje entre la pregunta de investigación y el diseño de la investigación es fundamental (Edmondson and McManus, 2007). Por este motivo el diseño de esta investigación utiliza una metodología estadística, para que, una vez que se hayan codificado todos los códigos deductivos e inductivos, algunos se transformen en conceptos, posteriormente en sub-constructos, estos sub-constructos en atributos y finalmente algunos de estos atributos en variables causales en función del contexto. La preocupación por el contexto se está volviendo muy frecuente en la literatura y algunos autores indican que debería formar su propia línea de investigación (Whetten, 2009). El Multi-Método usado es el *Cualitativo- Cuantitativo Secuencial* (Tashakkori and Teddlie, 2003). Este método, combinado con los multi casos permite replicar la lógica de los entrevistados mientras que cada caso sirve para confirmar o no lo analizado previamente (Yin, 2003). Toda la investigación ocurre en las oficinas de los bancos. La obtención de códigos se realiza mediante la *Cualitización* de los datos (Fielding and Lee, 1998). Que es un proceso mediante el cual los datos cualitativos se transforman en códigos numéricos que pueden ser analizados estadísticamente (Miles & Huberman 1994). Los objetivos de la *Cualitización* son los siguientes. Primero capturar el máximo posible de información contextual. Segundo maximizar el uso del *Multi-Método*, para lo cual se utiliza la estructura de la Teoría Fundamentada (Glaser and Strauss, 1967) y el análisis Clúster (Bailey, 1983), lo que incrementa la *Robustez* y la *Validez Interna* del modelo. Tercero se usa la técnica de *Elicitación* descrita en la *Repertory*

Grid Technique (RGT) (Fine & Elsbach 2000) para construir el mapa del sistema de construcción de conocimiento individual de cada individuo. La distancia entre constructos es calculada usando estructuras de árboles aditivas (Sattath and Tversky, 1977). En la metodología de Yin (2003) este tipo de estudios se denominan *Embebidos Tipo IV* y se caracterizan por tener múltiples unidades de análisis y múltiples casos. Están diseñados específicamente para obtener una detallada y precisa información contextual. Por otro lado las fuentes de información fueron la observación directa, los datos de archivo, y las entrevistas parcialmente estructuradas. La estructura de las entrevistas no cambio durante toda la investigación pero las preguntas fueron variando después de cada entrevista, ya se trataba de no volver a preguntar información sobre atributos y reemplazar esa información por información contextual. Los casos de estudio fueron la banca online, porque representa un claro ejemplo de un incremento en la disponibilidad de pago del consumidor, el uso de una tarjeta de crédito (de pago a fin de mes) a mediodía y la compra de una tarjeta de crédito online. Cuatro variables de control fueron introducidas en la investigación. Primero la zona socio-económica donde se hacia la entrevista. Segundo la capacitación técnica del consumidor, donde si dominaba más de una funcionalidad del producto se le considera sobre servido, si solo domina una funcionalidad del producto se le considera infra servido. La tercera controlaba por el tipo de consumidor, podía ser ahorrador o gastador. Dos perfiles de comportamiento de los consumidores muy diferentes. La cuarta es si el banco es su entidad de referencia o no. Un factor crítico para determinar la información de la que se dispone de un cliente en particular. Aunque esta investigación es completamente exploratoria se entrevistaron a 34 directores de oficina, 11 sub directores y 3 jefes de zona. Lo que suma un total de 48 entrevistas. La naturaleza y variedad de la información enriquecen notablemente esta investigación haciéndola multi-función, multi-nivel y multi-fuente. En total 62 códigos deductivos fueron obtenidos de la revisión de la literatura y fueron testados consistentemente a lo largo de toda la investigación. Sin embargo, de la investigación también emergieron 34 códigos inductivos nuevos, muchos de ellos completamente nuevos en sus respectivas literaturas. Una vez codificadas todas las entrevistas se obtuvieron un total 106.452 códigos discretos pertenecientes a las 12 unidades hermenéuticas. Esta gran cantidad de información es muy útil para investigar con detalle las expresiones de las variables contextuales en cada una de las unidades hermenéuticas. Los resultados de este *Multi-Método* fueron subsecuentemente triangulados en la parte cuantitativa que compone la segunda parte de esta tesis. Esto se hizo únicamente para consumidores

sobre servidos. En concreto se buscó triangular que las ramas del constructo *Job* que se obtuvieron con el *Multi-Método* se encontrasen también presentes y se expresasen de igual forma cuando eran analizadas a través del *Método Mixto*.

El Constructo Job para la Banca Online, Consumidor Sobre Servido y de Perfil Ahorrador:

Este tipo de consumidores conoce los productos del banco y los de la competencia. La circunstancia analizada es la siguiente: “cuando esta persona llega a su casa, después de cenar, etc. Y se logea en la web del banco”. El número total de códigos que emergieron a través de la codificación axial fue de 16.839. La distribución de estos códigos no es Normal (en ninguno de los casos la distribución fue Normal). Los códigos que contienen un mayor fundamento son el de contexto (por la naturaleza de las entrevistas semi-estructuradas) que se citó 819 veces. El de la búsqueda activa del ahorro, que define una clara característica de este perfil de consumidor y que se citó 803 veces. El del aumento de la disponibilidad de pago online, que es consistente con este tipo de consumidor al que le gusta analizar con detalle los productos ofertados y que además sabe que las mayores remuneraciones de producto se encuentran online, y que se citó 796 veces. Otro dato destacable en este punto es que el código de control de status socioeconómico no salió citado, de hecho, no salió citado en ninguno de los 12 casos. Confirmando lo que indicaba la literatura previa en lo referente al constructo *Job*. Los conceptos se obtuvieron a través de una tabla de contingencia que en este caso contenía 73 pares de correlaciones, tanto en éste caso como en los 11 casos restantes solo se consideraron las correlaciones estadísticamente significativas al 99% ($p < 0.01$). Cuando dos códigos tienen una alta correlación sus significados se trascienden entre sí y resultan en un significado agregado. El concepto resultante tiene un mayor poder explicativo (pero no predictivo). Los sub-constructos emergen de las columnas de conceptos que tienen relación con las variables de control. Un sistema de verificación efectivo de la investigación consiste en comprobar que no hay relación estadística entre la variable de control del contexto y la de los atributos, lo que confirma que la codificación ha sido mutuamente excluyente y colectivamente exhaustiva. El resultado final de la investigación arroja que el 64% de los códigos se refieren al contexto y no se refieren a un atributo del producto o del consumidor y que el 29% de los códigos se refieren a algún atributo tanto del producto como del consumidor. El 8% de códigos restante

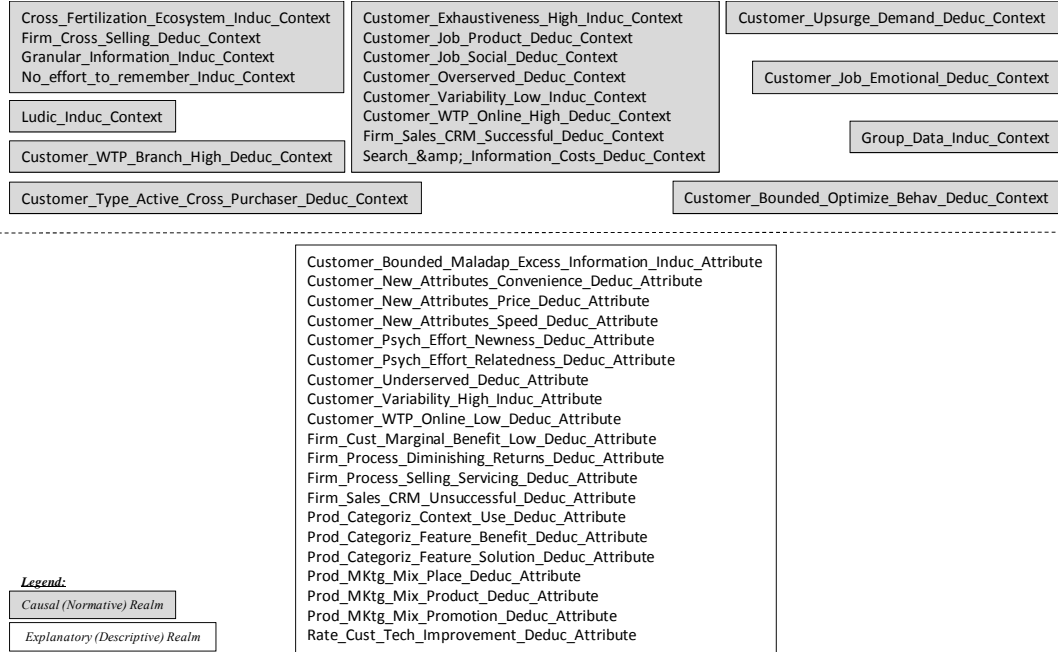
no promocionaron. Para agrupar los códigos por su categoría correspondiente y así formar las ramas del constructo *Job* se utilizó el clúster jerárquico, donde se puede ver como la categoría central emerge y como se confirma lo indicado en la literatura previa donde se confirma que es la categoría con mayor variabilidad. Es el proceso homólogo al de la *Codificación Selectiva en Teoría Fundamentada*. La categoría central en este caso es un código inductivo que emergió de la investigación y que se refiere al aspecto lúdico que tiene este consumidor en relación al mundo financiero. El sistema de cálculo usado en el clúster jerárquico es el del Centroides, se utiliza este sistema porque de esta forma los clústeres se representan alrededor de un vector central que es tridimensional y que no necesariamente está contenido en los datos suministrados, una contingencia que es recomendable considerar tratándose de una investigación con un fuerte carácter exploratorio. El método de cálculo usado fue el de la distancia euclídea al cuadrado, que es el correspondiente al de las relaciones cualitativas entre códigos que no son inequívocas en una codificación axial.

