FLANDERS DC
INSPIRING CREATIVITY

Knowledge partner

Vlerick Leuven Gent Management School

the Autonomous Management School of
Ghent University and Katholieke Universiteit Leuven

RESEARCH REPORT

HOW DO NEW BUSINESS MODELS AFFECT EXISTING PLAYERS IN AN INDUSTRY?

Prof. dr. Marion Debruyne
Bart Devoldere

October 2008

FLANDERS DISTRICT OF CREATIVITY

Flanders District of Creativity is the Flemish organization for **entrepreneurial creativity.** It was founded in 2004 by the Flemish Government as a non-profit organization and enjoys broad support. Flemish businesses, academia, and public institutions use Flanders DC as a platform for cooperation in the pursuit of a more creative Flanders region.

Creativity is the key ingredient in making companies more successful and in helping regional governments ensure a healthy economy with more jobs. Flanders DC inspires creativity and innovation:

1. by learning from the most **creative regions** in the world,
2. by igniting **creative sparks** in everyday life and business, and
3. by providing **research, practical business tools and business training,** in cooperation with the Flanders DC Knowledge Centre.

1. Districts of Creativity: Inspiration from the most creative regions

Responses to global challenges are best found within an international network of excellence. With the single aim of learning from the very best, Flanders DC aims to unite the most dynamic regions in the world within the 'Districts of Creativity' network. Every two years, Flanders DC convenes the Creativity World Forum, bringing together government leaders, entrepreneurs, and knowledge institutions to exchange ideas about how to tackle pressing economic problems and make their regions hotbeds for innovation and creativity.

CREATIVITY WORLDFORUM

November 19-20, 2008 - Antwerp, Belgium

FLANDERS DC
INSPIRING CREATIVITY

2. Raising awareness: The best way to predict the future is to invent it

Flanders DC encourages entrepreneurs and citizens to look ahead and find creative solutions today for tomorrow's problems. Flanders DC has developed an idea-generation tool to encourage people and organizations to take the first step toward innovation. In addition, Flanders DC runs a general awareness-raising campaign entitled “Flanders’ Future”.

jij bent FLANDERS' FUTURE

3. The Flanders DC Knowledge Centre: Academic support

The **Flanders DC Knowledge Centre** serves as a link between Flanders DC and Vlerick Leuven Gent Management School. Each year, the Flanders DC Knowledge Centre publishes several reports and develops various tools, case studies and courses. All these projects focus on the role of creativity in a business environment and identify obstacles to, and accelerators of competitive growth.

The **Creativity Talks** – brief monthly, interactive info sessions – update you on these research activities. See www.creativitytalks.be for a current calendar and subscription information.

Research reports:

- **De Vlaamse economie in 2015: Uitdagingen voor de toekomst,** Koen De Backer en Leo Sleuwaegen, September 2005, Published in Dutch
- **Ondernemingscreativiteit als motor van groei voor Vlaamse steden en Brussel,** Isabelle De Voldere, Eva Janssens en Jonas Onkelinx, November 2005, Published in Dutch
- **The Creative Economy: challenges and opportunities for the DC-regions,** Isabelle De Voldere, Eva Janssens, Jonas Onkelinx en Leo Sleuwaegen, April 2006, Published in English
- **Spelers uit de televisiesector getuigen: een verkennende studie in de creatieve industrie,** Marc Buelens en Mieke Van De Woestyne, Juni 2006, Published in Dutch
- **Mobiliseren, dynamiseren en enthousiasmeren van onze toekomstige zilvervloot,** Thomas Dewilde, Annick Vlaminckx, Ans De Vos en Dirk Buyens, Juni 2006, Published in Dutch
- **Development of a regional competitiveness index,** Harry Bowen, Wim Moesen and Leo Sleuwaegen, September 2006, Published in English
- **Innovation outside the lab: strategic innovation as the alternative,** Marion Debruyne and Marie Schoovaerts, November 2006, Published in English
- **De creatieve industrie in Vlaanderen,** Tine Maenhout, Isabelle De Voldere, Jonas Onkelinx en Leo Sleuwaegen, December 2006, Published in Dutch
- **Het innovatieproces in grote bedrijven en KMO's,** Geert Devos, Mieke Van De Woestyne en Herman Van den Broeck, Februari 2007, Published in Dutch
- **Creatief ondernemen in Vlaanderen**, Tine Maenhout, Jonas Onkelinx en Hans Crijns, Maart 2007, Published in Dutch
- **Hoe ondernemers in Vlaanderen opportuniteiten identificeren. Een rapport met tips en tools voor de ondernemer in de praktijk**, Eva Cools, Herman Van den Broeck, Sabine Vermeulen, Hans Crijns, Deva Rangarajan, Mei 2007, published in Dutch
- **Networking in multinational manufacturing companies**, Ann Vereecke, July 2007, published in English
- **How entrepreneurial are our Flemish students,** Hans Crijns and Sabine Vermeulen, November 2007, published in English
- **Fashionate about Creativity**, Isabelle De Voldere, Tine Maenhout en Marion Debruyne, December 2007, published in Dutch
- **Find the innovator. Identifying and understanding adopters of innovative consumer technologies in Flanders,** Marion De Bruyne and Bert Weijters, December 2007, published in English

- **De case Arteconomy**, Eva Cools, Herman Van den Broeck en Tine Maenhout, December 2007, published in Dutch
- **Entrepreneurship and globalization,** Italo Colantone and Leo Sleuwaegen, December 2007, published in English
- **HR Tools als stimulans voor creativiteit bij uw werknemers,** Kristien Van Bruystegem, Vickie Decocker, Koen Dewettinck, Xavier Baeten, December 2007, published in Dutch
- **Internationalization of SMEs**, Jonas Onkelinx, Leo Sleuwaegen, April 2008, published in English
- **HRM-uitdagingen voor groeiende ondernemingen**, Mieke Van De Woestyne, Kristien Van Bruystegem, Prof. Dr. Koen Dewettinck, Maart 2008, published in Dutch
- **Sociaal Ondernemerschap in Vlaanderen,** Hans Crijns, Frank Verzele, Sabine Vermeulen, April 2008, published in Dutch
- **Foreign direct investments. Trends and developments,** Frederik De Witte, Isabelle De Voldere, Leo Sleuwaegen, June 2008, published in English

Published research reports can be downloaded via the Vlerick Leuven Gent Management School library catalogue or via www.flandersdc.be.

In addition to these research projects, the Flanders DC Knowledge Centre has also developed the following tools and training sessions:

FLANDERS DC FELLOWS

- **Ondernemen.meerdan.ondernemen**, an online learning platform
- **Creativity Class** for young high-potentials
- **Flanders DC Fellows**, inspiring role models in business creativity
- **Creativity Talks**, monthly seminars on business creativity and innovation
- **Innovix,** online innovation management game
- **Flanders DC Academic Seminars:** research seminars on business creativity and innovation

Board of Directors of Flanders DC

IBBT i-City voka Vlerick Leuven Gent Management School
the Autonomous Management School of Ghent University and Katholieke Universiteit Leuven
Flanders Investment & Trade iwt unizo Unie van Zelfstandige Ondernemers

TABLE OF CONTENT

LIST OF TABLES

LIST OF FIGURES

INTRODUCTION

Since Gary Hamel's bestseller *Leading the Revolution* (2000) and Kim & Mauborgne's *Blue Ocean Strategy* (2005), and the ever-returning examples like Cirque du Soleil, Southwest Airlines, IBM's solutions orientation, Canon, Starbucks coffee, etc. a new type of innovation is getting mounting attention as a viable source for creating new growth businesses. Companies are not only looking into product innovation anymore, but also consider re-inventing their business model. The stream of research that investigates this new type of innovation gave birth to several terms, among them strategic innovation and business model innovation[1].

A business model is a combination of the company's core strategy, strategic resources, value network, and customer interface that is put into practice (Hamel, 2000). A business model indicates then among others a company's target customers, value proposition and product/service attributes, based on the different assets, capabilities, and competences possessed. A company's existing business model is however mostly based on the industry's generally accepted definition or industry recipe of "how to do business in the industry" (Markides, 1997).

Existing literature on business model innovations focused strongly on descriptions about what business model innovation is, which players initiate a new business model, how to come up with new business models, how to make them work, what barriers exist towards implementing a new business model and ways of overcoming those barriers (Christensen, Johnson, and Rigby, 2002; Kim and Mauborgne, 1997; Markides, 1997, 1998; Matthyssens et al., 2006). Debruyne and Schoovaerts (2006) serves as a basis for this study and posits that strategic innovation consists of 4 key elements, namely value innovation, new market creation, go-to-market innovation, and competitive disruption. Debruyne and Schoovaerts (2006) also found that firms that operate in highly competitive environments (where strategic innovation or business model innovation matters the most) are less likely to be strategically innovative. So "a substantial effort is needed to educate firms about the nature and potential of strategic innovation" to which we also want to contribute with this study.

Taking into account this focus of previous research efforts, which is focused on the innovator, we will focus on the incumbent dealing with business model innovation in its industry. Our quantitative study tackles untapped or less developed research questions about how new business models diffuse within industries, how incumbents[2] can react to new business models, and what the role is of companies' complementary assets to deal effectively with new business models. The research questions that are specifically treated are:

-How do existing industry players, named incumbents, respond to the emergence of new business models?

-How does the imitation of business models develop over time?

-To what extent do existing complementary assets of incumbents affect the response of incumbents after the emergence of a new business model?

---

1 In this study we use Markides' definition of business model innovations (2006), but in the existing literature business model innovation is strongly related, even sometimes similar, to the terms strategic innovation, strategy innovation, business concept innovation, and value innovation.

2 'Incumbency' reflects whether a firm participated in the previous generation of products. (Chandy and Tellis, 2000)

1.1 Industry background

The market research industry, 'invented' in the US and introduced in Europe before the 2nd World War, was a mature and stable growing industry back in the nineties. With the advent and breakthrough of internet however, the market research industry also encountered a big change, namely the introduction of online data collection. Suddenly, everybody who could get two PCs and a server could start-up a small, online market research agency and attack vested incumbents, almost without any barriers…at first sight.