El resultado de todo este proceso resuelve muchas incógnitas. En primer lugar de los 10 clústeres sólo uno contiene atributos descriptivos. Elementos que son observables en otras investigaciones empíricas y que efectivamente tienen cierto poder explicativo mientras que a la vez muestran relaciones entre variables. Pero no causalidades. El gráfico E.1 muestra el constructo *Job* y muestra que 9 de los 10 clústeres son específicos del contexto y definen unas ramas que indican la anatomía de la predictibilidad de este consumidor ante nuevas ofertas que este banco u otro banco le pueda enviar.

Dentro de la literatura ya existente que presenta el constructo *Job* de forma inductiva se habla de que éste contiene tres ramas, la funcional, la emocional y la social. El constructo *Job* mostrado en el Gráfico E.1 muestra que efectivamente estas tres ramas están presentes pero su expresión no es proporcional, que es lo que hasta ahora se afirmaba en la literatura. Sino que la rama emocional en este consumidor va separada de la rama funcional y social.

Después de haber obtenido los 12 constructos *Job* se procedió a hacer un análisis diferencial para encontrar qué elementos tienen en común y en cuáles difieren y si esas diferencias muestran algún tipo de inconsistencia con la literatura ya existente y anteriormente citada.

Gráfico E.1: Constructo *Job* para la Banca Online y el Ahorrador Sobre Servido



Los resultados del análisis diferencial muestran fuertes inconsistencias con la literatura. En concreto hay varias ramas adicionales a las tres que se encuentran inductivamente explicadas. La primera es el rol que juega la percepción del consumidor en lo referente a cuáles son las características básicas que tiene que tener el producto que finalmente se va a adquirir. La segunda es la exhaustividad percibida, medida por el consumidor y basada en cuántas ofertas tiene que evaluar para estar seguro de que en caso de que se encuentre una oferta nueva en el futuro esa información no alteraría su decisión pasada. La tercera es la variabilidad, una rama que afecta directamente a la literatura de *Diseño Organizacional* y que indica que las implicaciones de este constructo se extienden a varios ámbitos de la empresa, inclusive varios que se encuentran dominados por la *Hipótesis Espejo*. Respecto a lo previamente indicado en la literatura también existen anomalías. No siempre las ramas funcional, emocional y social están presentes en los 12 constructos *Job* obtenidos en esta investigación. Además en ocasiones estas ramas aparecen clústerizadas junto con otros códigos contextuales. En otras ocasiones aparecen solas. La evidencia confirma claramente que efectivamente existe un mecanismo causal que predice una respuesta condicionada por parte del consumidor y que se genera a través de un constructo que tiene implicaciones en varias áreas de la empresa y en varias literaturas de investigación. La Propuesta nº2 expuesta anteriormente indica que en industrias sobre servidas aparece el constructo *Job*, esta

propuesta es parcialmente correcta, en el sentido de que efectivamente sí que aparece en industrias sobre servidas pero también aparece en industrias infra servidas. Las diferencias radican en su anatomía y en sus ramas. Pero se constata en esta investigación que el mecanismo causal existe en las dos circunstancias. Uno de los factores que podría refinar lo afirmado en la Propuesta nº 2 es que, en industrias infra servidas la capacidad predictiva del constructo *Job* y del constructo de *Marketing Necesidad* son equiparables mientras que en industrias sobre servidas la capacidad predictiva del constructo *Job* es muy superior. La razón estriba en que, tal y como está documentado en la literatura, en industrias infra servidas el objetivo del cliente es la maximización de la funcionalidad del producto, que es el mismo que el de la *Hipótesis Espejo*, en este caso el constructo *Necesidad*, cumple una función más bien modular y el constructo *Job* refleja en sus ramas la *Hipótesis Espejo*. En industrias sobre servidas, cuando la maximización de la funcionalidad deja paso al satisfactor, se genera un desalineamiento entre la *Hipótesis Espejo*, los objetivos del cliente, la *Necesidad* y el constructo *Job*. Mientras que los objetivos del cliente cambian y el constructo *Job* introduce este cambio a través de sus variables contextuales, la *Necesidad* y la *Hipótesis Espejo* permanecen inalteradas, reduciendo así su capacidad predictiva.

Método Mixto Usado Para Testear Hipótesis y Triangular los Resultados del Multi-Método:

Esta sección desarrolla las propuestas anteriormente citadas y las une a la revisión de la literatura y a la investigación desarrollada con el Multi-Método con el objetivo final de generar las hipótesis que a continuación serán testadas. En total se generaron 17 hipótesis en 8 grupos de hipótesis formales. La fuente de información volvió a ser de datos primarios en esta ocasión obtenidos a través de una encuesta que estuvo abierta a personal bancario durante 2 meses. Antes de suministrar la encuesta ésta fue revisada por un experto académico y 2 profesionales de banca. En total la encuesta fue completada por 306 profesionales de banca. Ninguno de ellos había participado previamente en la anterior investigación. En esta industria no existen precedentes de una encuesta que exceda el ámbito de un solo banco y que haya tenido tanta aceptación. Es importante destacar que la encuesta fue diseñada después de haber terminado por completo la anterior investigación, la investigación previa fue fundamental para aumentar la precisión en lo referente a la definición de variables e incluso en la

introducción de variables que no se conocían anteriormente y que habían emergido de forma inductiva. Las secciones de la encuesta son las siguientes. La primera sección está relacionada con la literatura revisada sobre el *Diseño Organizacional* e incluye 4 variables que miden el nivel de Interdependencia. La segunda sección está relacionada con la parte de la revisión de la literatura de *Cambio Tecnológico* que elabora sobre las funcionalidades de los productos, incluye 7 variables que miden el grado de Interdependencia entre los diferentes conceptos y componentes del producto, en concreto los constructos medidos se refieren al Concepto Tecnológico, Componente Tecnológico, Estandarización y Especialización. La tercera sección contiene 2 variables que proceden de la literatura de *Marketing* y que miden la capacidad del constructo *Necesidad* de generar ventas por debajo y por encima de los costes relativos del banco. La cuarta sección relaciona el tipo de consumidor sobre servido con el constructo *Necesidad* y con los modelos de decisión, contiene dos variables. La quinta sección contiene sólo una variable y mide con precisión el efecto del satisfactor y de maximización de la utilidad introducido por Simon (1956; 1955). La sexta sección está dedicada a Triangular los resultados del constructo *Job* obtenido en la investigación previa. Contiene 5 variables y cada una de ellas está relacionada con las ramas del constructo *Job* que generó el Multi-Método. La séptima sección contiene 2 variables que relacionan al constructo *Job* con la literatura de *Diseño Organizacional* y con la literatura del producto. La octava sección es idéntica a la cuarta sección pero reemplaza el constructo *Necesidad* por el constructo *Job* y mide los efectos de este cambio en el *Diseño Organizacional*, contiene dos variables. Todas las variables de la encuesta se diseñaron con una escala de Likert de 5 categorías. Adicionalmente para controlar variaciones en las respuestas 7 variables de control y 4 variables de control binarias (dummy) fueron añadidas. En términos generales estas variables controlan factores que anteriormente en la literatura se han descrito como influyentes en los resultados finales, por ejemplo, el tamaño de la entidad bancaria, la posición y los años de experiencia de la persona que completa la encuesta y el estatus socio-económico donde se encuentra la oficina. Las variables de control binarias controlan factores como si la oficina está en un centro urbano o no, si la encuesta se completó durante el primer o durante el segundo mes, si la oficina estaba abierta o cerrada cuando se completó la encuesta y si la encuesta había sido enviada por servicios centrales. Las variables cuantitativas fueron transformadas a escala logarítmica. Para generar las variables independientes se utilizó la técnica estadística de Análisis de Componentes Principales. Para el constructo *Job* se generaron 2 variables independientes. La primera