The use of internet in market research, what we call online market research, is considered to have started around 1995. Before 1995 it was virtually nonexistent, but the worldwide spend on online is estimated by *Inside Research* at US$3,6 Billion in 2007 and increasing to US$4,3 Billion in 2008 (ESOMAR, 2008). In the Netherlands one of the first commercial uses of online market research was in 1996 with NSS/Market Research that investigated which online payment methods were preferred by internet users. It proved to be a very easy and quick way to conduct research, and it didn't take long for lots of entrepreneurs to set up their own online market research agency. In Belgium Insites Consulting (founded in 1997) is considered to be the pioneer in the online market research field. Previous to commercial online market research, online research was already used in academic environments.

1.2 Online market research: a business model innovation?

Online market research has some characteristics that indicate it represents a business model innovation. Over time incumbents develop an industry recipe about their industry through education and experience (Markides, 1997). This industry recipe is a combination of culture, routines, and unwritten rules of behavior that defines "the way business is done in a certain industry". Business model innovations break through this industry recipe.

Firstly, industry experts agree that online enlarges the total market size of market research by creating a 'new market' of e.g. smaller companies that didn't use to have sufficient means to conduct market research and that are now facing lower boundaries to order some market intelligence data and advice by using often cheaper online market research.

Moreover, the online market research business model emphasizes different product/service attributes to customers that indicate the character of a value innovation. Whereas online emphasizes speed, low cost, more objective response, and ease-of-use, offline points e.g. to higher validity in sampling and interviewing, the possibility to track qualitative information, and the experience of the interviewer.

However, the new, online market is not expected to overtake the whole market research market. Industry players are convinced that online will take in its position in the spectrum of research methods and techniques, but will not replace all existing methods to conduct market research. Traditional methods are still recommended in certain situations, but a shift towards online is felt by some methods like e.g. in-home face-to-face personal interviews that are very expensive.

It is also considered to be difficult to compete both in traditional and online research methods. In the period 1999-2000 online was a 'hot' topic in the industry, and some incumbents started up their own online panel because the visible, direct costs associated with going online were low. The indirect costs however of investing in appropriate software and in building up a panel community with less biased response proved to be hard, which makes it difficult to build up a competitive advantage in both ways of doing research. Some have stopped their attempts to fight in both markets and are now outsourcing web panels to agencies with appropriate core competences.

Finally, the old business model (traditional offline methods of market research) is not necessarily worse than the new business model of using internet in methods and techniques to perform market research. Since the advent of online, there are large debates in the industry about the validity of online market research, but online gets more and more accepted by the industry. The discussion centers on the premise that online panels would have less validity because of the bias created by online respondents who would be more incentive-driven than respondents from offline panels and the observation that a small number of people completes a large number of online questionnaires. Three main questions are important when deciding to undertake online market research instead of traditional offline methods: population characteristics (who is online?), channel characteristics (what are they doing there?), and method characteristics (how do you measure on the internet?). These questions and the on-going discussions about validity indicate that online is expected to be a research method next to offline, without making offline research obsolete.

2.1 Conceptual framework

In an industry there are several viable choices of a business model and a particular business model is then just one possible way to go to market (Moore, 2004). A company should come up with a business model that is maximally aligned with its strengths and weaknesses, and its customer needs (Markides, 1997). On the one hand this implies that if a new business model emerges, incumbents should not blindly follow the new trend and automatically commit themselves to copy this new business model. On the other hand, as strengths and weaknesses, as well as customer needs evolve over time, the company's decision towards copying a particular business model can also be subjected to evolutions over time.

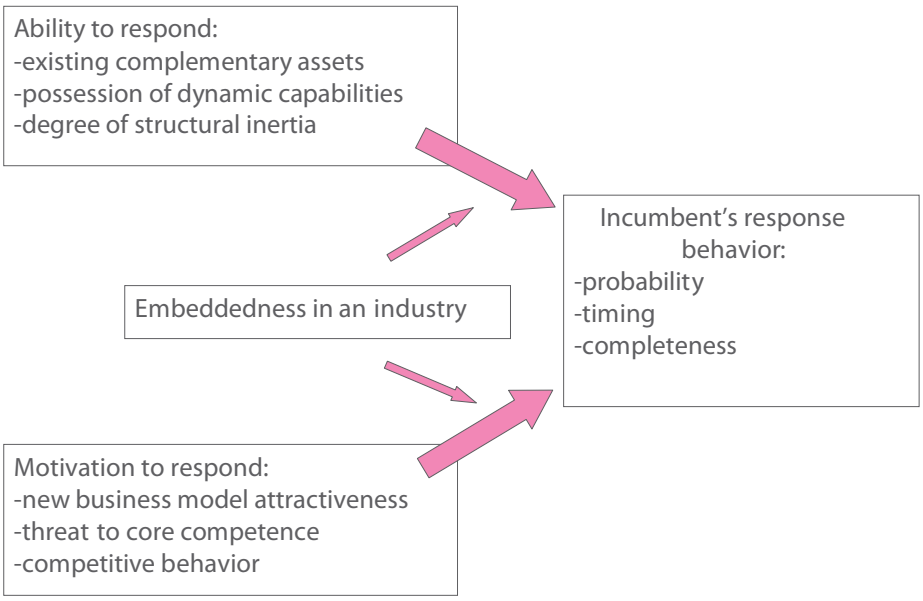
When confronted with a new business model in their industry, incumbents have many ways to respond. Copying a new business model is just one way. A company could also decide to stick to their current business model with heavy investments in this current business model to withstand the new business model. A company could even totally ignore a business model innovation as this could be perceived as not their business, because it targets different customers, pronounces a different value proposition, and/or stresses different skills and competences. Incumbents can also come up themselves with an innovation towards the new business model, and thus emphasizing again different product/service attributes. A last response strategy could be focusing on and investing in the traditional way of competing (Charitou and Markides, 2003; Markides, 2006).

In this study we focus on an incumbent's copy response and we make the distinction between basic and full copy of the new business model. We define basic and full copy as two points on the axis of completeness of the response, meaning that incumbents could only copy parts of the new business model (basic) or replace their existing business model completely by the new business model (full copy). Next to the completeness of the incumbent's response, we also look into the timing and probability of basic or full copy response.

We propose and test an overarching framework (Figure 1) that identifies drivers and enablers for the incumbent's response to a new business model. The response decision is split up in three parts.
A first response action is whether the incumbent does or does not adopt the new business model. This is a simple yes/no question and specifies the probability of either basic or full copy response.
A second part of the incumbent's response behavior we investigate is when the incumbent takes action, and expresses the timing of the response.
A third part of the response is the completeness. Incumbents can fully embrace the new business model (full copy) or they can copy it only partly (basic copy).

In what follows we discuss this conceptual framework based on our literature study. We can identify 2 main drivers that have an impact on the response behavior of incumbents, namely the firm's ability to respond and the firm's motivation to respond (Charitou and Markides, 2003). These 2 drivers are reinforced by the industry embeddedness of the incumbent. We now discuss each of these building blocks of the framework.

Figure 1: Conceptual Framework



2.2 Ability to respond

The incumbent's ability to respond ("Can I do it?") consists of three main factors: its existing complementary assets, its possession of dynamic capabilities, and its degree of structural inertia.

2.2.1 The role of existing complementary assets

Each company has certain strengths and weaknesses, relatively seen towards a particular market and competitor(s). Those strengths and weaknesses make up the 'resources' of a firm and form together with a firm's skills and routines the basis for a potential competitive advantage (Wernerfelt, 1984). Resources on their turn consist of tangible and intangible assets which are tied semi-permanently to the firm (Barney, 1991).

We propose in this study that the complementarity of a firm's assets with certain business model-related activities of that firm, will be of major importance in deciding which business model to adopt and when to adopt it. We propose this because companies will strive for maximum complementarity between their resources and business model (Markides, 1997). Therefore the role of complementary assets can not be underestimated and should be considered (Rothaermel and Hill, 2005; Dutta et al., 2004; Helfat, 1997).

Teece (1986) untangles three sorts of complementary assets: generic, specialized and cospecialized ones. Generic complementary assets are general purpose assets that do not need to be tailored to the innovation or business model in question. They are commodity-type assets that can be transacted for in the open market. Specialized complementary assets have a unilateral dependence with the innovation, whereas cospecialized assets contain a bilateral dependence with the innovation. Both specialized and cospecialized assets are built over a long time period.

Early theory (and examples) on complementary assets focuses especially on the importance of these assets to the commercialization of an innovation (Teece, 1986). Examples of (co)specialized complementary assets in the commercialization of an innovation are extensive infrastructure of switching networks in telecom industry, regulatory and legal expertise, large sales forces of detail people in pharmaceutical industry, etc. The possession of complementary assets is considered to play a role in the following situations:
-predicting who wins in case of innovation (Teece, 1986)
-assessing the industry and firm performance evolution following a new technology (Rothaermel and Hill, 2005)
-predicting the probability of incumbents entering an emerging technological subfield (Mitchell, 1989).

We propose that complementary assets have interesting repercussions on the incumbent's response behavior to business model innovations. On the one hand, complementary assets increase entry barriers for incumbents to copy a new business model, because an incumbent's strengths and weaknesses are not maximally aligned with the newly needed strategic resources to compete in the new business model. On the other hand, complementary assets that are still useful in the new business model buy the incumbent some time to decide whether or not to respond, because newcomers will first have to build those complementary assets needed.

Building on the theory of complementary assets and our propositions, we hypothesize:

H1: Complementary assets that an incumbent possesses towards a business model innovation increase the probability that the incumbent copies the new business model, the later it does so, and the more complete the copy is.
H2: The degree of complementarity of assets has a bigger influence than the number of complementary assets on the probability, the timing, and the completeness with which an incumbent copies the new business model.

To test for these hypotheses, we will use two variables: core complementary assets and peripheral complementary assets. Core complementary assets are a small amount of assets that have a high degree of complementarity with the business model innovation. Peripheral complementary assets are a larger amount of assets that have a lower degree of complementarity with the new business model. The measures of these two variables are presented in section 3.1.3.1.

2.2.2 The role of dynamic capabilities

Because business model innovations fundamentally reconceptualize what the business is all about by breaking the industry's recipe and by questioning the whole go-to-market approach of incumbents, being responsive to this type of innovation demands a high ability to change or to adapt to change from incumbents. The ability to continually integrate, build, and reconfigure internal and external resources, competences, and capabilities to achieve new forms of competitive advantage and congruence with rapidly changing business environments, has been defined as 'dynamic capabilities' (Teece et al., 1997).

Like with many of the constructs developed in the research field originating from the resource-based view (RBV) of the firm (e.g. resources, competences, and capabilities), conceptualization

and measurement is one of the most criticized aspects of the concept of dynamic capabilities. This is reflected in a lack of convincing quantitative support (Newbert, 2007). There are however some efforts to universally define these constructs and to make them more operational and measurable (Ray and Ramakrishnan, 2006; Dutta et al., 2004; Armstrong and Shimizu, 2007).

Based on Teece (2007) we try to capture some key types of dynamic capabilities in this study to partly explain response behavior of incumbents towards business model innovations. We suggest market orientation, absorptive capacity, and entrepreneurial character of a company as key types of dynamic capabilities.

Recognizing the potential of a business model innovation is not easy. A new business model can have the strategy of creating a new market targeted towards non-customers, or of disrupting the existing business model from the low end targeted towards 'low-profit' customers. These situations of attack on non- or low-profit-customers increase the probability (the former even more than the latter) that incumbents overlook or neglect the new business model. Therefore we hypothesize that the more market oriented a company is, the better it knows its market and the faster it sees the new business model. This entails a faster reaction towards the business model innovation. Market orientation is even considered as part of kick-starting strategic innovation (Markides, 1997). We though want to remark that a too 'narrow' market orientation could also negatively influence incumbent reaction. That is because incumbents that focus too much on the market as defined in their industry recipe, could overlook the new business model. Such a 'narrow' market orientation can thus postpone an incumbent's reaction and its probability of copying the business model innovation. A distinction can be made between reactive and pro-active market orientation. A reactive market orientation focuses on the manifest and expressed needs of customers, whereas a pro-active market orientation focuses on the latent, and nascent needs of customers. The key difference between reactive and pro-active market orientation is the forward-looking nature of pro-active market orientation. It is not about responding to customer's current needs, but about anticipating future needs.

A new business model is innovative in terms of the applied business model to serve a market. If a company wants to adopt a new business model, the company's industry recipe (cf. the assumption of which business it thinks it is in) should change and this asks a particular capability to value, assimilate, and apply new knowledge (cf. not necessarily technological knowledge). This is called 'absorptive capacity' (Rothaermel and Hill, 2005). Absorptive capacity could be a main determinant of the organizational learning degree of a company. Researchers have commented extensively on the tendency of decision-makers to rely on old frameworks to assess new information (Barr and Huff, 1997). Change only happens at the point when new information impels a change in cognitive frameworks (Kiesler and Sproull, 1982). However, cognitive frameworks are built up over time, based on past experiences and established beliefs, and are deeply rooted within the organization. Organizational cognition influences decision-making through its effect on the interpretation of new information, but also through its effect as information filter. We propose a high absorptive capacity as being a key type of dynamic capabilities. If an incumbent then has a high absorptive capacity, its response would probably be more copy-oriented, more complete, and earlier.

Together with the absorptive capacity of an incumbent, we propose that also entrepreneurial behavior of the incumbent plays a role as key type of dynamic capabilities. An incumbent having a high degree of entrepreneurial behavior is proposed to have a more probable intention to copy the new business model, to react more timely, and to be more complete in its response.

Building on the theory of dynamic capabilities and our propositions, we hypothesize:

H3: The higher the incumbent's dynamic capabilities, the more likely, the quicker, and the more complete it will respond to a business model innovation. A company's market orientation, absorptive capacity, and entrepreneurial character are key types of dynamic capabilities.

2.2.3 Structural inertia

Every organization develops over time certain routines and procedures to optimize working processes that have a repetitive character. Even adapting to major changes can become a routine (cf. dynamic capabilities) suggesting transformational experience of incumbents (King and Tucci, 2002). However, establishing change within an organization and making it work is not easy especially in the case of a major turnaround like a new business model. Questions like "Why should I change? What shall I change into? What if I jump into a new position and it turns out to be a mistake?" are only a few ever-returning issues that pop up as obstacles for business model innovation (Markides, 1998).

We propose structural inertia as being a major postponing and non-copying influence towards the incumbent's response in the advent of a business model innovation. The preferred state of the organization is to remain inert. Organizational inertia has been defined as the propensity of a firm to sustain the status quo and maintain the current course of action (Chandrashekaran et al., 1999). Along with the increased interest for the sources of organizational dynamics, the notion of inertia has received much attention from organizational theorists in the recent two decades. Scholars adopting an inertial view to organizational and strategic change argue that organizations generally resist change and it is their nature to preserve the status quo (Hannan and Freeman, 1984; Boeker, 1997). The emphasis of organization research on inertia has been primarily devoted to structural, institutional and political barriers to change within the organization, often related to factors such as the organization size and age (Kelly and Amburgey, 1991).

There are a few reasons why we observe this type of structural inertia which also explains why business model innovators are mostly entrepreneurial start-ups or new market entrants, and not incumbents (Markides, 1998). Firstly, the impact or return of projects in existing markets is 'easier' to assess than the impact of new 'adventures'. Secondly, incumbents often seem paralyzed by their current thinking and this further strengthens their traditional go-to-market approach (Matthyssens et al., 2005). Breaking through this industry recipe is however a prerequisite to come to business model innovation. A last component of structural inertia is the difficulty of overcoming negative responses internally that is driven by established product/service lines in large organizations and by the necessity to achieve managerial consensus (Teece, 2007).

Based on the theory of structural inertia and our propositions, we hypothesize:

H4: The higher the structural inertia of an incumbent, the lower its probability of copying a new business model, the later and the less complete it does so.

2.3 Motivation to respond

The incumbent's motivation to respond to business model innovations is considered to be influenced by 3 main factors, namely the attractiveness of the new business model, the threat it introduces to the core competence(s) of incumbents, and the competitive behavior in the industry.

2.3.1 New business model attractiveness

The attractiveness of a market and profits that are made by its market players attract other players. In case of a business model innovation, the growth of the new market that causes as well substitution as market expansion has a big influence on incumbent entry (Debruyne and Reibstein, 2005). When the new business model is highly attractive, incumbents not only 'feel' that the new market substitutes some pieces of the existing market, but they also 'see' that business model innovators are gaining attractive profits. This leads us to propose that the new business model attractiveness has a positive influence on the incumbent's adoption behavior towards business model innovations.

H5: A new business model's attractiveness has a positive influence on the incumbent's copy behavior in terms of probability, timing and completeness.

2.3.2 Degree of threat to core competence

The substitution potential of a new business model leads us to the threat a business model innovation has on incumbents and their core competences. This threat lies especially in the cannibalization upon a firm's existing markets served and products/services offered, and is more important for incumbents whose core competence is directly linked to that part of the market that is 'under attack' of the new business model.

An incumbent's response towards a new business model is thus expected to be influenced by the cannibalization potential of the business model innovation (Debruyne and Reibstein, 2005). And the greater the competitive threat, the less likely an incumbent will enter but the earlier it will do so (Mitchell, 1989).

Based on the theory, we hypothesize:

H6: The greater the threat of a new business model towards the incumbent's core competence(s), the less likely an incumbent will copy the new business model but the earlier it will do so.

2.3.3 Competitive behavior

In their industry recipe of the business they are in, incumbents not only have a fixed idea of target markets, ideal customers, possible go-to-market approaches and a viable business model, but they also develop an image of who their competitors are and who they are not. Each company defines its key competitors and monitors their actions (in a structured or unstructured way) to know what's going on in the business. These competitive actions (or non actions) not only increase the incumbent's knowledge of the industry, but it also stimulates incumbent's action (or non action).

In the advent of business model innovation there is on the one hand high uncertainty, because of infringement on the very business logic of an entire industry. On the other hand there is high risk aversion, because large, strategic key issues are at stake with the choice of a business model. Therefore, industry players tend to show herd behavior or organizational imitation behavior towards competitors. Herd behavior is an organizational behavior in which each response to a new practice by a particular industry player makes the imitation of that response from another industry players more likely (Burt, 1987). This process is called 'contagion' and serves as the dynamic behind

diffusion of new products (Bass, 1969; Rogers, 1962). Synonyms of herd behavior are bandwagon or demonstration effect, and organizational imitation (Kennedy, 2002).

Organizational imitation behavior is considered to play an important role in the response towards business model innovations by incumbents, especially among incumbents similar in size and resources (Debruyne and Reibstein, 2005; Porac and Thomas, 1990; Haveman, 1993; Kraatz, 1998). We also propose that incumbent's are influenced by the response behavior of market leaders, and put this as standard influencer in our conceptual framework.

This imitation behavior is explained by the reduced uncertainty, and thus reduced risk, of incumbents about the value of a particular business model because other incumbents also copy (or don't copy) it. The adoption of incumbent firms of the new business model may also create legitimacy for it. However, the entry of other incumbents also changes the competition between the existing and new markets with the possibility to accelerate the level of substitution between the old and the new, and thus increasing the threat to the incumbent's core competences (King and Tucci, 2002). Next to that, complementary assets that are still useful in the new business model buy the incumbent some time to decide whether or not to respond (section 2.2.1). But once other incumbents enter, the incumbent will need to follow quickly not to lose its competitive advantage if the formers also possess those complementary assets (Mitchell, 1989, 1991).