agrupa las ramas funcionalidad, exhaustividad y variabilidad. La segunda agrupa las ramas emocional y social. Estos resultados son totalmente consistentes con los obtenidos a través del método mixto y de hecho proponen una nueva regla que no había sido contemplada hasta ahora en la literatura de los modelos de elección, donde en lugar de elegir de forma conjuntiva, el cliente selecciona estas tres ramas de forma subjuntiva y compensa su peso en la toma de decisión hasta el siguiente nivel, donde de nuevo se replica el comportamiento con la parte emocional y social. Existen precedentes en la literatura de investigaciones previas que utilizan solo el primer componente, en esta investigación se utilizaron los 2 componentes para ampliar las hipótesis y enriquecer los resultados de la investigación. Para el caso de la *Hipótesis Espejo* se realizó otro Análisis de Componentes Principales de las 11 variables que se refieren a diseño organizacional y a interdependencia de producto (se trató previamente de hacer por partes pero las variables de diseño organizacional se agruparon todas en un solo componente). Cuatro componentes emergieron de este análisis. El primero muestra como el control de algunos departamentos del banco y del producto no lo ejerce el banco en sí sino que también lo hace el regulador. Un síntoma de que la *Hipótesis Espejo*, que aún no había sido testada, podría estar presente. El segundo componente, es consistente con la Teoría de Asignación de Recursos, muestra como las únicas iniciativas que pueden obtener *Impetus* son las que generan un mayor margen para el banco. El tercer componente une la operativa de los productos con el control de la información de los clientes y la regulación, de nuevo consistente con los resultados obtenidos previamente. El cuarto componente, que es consistente con la literatura de Innovación, muestra como los bancos se ven forzados a estandarizar una plataforma de producto y después dedicarse a vender *Derivados* del mismo. Finalmente antes de testar las hipótesis se hizo otro Análisis de Componentes Principales de todas las variables. Los resultados muestran la consistencia del estudio, todas las variables correspondientes a las cinco primeras secciones de la encuesta se cargaron limpiamente en su sección. Hubo algunos cruces con otras variables pero están explicados en la literatura. Las únicas 2 secciones de la encuesta cuyas variables no se cargaron únicamente en su sección sino que se cargaron múltiples veces a lo largo de la encuesta fueron las 6 variables independientes. Estos resultados indican que estas variables independientes tienen fuertes relaciones en varios niveles de la organización y que su influencia en dichos niveles puede hacer variar algunos resultados previos que están descritos en la literatura, como

por ejemplo, los motivos de fracasos de los proyectos o porque iniciativas prometedoras para la empresa son consistentemente neutralizadas por los procesos organizativos.

Para la Propuesta 1, que afirma que la *Hipótesis Espejo* crea una organización que es incompatible con el desarrollo de nuevas iniciativas de *Corporate Venturing* o *Venta Cruzada* se desarrollaron 2 grupos de hipótesis formales. El primer grupo contiene una hipótesis que otorga *Validez Externa* a dicha teoría (la *Hipótesis Espejo* proviene de la literatura de Ciencias de Computación). H1 testea la relación positiva entre la Interdependencia de la organización y la Interdependencia del producto. Para testear esta relación se utilizó la regresión multinomial logística (variable dependiente de más de 2 categorías). Se confirma la relación. El segundo grupo de hipótesis testea la relación entre la *Hipótesis Espejo* y las ventas de alto margen. Testea la relación de forma positiva (H2a) y de forma negativa (H2b). En ambos casos la relación es inexistente. A continuación testea la relación entre la *Hipótesis Espejo* y las ventas de menor margen relativo. De nuevo lo hace de forma negativa (H2c) y positiva (H2d). La relación negativa queda rechazada pero se acepta la relación positiva. Existe una relación positiva entre una empresa que tiene la *Hipótesis Espejo* y el *Impetus* de iniciativas de bajo margen relativo a sus costes fijos. Para la Propuesta 2, que afirma que la predictibilidad del constructo *Job* es superior a la del constructo *Necesidad*. Se desarrollaron 8 hipótesis en 5 grupos formales. La primera testea el efecto del satisfactor en la elección del producto óptimo para un cliente sobre servido (H3). Primero se hizo una prueba Chi-cuadrado para testear la proporcionalidad de las categorías de esta variable. El resultado de la prueba 111.320 ($p < 0.000$) indica divergencia entre categorías. Los resultados de la regresión multinomial logística rechazan H3. Este resultado es consistente con la investigación previa e indica que aunque efectivamente el satisfactor hace que una parte de los clientes sobre servidos cambie su modelo de toma de decisiones hacia un producto óptimo otra parte sigue buscando la máxima utilidad del producto y por tanto genera una respuesta mal adaptativa. H4 testea que las ramas obtenidas previamente en el Análisis de Componentes Principales sean de hecho mutuamente excluyentes. Una prueba T de igualdad de medias confirma esta hipótesis. El siguiente grupo de hipótesis se desarrolló para Triangular los resultados del Multi-Método. La hipótesis H5a afirma que en el caso de clientes sobre servidos la ramas de funcionalidad, exhaustividad y variabilidad del constructo *Job* están positivamente asociadas a la maximización del producto. La hipótesis H5b afirma que en el caso de

clientes sobre servidos la ramas emocional y social del constructo *Job* están positivamente asociadas a la maximización del producto. La hipótesis H5a se rechaza, indicando que estas ramas no son las decisoras para la elección del producto por parte de un consumidor sobre servido. La hipótesis H5b se confirma, indicando que son las ramas emocional y social las determinantes de la elección de un producto por parte de un consumidor sobre servido. La hipótesis H6a afirma que en el caso de clientes sobre servidos la ramas de funcionalidad, exhaustividad y variabilidad del constructo *Job* están positivamente asociadas a la satisfacción en la toma de decisión de un nuevo producto. La hipótesis H6b afirma que en el caso de clientes sobre servidos la ramas emocional y social del constructo *Job* están positivamente asociadas a la satisfacción en la toma de decisión de un nuevo producto. En este caso sucede a la inversa, la hipótesis H6a se confirma, indicando que la presencia del satisfactor cambia el comportamiento del cliente sobre servido porque se da cuenta que la maximización es contra productiva a partir de su nivel de satisfacción. La hipótesis H6b se rechaza, indicando que las ramas emocional y social no forman parte de este proceso de toma de decisión porque ya se ha comprado el producto antes de empezar a racionalizarlas. Para testear la influencia del constructo *Necesidad* en el consumidor sobre servido se desarrollaron 2 hipótesis más. La hipótesis H7a afirma que en el caso de clientes sobre servidos la ramas de funcionalidad, exhaustividad y variabilidad del constructo *Job* están positivamente asociadas al constructo *Necesidad*. La hipótesis H7b afirma que en el caso de clientes sobre servidos la ramas emocional y social del constructo *Job* están positivamente asociadas al constructo *Necesidad*. Las dos hipótesis se confirman. Lo cual indica que en empresas con la *Hipótesis Espejo* y que por tanto usan el constructo *Necesidad* las ramas de funcionalidad, exhaustividad, variabilidad, emocional y social están presentes. Y de hecho han sido ampliamente verificadas en la literatura, sin embargo, la empresa sigue sufriendo de *Estancamiento*. La Propuesta 3, que afirma que reemplazando el constructo *Necesidad* por el constructo *Job* se elimina el *Estancamiento* se testea con el octavo grupo de hipótesis formales. La hipótesis H8a afirma que en las ramas de funcionalidad, exhaustividad y variabilidad del constructo *Job* están positivamente asociadas con el éxito de ventas de menor margen relativo. La hipótesis H8b afirma que las ramas emocional y social del constructo *Job* están positivamente asociadas con el éxito de ventas de menor margen relativo. La hipótesis H8c afirma que en las ramas de funcionalidad, exhaustividad y variabilidad del constructo *Job* están positivamente asociadas con el éxito de ventas de alto margen. La hipótesis H8d afirma que las ramas emocional y social del constructo *Job* están

positivamente asociadas con el éxito de ventas de alto margen. Todas estas hipótesis se confirman, indicando que cuando se utiliza el constructo *Job* su efecto es lo suficientemente fuerte como para neutralizar el bloqueo de la *Hipótesis Espejo* y así permitir que de nuevo una gran variedad de iniciativas ganen *Impetus*, no solo las de reemplazo de plataforma con derivados de bajo margen y ventas modulares como sucedía anteriormente. La influencia del constructo *Job*, de hecho, es lo suficientemente fuerte como para curar el *Estancamiento*.