Based on the theory of organizational imitation behavior, we hypothesize:

H7: Incumbents are significantly influenced by incumbent market leaders in responding towards a new business model.
H8: Incumbents are not significantly influenced by newcomers in responding towards a new business model.
H9: Incumbents experience a bigger imitation behavior effect from incumbents that are similar in size and/or resources.
H10: Incumbents experience a bigger imitation behavior effect from incumbents that have similar complementary assets.

2.4 Role of embeddedness

The embeddedness of a company signifies to what extent a company is anchored in an industry, potentially reflected in the strength of an incumbent's ties with customers and suppliers, the strength of an incumbent's idea of the business (industry recipe), and the magnitude of an incumbent's inventory of path-dependent assets. An indicator of embeddedness is e.g. the period of time a company has been around in a certain industry.

In our framework we suggest that embeddedness is more a moderator than a direct independent variable. We thus propose that embeddedness changes the effect of existing complementary assets, the effect of dynamic capabilities, the effect of structural inertia, the effect of a new business model's attractiveness, the effect of threat to core competence(s), and the effect of competitive behavior.

If an incumbent possesses path-dependent complementary assets, it is very difficult to make these assets obsolete (redundant) in the event of an innovation that poses a threat to these assets (Teece,

2007). The more embedded an incumbent thus is in the industry, the stronger this path-dependency and the stronger a threat to core competence(s) could play a role.
The longer an incumbent is present in an industry, the more engrained the dynamic (or non-dynamic) character of the company is in the hearts of employees. Embeddedness thus renders the company's dynamic capabilities more extreme. Low dynamic capabilities become very low and high dynamic capabilities become very high.
The time an incumbent has been around in an industry also impacts its degree of structural inertia. The longer and the more an industry recipe has been confirmed and has brought success, the more that industry recipe is engrained in the minds and hearts of people as being 'true'. So the bigger an organization, the more time it consumes to convince the whole organization of another industry recipe.
The existence of established assets and routines exacerbate problems of excessive risk aversion (Teece, 2007). This increased risk aversion together with the increased attributed value of market actions of long-time survivors over time, suggests a moderating effect of embeddedness on organizational imitation behavior.

Based on the theory of industry embeddedness and our propositions, we hypothesize:

H11: Embeddedness has significant effects as moderating variable and no or less significant effects as a direct independent variable.

3.1 Dataset and measures

3.1.1 Introduction

The data used for modeling the incumbent's response behavior in this study is drawn from ESOMAR[3] directories. These global, yearly directories contain general information like e.g. year of foundation, number of employees, turnover, etc. per market research agency that is member of ESOMAR. The directories also disclose yearly information about a market research agency's offering in terms of methods/techniques used (for the period 1990-2005), operational fields of research (for the period 1990-2005), market sectors (for 2006-2007), research solutions presented (for 2006-2007), and research services (for 2006-2007). We entered this hard-copy information in an electronic database consisting of directory information of Belgium, the Netherlands, and the UK throughout the period 1990-2007. As such, we obtained a cross-country, longitudinal dataset.

Table 1 gives an overview of all relevant offerings presented in the ESOMAR directories together with their appropriated values necessary for calculating some measures.

3.1.2 Measures of the dependent variable

We tested each time for two models, namely basic copy and full copy of online market research.

Incumbents in the period 1999-2005 (t = 1999, 2000,… 2005) were considered to offer a basic copy of online market research if they offered internet research (1999-2005) in their operational fields of research. Incumbents in the period 2006-2007 were considered to offer a basic copy of online market research if they offered 'online quantitative' or 'online focus groups' as research services, or if they offered 'web panel' as research solution.

Incumbents in the period 1999-2005 were considered to offer a full copy of online market research if they offered internet research (1999-2005) in their operational fields of research when indicating that internet research is their specialism. Incumbents in the period 2006-2007 were considered to offer a full copy of online market research if they offered 'web panel' as research solution.

We want to remark that incumbents that offer a full copy of online market research are also included in the analysis of incumbents that offer a basic copy of online market research.

[3] ESOMAR is a worldwide organization for enabling better research into markets, consumers and societies. The organization currently has 4.400 individual members in more than 100 countries, and was founded in 1948. We highly appreciate the willingness of ESOMAR to provide us all directories from the period 1990-2007.

Table 1: ESOMAR offering variables

Methods/Techniques Used (1990-2005)	Operational Fields of Research (1990-2005)	Research Services (2006-2007)	Market Sectors (2006-2007)	Research Solutions (2006-2007)
Personal fieldwork and/or mail surveys***	Advertising / Packaging	Desk Research**	Advertising/Public Relations*	Advertising Research*
Personal Fieldwork***	Advertising Research*		Agriculture	Audience Research
Telephone fieldwork***	Agricultural Research	CAPI***	Automotive	Brand Research***
Mail Surveys***	Automotive Research	CATI***	Beverages	Business-to-Business**
Panel and/or continuous survey research*	Business/Industrial Research	Mail***	Catering/Hospitality	Children/Youth's Research**
Omnibus surveys*	Business-to-Business Research**	Online	Charity/Non For Profit	Consumer Research***
Qualitative/Psychological marketing research	Child Studies**	Mystery Shoppers	Chemicals	Concept Testing
Laboratory test facilities	Consumer Marketing Research***	Focus Groups	Confectionery	Customer Satisfaction Studies
Desk research, market analysis and/or operations research**	Customer Satisfaction	Recruiting	Consultancy***	Data Mining**
Data processing, computer facilities**	Financial/Corporate image**	In-Depth Interviews	Cosmetic/Hygiene	Demographic Research
Datamining**	Food&Drink	Online Focus Groups	Durables/Electrical Goods	Employee Research**
Statistical analysis, interpretation of survey data**	Industrial Research		Detergents	Ethnographic Research
Business and/or research consultancy	International Marketing Research		Energy/Utilities	Image Studies
Educational services	Internet		Financial Services**	International Studies
	Market modelling		Fragrance Industry	Media Testing*
	Segmentation/Typology		Food	New Product Development
	Media*		Healthcare/Pharmaceutical***	Omnibus*
	Medical/Pharmaceutical Research***		IT/Software/Hardware*	Opinion Polling*
	Packaging Research***		Legal/Lawyers	Packaging/Design***
	Personnel/Staff**		Logistic/Mail/Transportation	Panels*
	Pricing/Promotions		Media/Entertainment*	Pricing Studies**
	Pricing Research**		Petrol/Oil/Gas	Projective Techniques
	Product Testing/NPD		Public Sector/Government	Product Testing
	Promotions Research**		Retail/Wholesale**	Retail Audit
	Social/Opinion*		Telecommunication**	Scenario Planning
	Tracking/Brand Image***		Textile/Fashion/Clothing	Segmentation Research
	Travel/Tourism/Motorist Research		Tobacco/Cigarettes	Semiotic and Cultural Analysis
	Travel/Tourism Research		Toys/Games	Senior Citizen/Mid-Life
	Wholesale/Retail**		Travel/Tourism/Sport/Leisure	Statistic Analysis**
				Syndicated Research
				Tracking Studies***
				Usage&Attitude Studies***
				Web Panel
0 = not offered; 1 = basic offer; 2 = offered as specialization		0 = not offered; 2 = offered as specialization		

*included in the measure of existing core complementary assets
**included in the measure of existing peripheral complementary assets
***included in the measure of threat to core competence(s)

3.1.3 Measures of the incumbent's ability to respond

3.1.3.1 Complementary assets

The core complementary assets of an incumbent were calculated as the sum of variables in Table 1 marked with*. The peripheral complementary assets of an incumbent were calculated as the sum of variables in Table 1 marked with **.

The selection of the different variables in our measures for complementary assets is based upon qualitative interviews and desk research. We tried to balance the measures throughout the change in data collection (1990-2005 versus 2006-2007) by looking for similar variables across periods and by striving for a higher number of variables from the period 2006-2007 because those variables have less chance of being indicated for a market research agency in the directories (cf. it are specializations). Only for peripheral complementary assets is the number of variables from the period 1990-2005 larger than those from the period 2006-2007. This could however only impact our testing of hypotheses 1 and 2.

Core complementary assets are suggested to have a higher degree of complementarity towards the online market research business model than peripheral complementary assets. Peripheral complementary assets are though larger in number than core complementary assets. We use core complementary assets in our basic tests for fit of our conceptual framework.

3.1.3.2 Dynamic capabilities

We measured an incumbent's market orientation by the number of 'key people' or 'managing director(s)' of that incumbent that were also presented as 'ESOMAR member'. This measure indicates the degree to which the market research agency is aware of the newest trends and industry news in the market research world.

Absorptive capacity is measured by the degree to which an incumbent is being focused on specializations in the product offering or markets served. We calculate for each year of the period 1999-2007 the number of specializations of each incumbent from the 14 'methods and techniques used' variables, the 29 'operational fields of research' variables, the 29 'market sectors' variables, and the 33 'research solutions' variables (see Table 1). We then rescale the variable 'absorptive capacity' for the years 2006 and 2007 by multiplying it with 43/62 to balance for the number of variables in our measure.

Entrepreneurial behavior is considered to be reflected by the change of the operational fields of research offering throughout the years (see Table 1). The variable 'entrepreneurship' is then calculated as follows. For each 10-year-timeframe, starting with the period 1990-1999 till 1998-2007, we calculated every incumbent's standard deviation of its 29 'operational fields of research' and made the sum of those standard deviations. We then coded the variable entrepreneurship for each incumbent for the period 1999-2007 as follows:

- the value for year 1999 = sum of standard deviations for timeframe 1990-1999
- the value for year 2000 = sum of standard deviations for timeframe 1991-2000
- etc.

3.1.3.3 Structural inertia

Structural inertia is measured by the number of 'key people' or 'managing director(s)' divided by the number of 'employees'.

3.1.4 Measures of the incumbent's motivation to respond

3.1.4.1 Attractiveness of online market research

We measure the attractiveness of online market research for each year in the period 1999-2007 by dividing the global spend on online market research for each year by the number of newcomers in our dataset in the period 1995-2007. The spend of online market research is estimated by *Inside Research* at US$3,6 Billion in 2007, US$3,1 in 2006, and US$2,66 Billion in 2005 (ESOMAR, 2008). Because we missed data from 1999 till 2004, we assumed a linear market growth from 1999 onwards till 2005. So we started in 1999 with US$0,38 Billion, in 2000 with US$0,76 Billion, etc.

3.1.4.2 Threat to core competence

The threat to core competence(s) was calculated by the sum of variables in Table 1 marked with***.

3.1.4.3 Competitive behavior

We use the cumulative basic copy of online market research by market leaders as basic competitive behavior variable in our tests for fit of our conceptual framework.

To test for imitation behavior among groups of incumbents with similar size and complementary assets (cf. H9 and H10), we split our analyses each time for two groups. We then compare the explanatory strength of our competitive behavior variable in the case of different groups based on size and complementary assets versus the case of no formation of different groups (cf. standard test for fit of our conceptual framework).

To test for similar size, group 1 is the group with market research agencies that have a size in terms of mean number of employees for the period 1999-2007 under the median value of all incumbents, so the group with 'smaller' agencies. Group 2 is then the group with market research agencies that have a size in terms of mean number of employees for the period 1999-2007 above the median value of all incumbents, so the group with 'bigger' agencies.

To test for similar complementary assets, group 1 is the group with market research agencies that have a value for the mean of their core complementary assets for the period 1999-2007 lower than the appropriate median value of all mean values of market research agencies. Group 2 is then the group with a mean value higher than the median value.

3.1.5 Embeddedness

We measure the incumbent's embeddedness by its year of foundation.

3.2 Empirical model

Our conceptual framework (Figure 1) has a dependent variable, the incumbent's response behavior towards online market research, which is split up in three parts. We not only test for the probability an incumbent will copy the online business model and for the timing of the response. We also test the completeness of that response (basic or full copy).

The timing of the incumbent's response is tested using a hazard model. The probability that an incumbent copies the new business model and the completeness of its response are tested using a binary logistic regression model. Time-varying covariates were averaged over the measurement period to enter the logistic regression equation.

As all our hypotheses pertain to an incumbent's response behavior, we only considered cases in which (basic or full) copy of the online business model was possible and incumbents were involved. The probability of offering online market research is estimated starting from 1999 when the first recording of online occurs in the dataset was. A company is considered an incumbent if it was present in the market before 1995. Our total dataset contains 304 cases from three countries: Belgium, the Netherlands, and the UK. Please notice that our dataset covers the period from 1990 till 2007.

4.1 Introduction

The ESOMAR dataset contains company information for the period 1990-2007. Information about online adoption behavior starts from 1999 onwards. We distinguish among two types of adoption behavior. On the one hand the 'basic adoption' referring to market research agencies that offer online methods (e.g. online focus groups or online quantitative research methods) or internet research, but not commercialized as a specialism of that agency. On the other hand there is a 'specialist adoption' referring to market research agencies that offer online market research as one of their core competences (e.g. internet research and web panels).

Figure 2 sets out the adoption behavior in Belgium in cumulative numbers of market research agencies for the two types of adoption (basic vs specialist), and for two samples for the period 1999-2007. The first sample is the total ESOMAR population in Belgium active in the period 1999-2007, consisting of incumbents (founded before 1995) and startups (founded in or after 1995). The second sample is the ESOMAR incumbents that are active in the period 1999-2007.

We are interested in the cumulative number of adopters of online, so online adopters disappearing from the market are not taken into account as negative values for adoption. Also startups (agencies that are founded in or later than 1995) that adopted online and that are later acquired by incumbents are not taken into account as a separate adoption. These remarks remain valid throughout our whole analysis.

Figure 2: Adoption behavior in Belgium

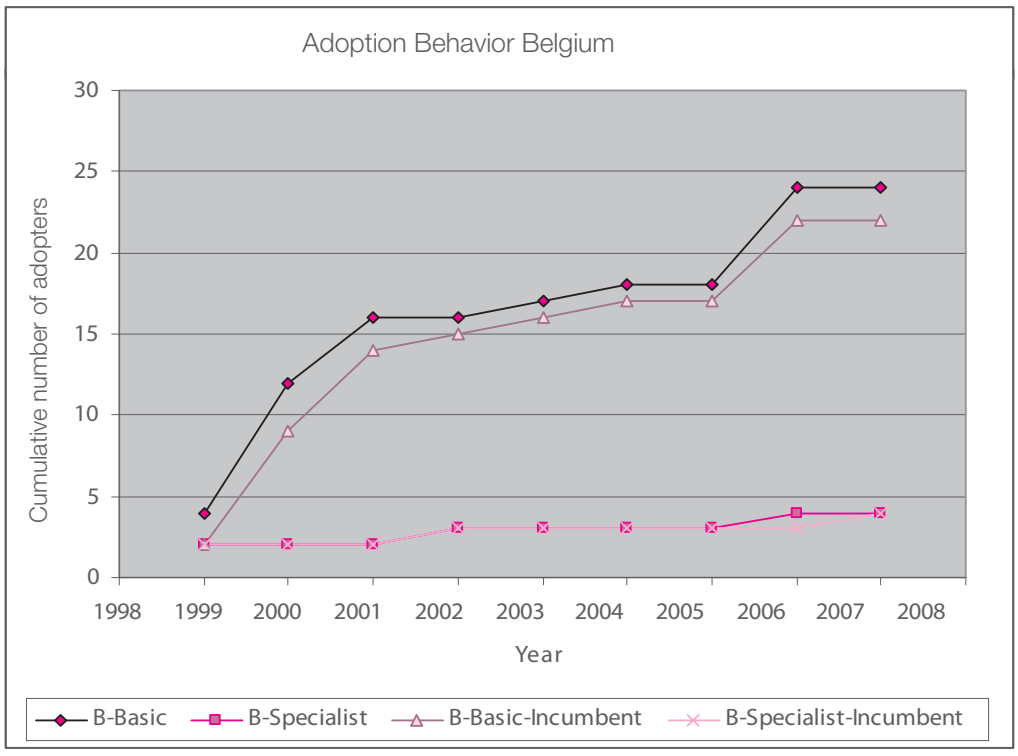
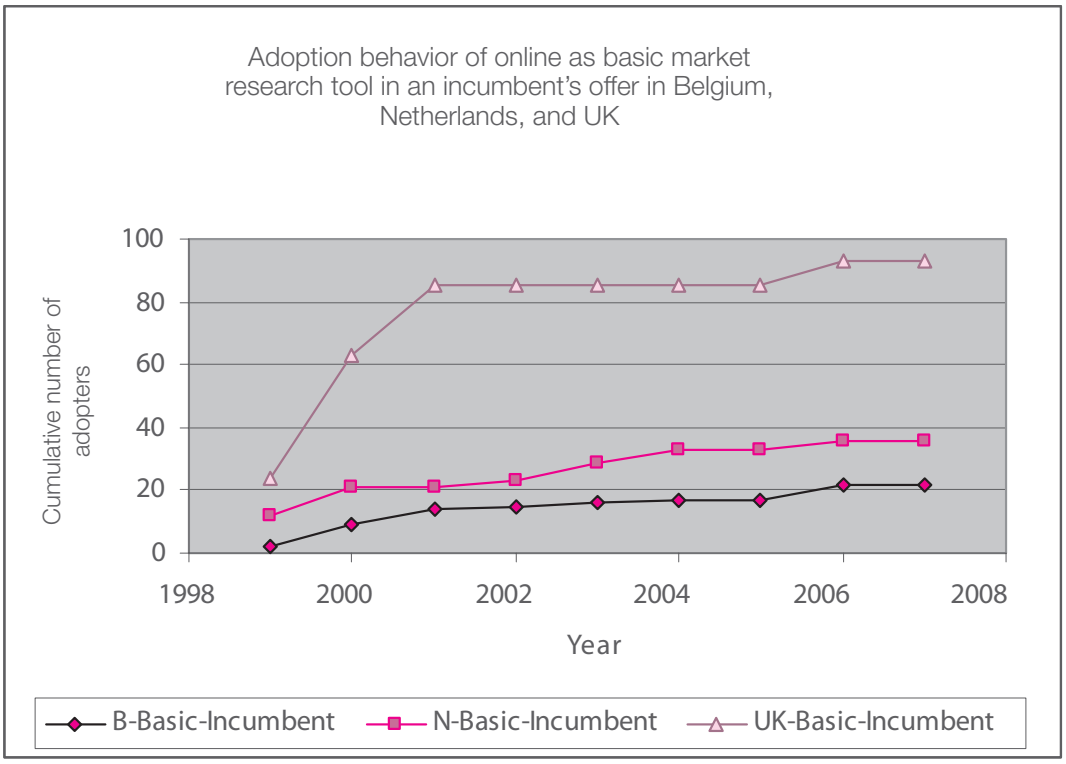


Figure 2 shows that there is a large increase in the number of agencies adopting online as a basic offering in the period 1999-2001,and the period 2005-2006. The number of agencies adopting online as a core competence stays throughout the whole period stable with in total less than 5 agencies that adopted online as their specialism.

Figure 3 and Figure 4 represent the evolution of adoption behavior for incumbents of Belgium, the Netherlands and the UK for respectively a basic adoption, and a specialist adoption. There is a large increase of the number of basic adopters in the UK in the period 1999-2001, followed by stability and a small increase in 2005-2006. Belgium has a more stable growth over time just like the Netherlands, but the latter has a larger number of adopters which is normal if we know that the Netherlands has more market research agencies than Belgium. To make comparisons across countries possible, we can correct for the number of market research agencies present in each country. Therefore we introduce Figure 5 and Figure 6 where the cumulative number of adopters in a country is expressed in relative terms to the total number of incumbent market research agencies in that country.

Figure 3: Adoption behavior of online as basic market research tool



The Netherlands seems good ground for the specialist adoption of online (Figure 4), and this becomes very clear when we look at Figure 6. The Netherlands takes the lead in specialist adoption in relative cumulative numbers of adopters with a large increase in 1999-2000. Belgium and the UK are lagging behind, and in 2007 Belgium almost closes the gap with the UK.