Conclusiones:

Esta tesis tiene algunas implicaciones para las literaturas revisadas. Una de las líneas de investigación de la literatura de *Cambio Tecnológico* trata de explicar y predecir el éxito en el lanzamiento de nuevos productos en ambientes de alta incertidumbre (Brentani & Reid 2012; Magnusson 2009). Especialmente si se trata de innovaciones radicales. Esta tesis muestra como el constructo *Job* añade información relevante para el éxito de esta iniciativa. El ejemplo clásico de esta influencia es Steve Jobs en Apple. Antes de la reincorporación de Steve Jobs, Apple invertía la mayor parte de su presupuesto en reemplazo de plataforma de productos y venta de derivados y productos modulares (un cambio de plataforma sería la siguiente generación de Macintosh, de derivados sería el Macintosh de pantalla de 13 pulgadas y el de 15 pulgadas, y de productos modulares los accesorios que pudiese llevar). Steve Jobs cambió eso de forma tácita. El constructo *Job* permite hacerlo de forma explícita, con el mismo resultado y partiendo de la misma situación que Apple. Desde una compañía que sufre *Estancamiento*.

En la literatura de *Marketing* recientemente ha surgido una nueva línea de investigación que trata de entender un fenómeno nuevo de comportamiento del consumidor. La transversalidad del tiempo de compra, de la categoría y de la relación entre categorías (Dutt and Padmanabhan, 2011). Este cambio de hecho se encuentra más acentuado en los productos que tienen las mejores funcionalidades (Deshpandé et al., 1993). Los clientes sobre servidos se definen con frecuencia sobre este tipo de producto emergente. Especialmente en una época en la que las redes sociales permiten obtener mejor información de los productos. Por otra parte el modelo dominante en *Marketing* es el de *Segmentación-Target-Posicionamiento* (STP) (Schieffer, 2005). Un modelo que está basado en el constructo *Necesidad* y cuyas limitaciones se muestran en esta investigación.

En la literatura de *Diseño Organizacional* esta investigación contribuye a entender las fuentes de la sintomatología más observadas y documentadas en la literatura, que son las *Trampas de Competencia* (William Barnett & Hansen 1996), la *Inercia* (Hannan & Freeman 1984) y las *Rigideces Organizacionales* (Leonard-Barton, 1992). Un cambio de circunstancias explica por qué estos síntomas han sido observados y documentados tan frecuentemente en la literatura. Cuando una industria nace, los consumidores están infra servidos y cualquier mejora en la funcionalidad del producto (la superioridad del producto) hace que los consumidores lo compren. La esencia de la mejora de la funcionalidad de un producto radica en su Interdependencia por lo tanto la mejor manera de organizar una empresa para mejorar la funcionalidad de un producto es replicar los conceptos y componentes del producto en la empresa, así nace la *Hipótesis Espejo*. La *Hipótesis Espejo* es muy efectiva para gestionar clientes infra servidos. Pero cuando se ha mejorado tanto la funcionalidad del producto que los consumidores pasan a estar sobre servidos la *Hipótesis Espejo* se convierte en la causa de las rigideces que se expresan como el inverso a los síntomas anteriormente descritos. Así una *Competencia* en un proceso, que era muy valorada por los clientes infra servidos, se convierte en una *Trampa de Competencia* para los sobre servidos. Tener un *Tiempo de Ciclo* corto, que era una ventaja se transforma en *Inercia* y en dificultades para cambiar el rumbo, y la ventaja de ser una empresa Interdependiente se convierte en una *Rigidez Organizacional*. Esta investigación muestra como el constructo *Necesidad* sucumbe ante este problema mientras que el constructo *Job* lo neutraliza revitalizando a la empresa y curando el *Estancamiento*.

F. Resumen en Inglés

INTRODUCTION

Over 90% of the corporations in the world suffer from *Stagnation*, which is defined as a situation where they experience a substantial and abrupt growth slowdown from which they will never recover, hence never experiencing sustainable growth again (Olson & Van Bever 2008). Very few executives have been capable of reigniting new net growth in this situation, and all of them have done so using tacit management practices coupled with a variety of their very own management practices. For instance, the answer that Steve Jobs gave to the complaints received on the iPhone 4 reception problems was: “All phones have sensitive areas. Just avoid holding it that way”. A surprising answer taking into account that holding the phone by the lower left-hand corner is the way most of the consumers usually hold their phones. It is even more surprising that, after this noticeable defect; the iPhone 4 became again a blockbuster new release for Apple. Topping 1.7 million units sold in the first month after its release. However this is not the first time in history that a company launches a blockbuster product knowing beforehand that it will be a commercial success. Quotes like Henry Ford’s “If I’d asked my customers what they wanted, they’d have said a faster horse” seem to defy both conventional wisdom and the literatures on *Innovation, Technological Change and Marketing* when it comes to predicting the success of a new product or *Business Model*. Mr. Jobs and Mr. Ford, same as several others – still rather rare – *captains of the industry* seem to have a well-honed instinct that helps them predict when a new initiative is going to be a commercial success. This phenomenon – having a group of individuals who are capable of predicting with a reasonable degree of error – what’s going to happen next is nonetheless as common in the science of management as in any other scientific field. In almost all scientific fields, no matter how permeable to empirical research or how littered they are with carefully described phenomena, there a variety of ways to categorize phenomena and a substantial number of theories that were elaborated way before they could be disproved. Some of these theories are still waiting for the development of both the appropriate methodologies and the right technological means that are capable to start untangling these formidable challenges.

OBJECTIVES

This research seeks to address three related questions. First, are *Interdependent Business Models* disabling the capability of the firm to launch new ventures that do not share an identical organizational architecture? Second, is there a *Construct* that appears in specific circumstances that bridges the gap between a well-honed intuition and the predictability of the success of a new product or venture? Third, is this *Construct* (if it exists) powerful enough to neutralize the incumbent's rigidity in front of a threat?

The first question is oriented towards dealing with an underlying assumption that is largely present in the innovation literature, specifically in the line of research that deals with the incumbent's rigidities in front of a threat or when they try to pursue an initiative that doesn't represent an improvement in their current *Business Model*. Many powerful explanations have been researched to answer why the incumbent didn't respond. Most of them will be reviewed in this research. However the hypothesis that are going to be unfolded from this question deal more with controlling for the *Business Model* architecture (we are specifically looking for whether if they are *Interdependent* or *Modular* in nature) than trying to establish an additional empirical statement of why the incumbent didn't react ex-post.

The second question, the heart of this research, uses a new methodology and a large database to uncover a piece of theory building that is at the intersection of the *Technological Change* and the *Marketing* literatures and that not only explains – but also predicts – when and why a new product or *Business Model* is going to be successful.

The third question tries to unite both previous questions in the sense of understanding how this new piece of information, when introduced into the firm's decision-making mechanisms, can provide the means and resources that are strong enough to increase the firm's resiliency therefore making it incapable of overcoming the rigidities previously described.

Overall this research deals with the firm's sustainability. The reason is that the capability of launching new products or *Business Models* is critical to prevent any firm from *Stagnation* (Olson & Van Bever 2008) and, same as it happens with cost-reduction initiatives (Bower, 1986), the revenue-enhancing initiatives need to have a chance of success that lies within reason. Surprisingly enough, when it comes to revenue-enhancing initiatives, failure rates are today remarkably high (Gage, 2012), a characteristic

that even the previously mentioned *captains of the industry* seem to be incapable to escape from (both Mr. Jobs and Mr. Ford had a quite remarkable track record of failures especially at the beginning of their careers) (Davis et al. 1998). However these leaders (George 2003) found a way to *feel* what was right or wrong when it comes to new product success, and they both had the chance to put their *gut* into practice way before they were able to express thoroughly what they had in their minds. What had they learned? What did they visualize exactly? What was the source of their well-honed confidence? Is there a way to achieve the same level of foresight without incurring in the tremendous and extremely costly mistakes they had both made? This research builds on the efforts of previous scholars from a variety of fields to develop a methodology that explains and predicts what these two leaders – and many others – have done. A methodology much more oriented to operationalize and replicate these successes than to explain how they happened in the first place.