Figure 5 indicates that Belgium, the Netherlands, and the UK are experiencing a similar basic adoption evolution, but it is again clear that the Netherlands was the quickest to adopt relatively seen towards

the number of players in each country. Figure 5 also shows that it is possible to have more than 100% of cumulative adoption due to consolidation of the market and bankruptcies.

Figure 4: Adoption behavior of online as specialism

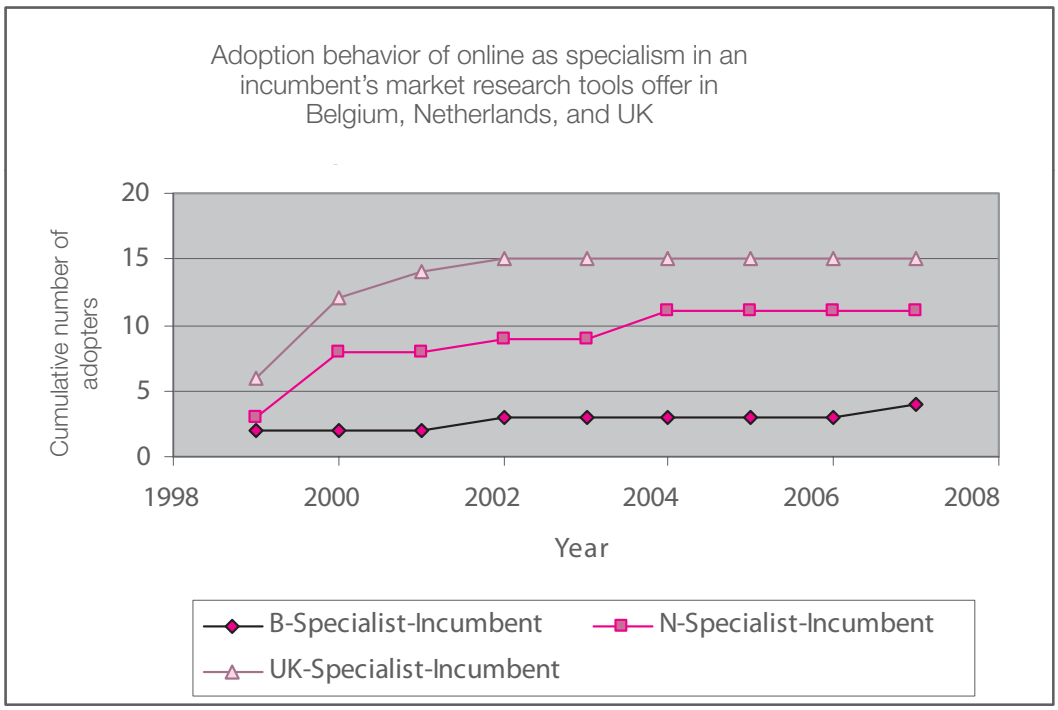


Figure 5: Adoption behavior of online as basic market research tool (in %)

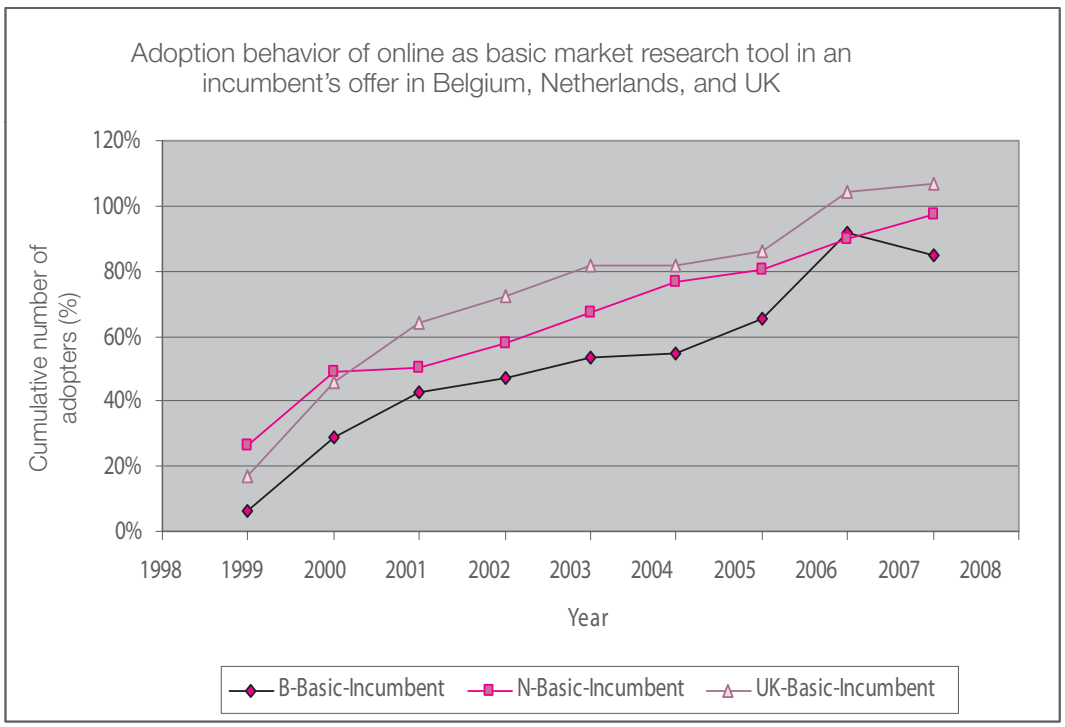
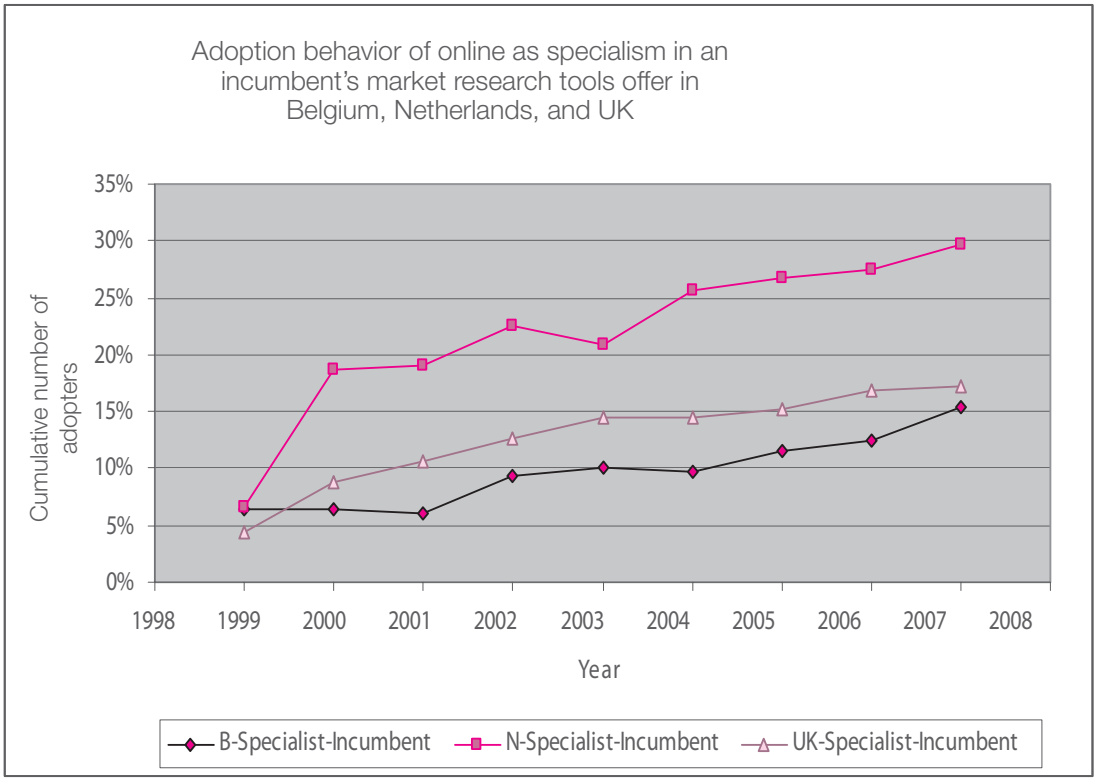


Figure 6: Adoption behavior of online as specialism (in %)



4.2 Testing the conceptual framework[4]

We tested two models based on our conceptual framework. On the one hand we tested if the probability and timing of a 'basic copy' is influenced by the determinants of an incumbent's ability to respond and its motivation to respond, with and without embeddedness as a moderating variable. On the other hand we tested the probability and timing also for a 'full copy'. Basic copy and full copy are the two points on our axis of response completeness.

We first present correlations and descriptive statistics of our framework variables. Thereafter, we discuss the results of our framework for basic copy and then for full copy.

4.2.1 Correlations and descriptives

Table 2 and Table 4 represent the Pearson correlations (and the number of cases included in the correlation calculation) between the variables of our empirical model.

Further investigation of Table 2 and Table 4 indicates that there is only one case of excessive correlation (cut-off rate set at 0,400) between variables in our framework. The correlation between the mean of existing complementary assets and the mean of absorptive capacity is 0,415. Therefore

4 We want to remind that all time-varying covariates were averaged over the measurement period to enter the logistic regression equation used for probability testing. Thus the variables discussed in the timing tests are not time-averaged whereas the variables in the probability tests are time-averaged (although we use in the tables the same names).

we have not included absorptive capabity in our probability testing. We choose to exclude absorptive capacity and not the mean of existing complementary assets, because the latter is the only variable indicating complementary assets whereas the former is only one of three variables indicating dynamic capabilities.

For our timing tests, there is no problem of correlation among independent variables.

We also want to remark that there is a high, but not problematic, correlation between the mean of existing complementary assets and the mean of threat to core competence(s). This corresponds to the difficulty of making a clear distinction between those two variables, and will be further discussed upon in section 5.

Table 3 and Table 5 are representing some key descriptive statistics for our incumbents, mentioning number of cases (N), minimum value, maximum value, mean, and standard deviation.