This dissertation tries to link two previously unconnected literatures that are on their way to converge on a very specific *Unit of Analysis*. These are the *Technological Change* and the *Marketing* literatures. In the Innovation field these two literatures have been eventually labeled the *Technology Push* and the *Demand Pull* respectively (Fabrizio & Thomas 2012). Both literatures are examined to understand how they have evolved respectively in trying to explain and predict when a new product or *Business Model* will be successful. We then draw on the *Organizational Design* and *Entrepreneurship* (Aldrich, 2012) literatures to look at the implications of the introduction of the *Normative* based *Job Construct*. Each of these literatures has evolved independently and within its very own paradigms. On many occasions there are previous research efforts that try to solve the very same question within the realm of each literature. These overlaps not only help providing insight into the methodology for obtaining the *Job Construct* but are also instrumental for understanding how firms will behave once this construct is introduced. It is hoped this evidence provides solid ground for prescribing some recommendations to both regulators and practitioners.

LITERATURE REVIEW

Technological Change and Marketing

Launching new products and *Business Models* within the firm is instrumental for the firm's sustainable growth (Schoenmakers & Duysters 2010; Olson & Van Bever 2008). Both literatures deal extensively with that problem either directly or indirectly, when they treat the research results as lagging variables.

In the *Technological Change* literature, the standard internal selection process whose outcome will eventually decide if the firm pursues a new initiative usually starts with explaining the idea to the management team (Burgelman, 1991). It's quite frequent that these ideas will come from existing knowledge bundled in a way that is financially attractive to the firm (Pfeffer and Salancik, 1978; Schoenmakers and Duysters, 2010). Only when this new invention has been *packaged* into a tangible outcome (Lafley and Charan, 2008) it will be introduced into the market using a somewhat formal process (Cooper 1990; Cooper 2008; Cooper 2001). However these new product and *Business Model* introductions will most likely fail (Gourville, 2006). For instance, one of the most frequent reasons of failure is that they require too much *Psychological Effort* from consumers (Gourville, 2005) whose brains just can't assimilate fast enough the new knowledge that is embedded in the new technology (Simon 2001). Practitioners on the other hand usually analyze new product failure from the supply side point of view. They often encapsulate these failures and the *Psychological Effort* they entail with expressions such as: "being too early in the market" or "a radical way to deliver a product or service the consumer didn't understand" (Kim & Lee 2011; Lieberman & Montgomery 1998). Academics view this response as the firm's failure to talk to consumers in a way that they can be understood (Verganti, 2009) or as a consequence of the firm's reluctance to become consumer centric (Gulati, 2010). Consultants on the other hand associate this high failure rate to a lack of consumer understanding that couldn't be prevented until just recently because there wasn't a good-enough tool that would capture that information (Ulwick, 2003). Other consulting firms associate this error to the current *rules of the game*.

Instead of starting from within the firm the *Marketing* literature has focused very frequently on one *Construct* and one categorization scheme as the fundamental building block from where to develop a comprehensive theory. The *Construct* is the *Need* (Bayus, 2005; Slater and Narver, 1998; Ulwick and Bettencourt, 2007) and the categorization scheme is *Segmentation* (Claycamp and Massy, 1968). Hence,

for example, the *Marketing* field would explain the success of the iPhone 4 this way; It's a product that was adequately targeted to a large segment of the population that shared a common latent but yet undiscovered *Need* (Narver et al., 2004; Zhou et al., 2005). Another possible explanation would be having the product adequately targeted to different *Needs* that in aggregate represent a large number of *Segments*. Either way, although this reasoning is quite useful in terms of its *Explanatory* power it suffers from a variety of anomalies. For instance it doesn't explain why companies that define the targets this way don't get the same results. In other words, this explanation is *Descriptive* but not *Prescriptive*. In the *Prescriptive* realm sometimes it works and sometimes it doesn't. The demonstration that firms are in desperate need for this *best practice* to work is shown in the empirical observation that separating consumers into actionable groups has remained a best practice (Collins, 2001) in the firm when it comes to determining what to do to gain foothold in a market (Carpenter and Nakamoto, 1989; McNamara et al., 2003; Rangan and Bartus, 1995).

At the external level of the firm the intersection of the *Technological Change* and *Innovation* literatures has been very effective in producing research that explains new product or venture success. One of the main contributions are the *Trajectories of Improvement* (Dosi, 1982). Although initially these trajectories were depicted for technological improvements (Basalla, 1988) we now have them in the literature describing both consumers *Psychological Efforts'* improvements (Adner and Levinthal, 2001; DeSarbo et al., 2006) and firm's *Business Model* improvements (Christensen 1997c; Christensen & Raynor 2003a). When it comes to *Customer Trajectories*, research in market characteristics suggests that there are a variety of consumers that interact with the firm but that only the ones located in a trajectory where the firm has a product targeted for them will react accordingly (Tellis et al., 2006). Firms will then select which customers they'll try to acquire by developing a trajectory in a particular industry where they see fit to be located (Dosi, 1984; Dosi et al., 2008). The likely overlap between the firm's trajectories originates competition. So for firms to optimize their resources they must not only determine the customer trajectories they want to serve but also where their competitor's will be (Teece, 2008). Customer trajectories are influenced by external factors such as the socio-political one, the degree of *Modularization*, the customers' evolution over time and the producers likely unexpected movements and strategic shifts; such as discontinuing a product, changing its features, etc. (Tripsas, 2008). Firm's

trajectories are also influenced by external factors (Prahalad and Hamel, 1994) and by the movements of its competitors, specifically it seems *Disruptive* movements undertaken by both competitors and new entrants have a remarkably high commercial success (Christensen & Raynor 2003a) because they focus on just one problem of the least-demanding *Customer Trajectory* and then design a specific business model (Fjeldstad & Andersen 2003; Baldwin & Clark 2000) specifically adapted to that particular situation. The *Customer Trajectory* requirements portion of that has been *inductively* documented and named as a *Job* (Christensen et al. 2005; Christensen et al. 2007; Anthony & Sinfield 2007). In the *Disruptive Innovation* literature a *Job* is a *Construct* that is not targeted to a specific customer only but to the *Circumstance* where it finds the problem it tries to solve. For example, in the “Hiring a Milkshake” case (Christensen & Raynor 2003a; Christensen 1999; Christensen, Grossman, et al. 2008; Johnson 2010) the authors explain how instead of describing the customers, segmenting them, figuring out their most fundamental need and developing a set of recommendations tailored to increase the maximum-likelihood of purchase they asked to the customers what was the fundamental “problem they were trying to solve” and came up with two answers: 1) “don’t want to be hungry until noon” and; 2) “don’t want to be a bad father”. It turns out these two jobs happened at different times during the day. The first one happened in the morning and the second one in the afternoon. The authors elaborated a set of recommendations for modifying the product’s functionalities to accommodate for these two different problems that were happening throughout the day. Sales skyrocketed. It is noticeable that the *Marketing* literature can explain the success of the recommendations but couldn’t have obtained them *ex-ante*. Unfortunately this process of coming up with the *Job Construct* is still highly tacit (Nonaka and Takeuchi, 1995) and the inductively obtained *Job Construct* has not been proven empirically or even been isolated to be observed and understood in detail. We need to understand not only its anatomy but also the mechanisms that elicit its presence. In the case of Apple Corporation, since the return of Mr. Jobs, every one of its products seems to address one and only one *Job*, which we hypothesize, is the source of the company’s success.

Organizational Design and Entrepreneurship

The *Organizational Design* literature has identified several mechanisms that prevent incumbents from reacting to a competitor’s threat. These mechanisms happen at two levels: internal and external.