We see that there is an overall probability among incumbents to offer a basic or full copy of online market research during the period 1999-2007 of 74% (Table 3). For only a full copy of online market research this percentage decreases till 17%.

Among the three variables indicating different types of dynamic capabilities, absorptive capacity has the largest standard deviation, meaning that this variable makes the clearest distinction among incumbents of how their degree of dynamic capabilities could be.

Table 3 and Table 5 also indicate that the 'normal' age of an incumbent is 30 years, because the mean value of year of foundation is 1979.

Table 6 indicates that there are sufficient cases available in our ESOMAR dataset to test our framework for timing. There are 1647 cases covering the period 1999-2007 and countries Belgium, the Netherlands, and the UK. Note however that the number of cases available in the analysis (namely 1463), thus cases with no missing values, was not enough to test separately for countries. Table 6 also shows that basic copy (52,7% of all cases) is more experienced than full copy (9,9% of all cases) which is logical if we look at the probability means in Table 3. 'Censored' expresses the number of cases that not yet experienced a copy action.

Dropped cases with missing values are kept low enough. In total there are 1647 cases in our sample for testing for response timing. Note that the number of cases for probability testing is 304 (Table 3).

Table 2: Correlation matrix for probability tests

		Complementary Assets	Market Orientation	Absorptive Capacity	Entrepreneurial behavior	Structural Inertia	Attractiveness	Threat	Competitive Behavior
Complementary Assets	Pearson Correlation	1	0,091	,415	,180	-,162	-,127	,367	0,070
	N	303	303	303	268	294	303	303	303
Market Orientation	Pearson Correlation	0,091	1	0,035	0,042	,131	-0,077	0,041	0,098
	N	303	304	304	268	295	304	303	304
Absorptive Capacity	Pearson Correlation	,415	0,035	1	,234	-,170	-0,048	,377	-,126
	N	303	304	304	268	295	304	303	304
Entrepreneurial behavior	Pearson Correlation	,180	0,042	,234	1	-0,100	-,171	,145	0,004
	N	268	268	268	268	262	268	268	268
Structural Inertia	Pearson Correlation	-,162	,131	-,170	-0,100	1	0,105	-,149	-0,008
	N	294	295	295	262	295	295	294	295
Attractiveness	Pearson Correlation	-,127	-0,077	-0,048	-,171	0,105	1	,166	-,239
	N	303	304	304	268	295	304	303	304
Threat	Pearson Correlation	,367	0,041	,377	,145	-,149	,166	1	0,056
	N	303	303	303	268	294	303	303	303
Competitive Behavior	Pearson Correlation	0,070	0,098	-,126	0,004	-0,008	-,239	0,056	1
	N	303	304	304	268	295	304	303	304

Table 3: Descriptives for probability tests

	N	Minimum	Maximum	Mean	Std. Deviation
Probability basic and full copy	303	0	1	0,74	0,44
Probability full copy	303	0	1	0,17	0,38
Complementary Assets	303	0	9,33	3,08	1,80
Market Orientation	304	0	3,78	0,96	0,57
Absorptive Capacity	304	0	38	8,63	5,15
Entrepreneurial Behavior	268	0	17,50	4,32	3,20
Structural Inertia	295	0	1	0,13	0,16
Attractiveness	304	1,52	270	65,47	61,92
Threat	303	0	17	6,44	2,46
Competitive Behavior	304	1	3	2,15	0,43
Embeddedness	304	1923	1994	1979	13,32

Table 4: Correlation matrix for timing tests

		Complementary Assets	Market Orientation	Absorptive Capacity	Entrepreneurial Behavior	Structural Inertia	Attractiveness	Threat	Competitive Behavior
Complementary Assets	Pearson Correlation	1	,109	,343	,164	-,148	-,091	,275	,066
	N	1.639	1.639	1.639	1.529	1.570	1.639	1.639	1.639
Market Orientation	Pearson Correlation	,109	1	0,042	0,014	,078	-0,034	0,024	,103
	N	1.639	1.644	1.644	1.533	1.574	1.644	1.639	1.644
Absorptive Capacity	Pearson Correlation	,343	0,042	1	,222	-,119	-,083	,288	-,103
	N	1.639	1.644	1.645	1.534	1.574	1.645	1.639	1.645
Entrepreneurial Behavior	Pearson Correlation	,164	0,014	,222	1	-,120	-,137	,107	0,024
	N	1.529	1.533	1.534	1.536	1.469	1.536	1.529	1.536
Structural Inertia	Pearson Correlation	-,148	,078	-,119	-,120	1	,098	-,115	-0,023
	N	1.570	1.574	1.574	1.469	1.574	1.574	1.570	1.574
Attractiveness	Pearson Correlation	-,091	-0,034	-,083	-,137	,098	1	,259	-,193
	N	1.639	1.644	1.645	1.536	1.574	1.647	1.639	1.647
Threat	Pearson Correlation	,275	0,024	,288	,107	-,115	,259	1	,076
	N	1.639	1.639	1.639	1.529	1.570	1.639	1.639	1.639
Competitive Behavior	Pearson Correlation	,066	,103	-,103	0,024	-0,023	-,193	,076	1
	N	1.639	1.644	1.645	1.536	1.574	1.647	1.639	1.647

Table 5: Descriptives for timing tests

	N	Minimum	Maximum	Mean	Std.Deviation
Complementary Assets	1639	0	16	3,27	2,07
Market Orientation	1644	0	6	1,03	0,69
Absorptive Capacity	1645	0	58	8,69	6,30
Entrepreneurial Behavior	1536	0	19,14	4,53	3,34
Structural Inertia	1574	0	1	0,12	0,15
Attractiveness	1647	1,52	270	65,18	73,52
Threat	1639	0	22	6,70	2,78
Competitive Behavior	1647	1	3	2,20	0,52
Embeddedness	1647	1923	1994	1979	12,95

Table 6: cases in timing analysis

		Basic copy		Full copy	
		N	Percent	N	Percent
Cases available in analysis	Event	868	52,7	163	9,9
	Censored	595	36,1	1.353	82,1
Cases dropped	Cases with missing values	184	11,2	131	8
Total		**1.647**	**100**	**1.647**	**100**

4.2.2 Basic copy results

Table 7 shows the probability and timing test results of our conceptual framework without embeddedness as a moderating independent variable. Table 8 presents the results for our framework including embeddedness as a moderating independent variable. Both tables present Chi-square values, significance level of variables, coefficient estimates per variable (B), and standard error per variable (SE).

All test results indicate by the Chi-square value that our overall framework contributes significantly at level 0,001 to explaining timing and probability of the incumbent's response of offering a basic copy of online market research throughout the period 1999-2007 and across the countries Belgium, the Netherlands, and the UK. Especially the 'change from block 0' is interesting, because it shows the contribution of our model relative to the situation that all our variables would be zero.

The results in Table 7 and Table 8 also show that more variables are significant in the estimation of the timing than the probability of response. A possible explanation is the high overall probability percentage, which enables us to discriminate less between those adopters and non-adopters. In other words, if eventually almost all incumbents adopt the new business model, when they do so is more insightful then if they do so.

There is a significant positive impact of Complementary Assets, Absorptive Capacity, and Entrepreneurial Behavior for the incumbent's response timing, indicating that the higher the value for these variables, the earlier an incumbent will offer a basic copy of online market research. Significant negative impacts are assessed for Market Orientation, Structural Inertia, Attractiveness, Threat, and Competitive Behavior. Embeddedness has also a significant moderating impact with Complementary Assets, Market Orientation, Entrepreneurial Behavior, Structural Inertia, Threat, and Competitive Behavior on an incumbent's response timing. We note that the inclusion of Embeddedness as a moderating independent variable has not much influence on the B-values for the direct independent variables. Including Embeddedness-moderating variables also shows a small increase of 6,33% of our framework's overall contribution in explaining response timing behavior.

We see a significant positive influence of Entrepreneurial Behavior, Attractiveness, Threat, and Competitive Behavior to an incumbent's probability of offering basic online market research. A significant negative impact on basic copy probability is noted for Structural Inertia. Embeddedness has a significant moderating impact with Attractiveness and Threat on basic copy probability. Including Embeddedness as a moderating independent variable in the model increases overall contribution of the model with 25,84%, but has an important impact on the significance and attributed value of the direct independent variables.

A further discussion of all variables and their impact follows in section 4.3.

Table 7[5]: test results for basic copy (without Embeddedness)

	Probability			Timing	
Variables	**B**	**SE**	**Variables**	**B**	**SE**
Ability			**Ability**		
Complementary Assets	0,174	0,116	Complementary Assets**	0,039	0,016
Market Orientation	0,363	0,324	Market Orientation****	-0,203	0,051
Absorptive Capacity	Not included		Absorptive Capacity****	0,043	0,006
Entrepreneurial Behavior*	0,092	0,055	Entrepreneurial Behavior****	0,055	0,010
Structural Inertia**	-2,964	1,193	Structural Inertia****	-1,591	0,327
Motivation			Motivation		
Attractiveness****	0,018	0,004	Attractiveness****	-0,010	0,001
Threat **	0,174	0,084	Threat ****	-0,048	0,013
Competitive Behavior**	1,013	0,398	Competitive Behavior****	-1,113	0,082
Constant****	-3,814	1,073			
Overall fit			Overall fit		
Chi Square****	54,429		Chi Square****	575,267	
Change from block 0			Change from block 0		
Chi Square****	54,429		Chi Square****	563,033	

* Significant at .1 level
** Significant at .05 level
*** Significant at .01 level
**** Significant at .001 level

5 Significance levels are calculated based on the Wald statistic. The Wald statistic is calculated per variable via the division of the estimated coefficient (B) by the standard error (SE).