Sometimes simultaneously (Sandström et al. 2009; Gilbert 2006; Mitchell 1989). At the internal level the two mechanisms most widely accepted are the *Competency Traps* (Barnett & Hansen 1996; March & Simon 1958) and the *Organizational Rigidities* (Leonard-Barton, 1995). These two mechanisms explain why it is so hard for an established firm to change direction. There are a variety of reasons for that. They range from the way the firm captures and processes information (Keiningham et al., 2006) to the inherent characteristics of its processes (Barnett & Carroll 1995) and the difficulty that lies in trying to modify a process that has been well honed for a very specific circumstance (Siggelkow and Levinthal, 2003). At the external level the most accepted reason that might prevent an incumbent from responding is *Cannibalization* (Nelson & Winter 1982; Nelson & Winter 1977; Gilbert & Newbery 1982; Gilbert & Newbery 1984a; Gilbert & Newbery 1984b; Reinganum 1984). Managers are very reluctant to *Cannibalize* one high-margin product because of its impact on both the firm's revenues and the share price (Pfeffer and Salancik, 1978). When it comes to understanding the variety of incumbent's responses to new products, services or *Business Models*, an additional third mechanism has been proposed (Debruyne et al., 2002; Derfus et al., 2008). This mechanism specifically controls for the situation where the incumbent finds itself (Lawrence and Lorsch, 1967). This theory states that the situation where the firm finds itself is *Contingent* on the environment (Arora and Nandkumar, 2012). Firms develop specific processes adapted to the environment they inhabit. One of the most widely accepted ways to categorize these processes is the *Organic vs. Mechanistic* (Burns and Stalker, 1961). Large organizations tend to be *Mechanistic*, which means most of the processes they use on a day to day basis are clearly described and carefully followed. There is little room for surprises. New initiatives on the other hand tend to be *Organic*, they are highly variable and they are changing continuously (Dougherty, 1990; Droge et al., 2008). This theory states mechanistic firms have a hard time emulating or integrating *Organic* initiatives into their organizational processes. A factor that explains why only initiatives that can be integrated into a *Mechanistic* architecture are ultimately adopted. However some of the initiatives that haven't been adopted have the potential to be the cause of the incumbent's failure.

Despite these remarkable research efforts, the role of the organizational architecture of the firm and how it interacts with the different economic forces still yields too many anomalies that as of today remain largely unexplained (Bower & Gilbert 2005). That's why some scholars tend to analyze this

research question using a much more actionable proxy: where are the firm's resources invested. This line of research, the *Resource Allocation Theory*, has yielded very useful *Constructs* and *Models*, such as *Impetus*, that tags those initiatives that gain funding. An event that seems to be highly correlated with both explicit customer demands and internal buy-in (Bower, 1986). This way of classifying the initiatives that the firm ends up undertaking has proven very useful for understanding the *Contingent Circumstances* that surround the firm at a much more granular level. Hence, inside the firm there is not only a *Strategic Context*, inherent to the specific characteristics of the firm, but a *Structural Context* (Burgelman, 1983a, 1983c; Noda and Bower, 1996), that locates the firm into a *Value Network* (Christensen 1995) and provides the framework for understanding which initiatives should be pursued in front of a threat (Burgelman and Grove, 2007). Although the *Resource Allocation Theory* has anomalies on its own, it has been very helpful when it comes to understanding the different outcomes of several strategic initiatives, such as launching new products or new *Business Models* (Noda and Bower, 1996; Oliver, 1997). Both inside and outside the firm (Burgelman and Sayles, 1986; Burgelman, 1983b, 2002). There is ample evidence that resources can be invested inside the firm in *cost reduction* initiatives (Bower, 1986), *Corporate Entrepreneurship* (Burgelman, 1983c) and *Corporate Venturing* (Burgelman and Välikangas, 2005). Outside the firm, the most widely used process that consumes a substantial amount of resources is encapsulated in the *Entrepreneurial* process (Bhidé, 2000).

The very essence of *Entrepreneurship* represents an anomaly in the *Resource Allocation Theory*. Understanding *Entrepreneurship* as "Pursuing an opportunity disregarding the resources that either the entrepreneur directly or indirectly controls" (Stevenson and Jarillo, 1990) implies that the mechanisms described in the theory are not predicting accurately the end result. Regardless of who undertakes the entrepreneurial initiative, which can be either the entrepreneur or a firm (Carlsson et al., 2009). The entrepreneurial activity can still be undertaken from both inside or outside the firm. What controls for firm *Endogeneity* is the *Strategic Context Construct*, which outside the firm tends to be almost overtaken by the *Structural Context*. For the purposes of this thesis entrepreneurialism is considered as any of these four initiatives: 1) *New product Launch* (not an improvement on the current product portfolio but a green field launch) 2), *Corporate Entrepreneurship* initiatives, 3) *Corporate Venturing* Initiatives and; 4) *Entrepreneurs* that start a new firm. These four initiatives share a remarkable characteristic, they are the

ones that have successfully gained traction relatively quickly and developed robust growth rates because of the construct *External Impetus* (Talke and Hultink, 2010). If there is no *External Impetus* they tend to never gain traction and be discontinued and subsequently closed after some time (Schillewaert et al., 2005).

Although these three initiatives are instrumental to the firm's sustainability their success rate is remarkably low (Baron & Henry 2010). Additionally putting together any of these initiatives inside the firm is difficult and might put someone's career inside the firm at stake (Smith et al. 2010). In commercial strategy, one of the most common strategic initiatives utilized to put together one of these initiatives is *Cross-Selling*; an instance where firms try to sell new non-related products to the customer every time they make a purchase (Stringefellow et al., 2004; Winer, 2001). However only in cases where instead of *Cross-Selling* the firm practices *Forced* or *Bundled-Selling* this initiatives tend to succeed (Campa and Garcia Cobos, 2008).

Even if the problem of finding new corporate growth is resolved, organizations usually struggle finding the appropriate organizational architecture that doesn't neutralize it. During the life of the initiative, management will try in-sourcing or out-sourcing the initiative in order to find the best equilibrium between coordination, control and efficiency. Although the literature on *Organizational Design* is extensive in this area it's hard to find solid research that answers this question satisfactorily while controlling for *Interdependency* and *Modularity* in the *Organizational Design* (Hill, 1988). It seems most of the studies were developed in *Interdependent* firms, where this problem seems to be more frequent (Funk 2012; Pisano 2010). In this thesis we will try to uncover if a *Modular* organizational design disables venture initiatives and why.

DATA & METHODS

The research in this thesis isolates and describes a new *Normative Construct* named the *Job Construct*. The presence of this *Construct*, understanding it, visualizing it and targeting it assures high growth to the commercial initiative the firm decides to undertake. While the *Job* has been previously researched at the *Inductive* level (Christensen et al. 2010; Knight 2005) there is no predictable and reliable way to

obtain it *ex-ante*. It can only be visualized using intuition (tacitly), as the *captains of the industry* educated themselves on doing. Additionally, even if the *Job Construct* would be somehow given to the firm, it is unclear how the nature of the *Interdependent* organizational architecture that most firms possess would react in front of this alien *Construct* (Ahuja et al., 2008). It might essentially act as a disabler or not. Or even more surprisingly it might be that the *Job Construct* is the one who neutralizes the firm's *Organizational Design*. The solutions to these unknowns are to be found in developing a way to obtain the *Job Construct ex-ante* (before the investment of any significant resource) and understanding how the *Mirroring Hypothesis* limitations of the *Interdependent* architectures react and therefore how to disable them in order for the firm to reduce significantly the failure rate of new entrepreneurial endeavors. As observable from the case of Apple, Ford and many others, companies that have been successful at pursuing this initiative, albeit tacitly, have both reaped huge rewards at the economic level and ended up becoming the leading firms in their respective industries.

The Retail Banking Industry as a Research Area and the Methodological Approach

The Spanish Retail Banking Industry was selected for seven reasons. The first reason is the availability and richness of the data (Consoli, 2005). For (at least) more than twenty years the Spanish banks have been investing large sums of money in data building and storage. They have built large databases with hundreds of fields of information per client. They have also introduced into their databases all kinds of information about the channel, the product and what was the customer (or potential customer) acquiring or evaluating. When it comes to this thesis, these databases are extremely useful in the sense of capturing information about the customer and the firm that is rarely available in any other industry. They are also useful for setting up experiments with control groups and different variations of research data. Finally, in the hypothetical case that the banks where this thesis is done end up deciding to implement the results, the impact of this research will not only be quantifiable but also can be compared with the recent historical performance of the bank.

The second reason is having access to the banks and to the data (Dent-Brown & Wang 2006; Brown 1973). The researcher was lucky enough to be granted access to the databases of one of the five largest banks in Spain. Management was kind enough to not only help to understand the architecture of the

databases but also to help the researcher understand the rationale that lies behind every decision implemented. Additionally, since this thesis is trying to make most of this knowledge explicit, a good starting point was to go capture it while in tacit form (in the heads of the bank's personnel), in that regard permission was granted access to interview several branch directors as well as several members of the executive team.

The third reason is symmetric interests. Both this thesis and the banks share the interest of untangling the high-growth process. Especially if the methodology can be consistently replicated.

Banks have only three ways of growing, the first is (branch) *Penetration*, which in banking means opening branches to capture and cover more portions of the territory. The Spanish banking industry has been particularly aggressive at pursuing this lever of growth (Marquis & Huang 2008), and it has brought to them in return both solid revenues and growth. However for the last fifteen years this strategy has been rendering less and less returns. Although this strategy has been by far the most successful for the Spanish banks it is now much more difficult to implement because of real estate prices and the excess of capacity of branches in Spain. Many banks still open branches occasionally, but the net increase in branches is now negative. And it doesn't look like is going to be anywhere near where it used to be when the territory was highly unoccupied. The second way of growing is through *Share of Wallet*. This strategy tries to capture the entire share of wallet of the customer. For example, if a customer has two accounts in two different banks, the share of wallet strategy would imply trying to capture the entire customer's capital until he has no reason to keep the other bank's account. Spanish banks haven't been successful at this particular strategy for two reasons: the first is the customer risk; having no other bank to service the client is more profitable but also much more risky for the bank because the entire customer's risk must be also financed within its balance. The second is the bank's specialization per product category. The most remarkable example of this initiative is ING Direct in Spain. This bank entered the industry offering a disruptive *Share of Wallet* strategy. They offered more revenue for the undistinguished part of capital that every customer keeps in their bank accounts as his personal savings and therefore had no plans of using. Of course, only the customers knew how much money from the total lump sum were savings. ING Direct, using a very effective communication campaign that helped customers understand that this undifferentiated amount that was now mixed with the rest of their

money and that it was underperforming and could easily be put to use more profitably. Customers fled naturally to this new highly specialized competitor. As a result, ING Direct quickly gained a solid foothold market entry that helped the firm introduce subsequent and much more profitable products like the online broker. Although the ING case is just an example almost every institution in Spain is specialized in such a way as to have the best single handled kind of product. Which basically means it is natural that consumers hold more than one bank account. The third growth strategy is *Cross-Selling*. At the moment it's also the least profitable one if measured with an investment to-revenue ratio (Business Insights, 2008; King, 2010). The vision most bankers, not only in Spain but also in the world, most recurrently adhere to is having an organizational processes embedded in the system that makes *Cross-Selling* successful every time a customer enters into an office or interacts with the bank. Irrespective of the banking channel used. In all cases, either the employee or the technology will analyze what is the situation of the customer and which products the customer owns with the bank. With that information the system would immediately make suggestions of additional products that would happen to address exactly the current customer's problem. Therefore obtaining 100% accuracy rate between the number of suggestions and the number of products acquired by either new or existing customers (Rigby and Ledingham, 2004).

The reason this thesis is structured separating between the *Explanatory* power of a theory and its *Predictive* power is rooted in the *Inductive* evidence, provided in the extant literature, that there is a *Normative* based construct missing in the *Predictive* portion of the customer understanding literature that would dramatically increase the accuracy rate mentioned above. This is the previously mentioned *Job Construct*. This is a case where both the theoretical research approach and the industry architecture have not only minimal differences but also precisely the same kind of problem. We have an industry that is tremendously powerful in explaining customer behavior but not that good at predicting it, and we have a theory that is substantially well documented in terms of explaining customer behavior but that still has plenty of anomalies when it comes to predicting it. Solving one of these anomalies would not only propel the banking industry to the next level but also contribute significantly to the established firms in dealing with growth initiatives that, since they are based on predicting opportunities, have also a very high failure rate.

The fourth reason deals with the intra-industry similarity in banking. What explains the difference in performance in the Spanish banks is more related to differences inside the firm than intra-industry differences. Which means the very same problem this thesis is trying to shed some light upon is present in almost all banking institutions in Spain (Kirk, 1994). It's an industry-related problem, at the experimental design level this makes external validity in other financial institutions closer to replicate, particularly in developed economies.

The fifth reason is that the banking industry is particularly helpful with its regulation. In Spain the regulatory institution, the Bank of Spain, has demonstrated a level of expertise and foresight unavailable in some other regulatory institutions. For instance, the Bank of Spain forced banks to develop a counter-cyclical provision for bad mortgages way before the financial crisis caused the financial system to implode. When it comes to leveling the playing field, the Bank of Spain has allowed a free market strategy for most of the competitors while imposing strict rules of compliance and reporting. These rules together with the licenses outstanding have caused competitors to commoditize their products very significantly, forcing them to implement very aggressive cost-reduction policies and process innovations, which were mainly based on technology. Banks have implemented these initiatives quite successfully and as a result have gained competencies in processes that have proven extremely useful when acquiring financial institutions abroad. The result of this regulatory framework is a heavily commoditized industry, with competitors grouped per type of activity (consumer finance, mortgages, etc.), with specific provisions of cash per type of activity and with specific compliance and reporting obligations. A caveat of these regulatory measures is the portion of the industry that has ended up in a grey area. For example, technological firms that do lending through their systems are not considered banks and therefore are not subject to the Bank of Spain tutelage. However they behave like banks, i.e. P2P lending companies, informal syndicate lenders, etc.

The sixth reason to select the banking industry is methodological. Selecting an industry provides industry effects and enables more direct comparison across firms. Also regulatory and country specific characteristics of the banking industry allows for large sample comparisons that are not always available in other industries. There are more than 100 banks in Spain and the market penetration is higher than 99%.

The seventh and last reason is the ability to develop both *Literal* and *Theoretical Replications* of the findings in other industries that have the same problem. These are industries that are either license-based, such as Telecom, or that depend on *Cross-Selling* to continue growing. This is a very long list that includes more than 50% of all industries that populate any given country; some examples are supermarkets, petrol companies, telecom, consumer goods, utilities, high-value manufacturing, apparel, etc.

Two research methodologies were used for this research. First a *Qualitative – Quantitative Sequential Multi-Method Model* (Tashakkori and Teddlie, 2003) was used to isolate and understand the anatomy of the *Job Construct*. This method was based on replacing all the qualitative steps in a given ethnographic study with quantitative methods, therefore not only its *Robustness* and *Interval Validity* was increased but also most of the criticisms related to qualitative research were accounted for.

The research design including treating cases as a series of experiments, each case serving to confirm or disconfirm inferences from another (Yin 2003). Cases were divided in twelve datasets according to the following classification. Three instances were described: Online banking, buying a credit card at the branch and buying a credit card online. Two control variables were introduced to classify customers which were if customers were *Underserved* or *Overserved* and finally two types of customers were included in the research: *Savers* and *Spenders*. The method itself is based on *Qualitizing Data* and was particularly helpful for reaching a level of detail unprecedented in most qualitative studies. In particular it allows controlling for *Context* related variables. Coding the data obtained from the case studies took over nine months, the entire *Multi-Method Model* analysis took fifteen months. A total of sixty two *Deductive* codes were obtained from the literature review and were subsequently tested. A total of thirty four *Inductive* codes (most of them with no precedent in the literature) were elicited. The result is that 35% of the new *Inductive* codes that were finally processed quantitatively were completely new to the literature. Seven control codes were used to delimitate the relevant parameters of the study. A grand total of 106,452 codes were elicited in the twelve datasets. An unusual richness of data that is instrumental for understanding in depth the phenomenon.

The second research methodology used in this research was a *Mixed Method* (Dillman, 2006; Edmondson and McManus, 2007). It was based on using a large sample survey analysis to understand

both the influence of the *Mirroring Hypothesis* in the process of stagnation of firms and the influence of the *Job Construct* on the *Resource Allocation* process when it comes to reigniting new net growth.

This second dataset was also used to Triangulate (Jick, 1979) the findings on the *Job Construct* obtained in the previous *Multi-Method Model*. The total survey response was 306 registers, a remarkably high survey response. It was an internet based survey.

The order used in this research was the following: First the *Qualitative-Quantitative* research was done. The results were used to design the survey with exceptional detail and were instrumental for making the most out of the combination of these two research methodologies. This study was able to combine a detailed observation of a new entity with the *Rigor* and *Relevance* required in any large sample research design.

RESULTS

Due to the nature of the *Job Construct*, this research contributes to the literature in a variety of research streams. The *Job Construct* has implications that extend well beyond a single line of research as it is measured against the *Industry*, the *Organizational Design* and the *Customer*. This thesis nonetheless focuses specifically on adding to the discussion in three main literatures: 1) The *Organizational Design's* limitations derived from the *Mirroring Hypothesis*; 2) The isolation and anatomy of the *Job Construct* and 3) How the *Job Construct* can overcome the *Mirroring Hypothesis's* limitations and re-ignite new net-growth.

The Organizational Design and the Mirroring Hypothesis

The *Organizational Design's* limitations are shown to be active at hampering new growth initiatives (O'Connor, 2008). The presence of the *Mirroring Hypothesis* adds causality to the *Organizational Design* constraints. This is a contribution to the *Organizational Design* literature where *Competency Traps* (William Barnett & Hansen 1996), *Inertia* (Hannan & Freeman 1984) and *Organizational Rigidities* (Leonard-Barton, 1992) have been clearly identified. These mechanisms that ultimately prevent the firm from both growing and reacting to change were studied as a leading phenomenon when in fact they

show a particular symptomatology but that doesn't mean that they cause the rigidity in the first place (Staw et al., 1981). The research presented in this thesis is able to show that what is causing these mechanisms to appear and be detected is the *Mirroring Hypothesis*, which permeates the firm with a particular structural and product *Interdependence*. Additionally this research shows that these collection of symptoms are not equally distributed across the firm but that there are *Functional Units* where they have a strong influence while they remain virtually absent in others. At the intersection of the *Organizational Design* and the *Marketing* literatures this research concludes that the most widely used *Marketing* model the *Segmentation, Target and Positioning* (STP) (Schieffer, 2005) is ineffective in front of the *Mirroring Hypothesis* because it's based on the *Needs Construct* (Claycamp and Massy, 1968), which doesn't contain the information needed to overcome the *Organizational Rigidities* generated by the *Mirroring Hypothesis*.

The Job Construct

The *Job Construct* has been previously identified in the extant literature (Christensen et al. 2007; Berstell & Nitterhouse 2001). The extant literature shows that the *Job Construct* has three branches. *Functional*, *Emotional* and *Social* (Anthony and Sinfield, 2007). As depicted in Figure 1 this thesis confirms the existence of both the *Job Construct* and of these three branches while adding two more branches, *Exhaustiveness*, that is related to the *Industry* and *Variability* that is related to the customer experience. The presence of the *Job Construct* has implications for a variety of literatures, for instance it contains information about which *Functional Unit* should be *Interdependent* (*Organizational Design* literature), how many other options of reference within the *Industry* should be considered for the product (the *Strategy* literature), what *Functionalities* will be valued for the product (*Product* and *Innovation* literatures), the performance level that is optimal and the optimal *Reliability* level associated to that performance. In addition it provides critical information about the customer (*Marketing* literature) by showing how his two-step process adds a new model to the *Choice* based models that are already described in the literature (*Customer Cognition* literature). Most importantly the *Job Construct* is the leading variable of *Customer Impetus*. This implies that the also tangentially distributed extant literature on *Growth* is where the *Job Construct* has the most influence. Literatures such as *Cross-Selling*,

Corporate Entrepreneurship and Corporate Venturing are heavily influenced by the *Job Construct* and the information that it provides in cases when the *Entrepreneur* is a firm.

Figure 1: Job Construct for the Saver Overserved



CONCLUSIONS

This research contributes to the theory of incumbent's response in front of a threat by clinically introducing the *Job Construct* in firms where the *Mirroring Hypothesis* was overwhelmingly present. This research shows how, before the *Job Construct*, the only initiatives that gained *Impetus* (Bower & Gilbert 2005; Bower 1986) were *Lower-Margin* initiatives that complemented the firm's main products, no *Higher-Margin* initiatives were able to gain *Impetus*. Once the *Job Construct* was introduced all *Higher-Margin* initiatives and all *Lower-Margin* initiatives were able to gain *Impetus*. The implications of these findings imply that the information that contains the *Job Construct* is strong enough to overcome the *Mirroring Hypothesis* in those *Functional Units* where it has a strong influence, and with it, enabling the firm to resume new net-growth, a finding that may percolate strongly in firms whose growth has stalled and therefore suffer from severe *Stagnation* (Olson & Van Bever 2008), Especially if they are trying to re-ignite new net-growth through *Corporate Venturing* initiatives (Chakravorti, 2010).

There are two delimitations of this research that should be considered. The first is related to the nature of the *Retail Banking* industry in Spain. The second is related to *External Validity* (Campbell 1957; Davis 1971).

Any given country in the world has one of the following three types of financial systems: 1) *Market Centered*, *Bank Centered*, *State Centered* (Guillen and Tschoegl, 2008). For instance, the U.S. would be a case of *Market Centered*, while Switzerland would be a case of *Bank Centered*. Spain is a case of *State Centered*. In Spain the banking regulators exert considerable pressure on retail banks. Therefore this research was done under this underlying assumption. This should be considered as the points of pressure where the regulators have a strong influence in the *Functional Units* of the retail banks. For example, the Spanish retail banks have a very strong internal legal department, which strongly emphasizes the (legal) security of the bank for any initiative undertaken. This research shows that the *Mirroring Hypothesis* is very strong in that *Functional Unit*. Other countries with other financial systems might differ in this regard.

Single industry studies always have the case of *External Validity*. In this case in particular there is a strong reason for that. As mentioned, the *Retail Banking Industry* in Spain is a heavily regulated industry. The findings of this study, especially the ones related to the *Mirroring Hypothesis*, are therefore heavily influenced by the regulator's activities. Additional studies that might be conducted in the future in less regulated industries might reveal if these findings stand the test of *External Validity*. Regarding the *Job Construct External Validity* is also key. Additional studies might also help test the *Job Constructs* that were obtained in this research and that can be re-tested in different countries and different industries. This process conforms to the normal development of a new theory (Christensen 2006).

STRUCTURAL OVERVIEW OF THE DISSERTATION

This dissertation has six chapters and is divided into four sections. The first section describes the research setting and reviews the *Technological Change*, *Marketing* and *Retail Banking* literatures. This first section comprises chapters one, two and three. Literature reviews were developed according a research methodology that separates between *Descriptive* and *Predictive*. There is a certain overlap

between these three literature reviews but for the large part they have evolved independently. Nonetheless the origin of these overlaps is a convergence in their *Units of Analysis*, especially if they focus on the customer (Di Stefano et al., 2012). The literature on *Technological Change* has transitioned from a deeply embedded supply side view of viewing the world (Adner, 2002; Danneels, 2002; Thirtle and Ruttan, 1987) to a demand-side view (Brown et al. 2008; Caves & Williamson 1985; Adams et al. 2012). The *Marketing* literature on the other hand has transitioned from a purely psychological way of analyzing customers (Beshears et al., 2008; Bettencourt and Ulwick, 2008) to understanding the situations where the customers make the purchase as the *Unit of Analysis* (Mooy and Robben, 1998; Ulwick, 2005). Chapter three doesn't emphasize issues related to regulation, bureaucracy and the financial aspect of the institutions. The focus has been kept at reviewing what has been researched in terms of the internal forces that the retail banking *Business Model* must manage and the performance implications on their *New Product Development* and *Corporate Entrepreneurship* and *Corporate Venturing* initiatives.

The second section is contained in chapter four. This section is focused on isolating and studying the *Job Construct*. The *Qualitative – Quantitative Sequential Multi-Method Model* (Tashakkori and Teddlie, 2003) used is presented and the twelve *Job Constructs* obtained are introduced. A *Positivist* (Cook & Campbell 1979; Miller & Tsang 2011) orientation is kept throughout the entire section and therefore detailed explanations of the entire process are carefully depicted. Finally a differential analysis on the *Job Constructs* is presented and the main conclusions are drawn.

The third section is contained in chapter five. In this section the three *Propositions* from this thesis are expanded into Hypotheses and the information on the *Job Construct* obtained in the previous section is carefully introduced into the *Mixed Method* (Dillman, 2006; Edmondson and McManus, 2007). The survey analysis provides a series of findings that confirm the results obtained in the previous sections as well as providing evidence and insights on this research.

The fourth section is contained in chapter six, where the conclusions from the research are introduced and expanded. A summary of findings is provided and the implications for the literature and for future research are explicated together with the implications for practice.