Table 8: test results for basic copy (with Embeddedness)

	Probability			Timing	
Variables	**B**	**SE**	**Variables**	**B**	**SE**
Ability			**Ability**		
Complementary Assets**	0,248	0,124	Complementary Assets***	0,054	0,018
Market Orientation	0,389	0,328	Market Orientation****	-0,222	0,053
Absorptive Capacity	Not included		Absorptive Capacity****	0,055	0,007
Entrepreneurial Behavior	0,072	0,058	Entrepreneurial Behavior****	0,050	0,011
Structural Inertia**	-3,201	1,317	Structural Inertia****	-1,689	0,329
Motivation			**Motivation**		
Attractiveness****	0,020	0,004	Attractiveness****	-0,010	0,001
Threat**	0,207	0,091	Threat***	-0,040	0,013
Competitive Behavior**	1,335	0,459	Competitive Behavior****	-1,130	0,084
Embeddedness			**Embeddedness**		
Complementary Assets x Embeddedness	-0,104	0,211	Complementary Assets x Embeddedness**	0,061	0,029
Market Orientation x Embeddedness	-0,055	0,184	Market Orientation x Embeddedness**	-0,070	0,031
Absorptive Capacity x Embeddedness	Not included		Absorptive Capacity x Embeddedness	0,042	0,031
Entrepreneurial Behavior x Embeddedness	-0,070	0,186	Entrepreneurial Behavior x Embeddedness**	-0,069	0,034
Structural Inertia x Embeddedness	0,006	0,310	Structural Inertia x Embeddedness***	0,170	0,055
Attractiveness x Embeddedness*	-0,491	0,296	Attractiveness x Embeddedness	0,041	0,036
Threat x Embeddedness**	0,617	0,249	Threat x Embeddedness**	0,084	0,038
Competitive Behavior x Embeddedness	0,145	0,163	Competitive Behavior x Embeddedness**	-0,086	0,035
Constant****	-4,777	1,217			
Overall fit			**Overall fit**		
Chi Square****	68,494		Chi Square****	611,693	
Change from block 0			**Change from block 0**		
Chi Square****	68,494		Chi Square****	605,907	

* Significant at .1 level
** Significant at .05 level
*** Significant at .01 level
**** Significant at .001 level

4.2.3 Full copy results

Table 9 and Table 10 give an overview of the test results for full copy behavior of incumbents towards online market research.

The lower Chi-square values and the lower significance levels of our variables indicate that the overall contribution of our framework to explaining the timing and the probability of full copy behavior of

incumbents is much less than for basic copy behavior. The overall contribution of our framework is again much bigger for explaining the timing than the probability of incumbents offering a full copy of online market research.

Towards the incumbent's response timing, there is a significant positive impact of Complementary Assets, Absorptive Capacity, and Entrepreneurial Behavior. A significant negative impact is noted for Structural Inertia, Attractiveness, Threat, and Competitive Behavior. These results are comparable with the results obtained for basic copy behavior, but there is no significant impact of Market Orientation for full copy. We can also notice significant effects of the moderating independent variable Embeddedness with all variables except Market Orientation. Including Embeddedness as moderating independent variable has a minor impact on variable values and their significant levels.

The incumbent's probability of offering a full copy of online market research is positively influenced by Complementary Assets, Entrepreneurial Behavior, Attractiveness, and Competitive Behavior. No significant negative and moderating impact is observed, except for a negative constant. The introduction of Embeddedness as a moderating independent variable is thus not adding value to our framework. The Chi-square is however increasing, but this is merely because of the larger amount of variables included in the model.

A further discussion of all variables and their impact follows in section 4.3.

Table 9: test results for full copy (without Embeddedness)

	Probability			Timing	
Variables	**B**	**SE**	**Variables**	**B**	**SE**
Ability			**Ability**		
Complementary Assets**	0,261	0,107	Complementary Assets****	0,181	0,039
Market Orientation	0,190	0,309	Market Orientation	-0,037	0,106
Absorptive Capacity	Not included		Absorptive Capacity****	0,076	0,009
Entrepreneurial Behavior***	0,147	0,056	Entrepreneurial Behavior****	0,137	0,023
Structural Inertia	-1,584	1,728	Structural Inertia*	-1,790	0,923
Motivation			**Motivation**		
Attractiveness*	0,008	0,004	Attractiveness****	-0,015	0,002
Threat	0,069	0,098	Threat ****	-0,173	0,038
Competitive Behavior***	1,304	0,420	Competitive Behavior**	-0,415	0,179
Constant****	-6,930	1,363			
Overall fit			**Overall fit**		
Chi Square****	35,068		Chi Square****	356,377	
Change from block 0			**Change from block 0**		
Chi Square****	35,068		Chi Square****	295,269	

* Significant at .1 level
** Significant at .05 level
*** Significant at .01 level
**** Significant at .001 level

Table 10: test results for full copy (with Embeddedness)

	Probability			Timing	
Variables	**B**	**SE**	**Variables**	**B**	**SE**
Ability			**Ability**		
Complementary Assets**	0,247	0,117	Complementary Assets****	0,242	0,049
Market Orientation	0,179	0,326	Market Orientation	-0,172	0,130
Absorptive Capacity	Not included		Absorptive Capacity****	0,086	0,014
Entrepreneurial Behavior**	0,141	0,057	Entrepreneurial Behavior****	0,141	0,025
Structural Inertia	-1,950	1,754	Structural Inertia**	-1,869	0,951
Motivation			**Motivation**		
Attractiveness*	0,008	0,004	Attractiveness****	-0,016	0,002
Threat	0,062	0,100	Threat****	-0,149	0,042
Competitive Behavior***	1,364	0,432	Competitive Behavior**	-0,460	0,190
Embeddedness			**Embeddedness**		
Complementary Assets x Embeddedness	0,112	0,160	Complementary Assets x Embeddedness****	0,250	0,068
Market Orientation x Embeddedness	-0,004	0,153	Market Orientation x Embeddedness****	-0,181	0,053
Absorptive Capacity x Embeddedness	Not included		Absorptive Capacity x Embeddedness	0,013	0,053
Entrepreneurial Behavior x Embeddedness	0,059	0,168	Entrepreneurial Behavior x Embeddedness**	0,134	0,068
Structural Inertia x Embeddedness	0,267	0,325	Structural Inertia x Embeddedness***	0,432	0,153
Attractiveness x Embeddedness	-0,141	0,284	Attractiveness x Embeddedness*	0,223	0,130
Threat x Embeddedness	-0,202	0,275	Threat x Embeddedness	-0,089	0,103
Competitive Behavior x Embeddedness	0,043	0,178	Competitive Behavior x Embeddedness	-0,004	0,073
Constant****	-6,927	1,400			
Overall fit			**Overall fit**		
Chi Square****	37,139		Chi Square****	437,575	
Change from block 0			Change from block 0		
Chi Square****	37,139		Chi Square****	331,645	

* Significant at .1 level
** Significant at .05 level
*** Significant at .01 level
**** Significant at .001 level

4.2.4 Test for completeness

We also test for completeness of the incumbent's copy behavior (cf. basic versus full copy of online market research). We do this by again running a binary logistic regression analysis. We note that only responding incumbents (either basic or full copy) are included in the completeness test.

A positive impact in our test means that a responding incumbent is more inclined to offer a full copy of online market research.

Table 11 shows that our overall fit of the empirical model for explaining the response completeness of incumbents is the lowest compared to other tests using binary logistic regression. The number of significantly contributing covariates is thus also low with only two covariates significant (at 0.05 level). The test indicates that Entrepreneurial Behavior and Competitive Behavior are significantly and positively influencing incumbents towards responding in a full copy way.

Table 11: Test results for completeness (with Embeddedness)

	Completeness	
Variables	**B**	**SE**
Ability		
Complementary Assets	0,176	0,119
Market Orientation	0,160	0,319
Absorptive Capacity	Not included	
Entrepreneurial Behavior**	0,126	0,058
Structural Inertia	-1,886	1,954
Motivation		
Attractiveness	0,003	0,005
Threat	0,035	0,108
Competitive Behavior**	1,062	0,445
Embeddedness		
Complementary Assets x Embeddedness	0,115	0,165
Market Orientation x Embeddedness	0,015	0,150
Absorptive Capacity x Embeddedness	Not included	
Entrepreneurial Behavior x Embeddedness	0,051	0,170
Structural Inertia x Embeddedness	0,405	0,357
Attractiveness x Embeddedness	-0,009	0,296
Threat x Embeddedness	-0,317	0,284
Competitive Behavior x Embeddedness	0,028	0,191
Constant****	-5,232	1,430
Overall fit		
Chi Square**	25,632	

* Significant at .1 level
** Significant at .05 level
*** Significant at .01 level
**** Significant at .001 level

4.3 Hypotheses discussion

4.3.1 Complementary assets

H1: Complementary assets that an incumbent possesses towards a business model innovation increase the probability that the incumbent copies the new business model, the later it does so, and the more complete the copy is.

Our results show that complementary assets always have a positive impact on the probability of offering a basic or full copy of online market research among incumbents. The second part of H1 is not supported by our results. It appears that complementary assets have always a significant positive effect on the incumbent's response timing, meaning that the bigger the value of complementary assets, the earlier the incumbent will respond. When testing for completeness of the incumbent's response, there was no significant effect found of complementary assets.

The results thus demonstrate that possessing complementary assets helps incumbents to deal with new business models in their industry. Incumbents that have a wide range of complementary assets not only have a higher likelihood to respond to a new business model, they also do it earlier than others.

H2: The degree of complementarity of assets has a bigger influence than the number of complementary assets on the probability, the timing, and the completeness with which an incumbent copies the new business model.

To test for H2 we used the variable peripheral Complementary Assets (See section 3.1.3.1). Peripheral complementary assets have less complementarity with online market research and are wider in range than core complementary assets (See Table 1). When testing our framework with peripheral Complementary Assets we excluded core Complementary Assets, Absorptive Capacity, and their time-averaged measures. We also excluded time-averaged Threat from the analysis. These exclusions were needed because of high correlation with peripheral Complementary Assets. We always tested excluding the moderating independent variable Embeddedness. An overview of the test results is given in Table 12.

From Table 12 we see that peripheral complementary assets have a highly positive and significant impact on an incumbent's probability and timing. There is also indication, just like with core complementary assets but to a lesser extent, that the bigger peripheral complementary assets are the more probable an incumbent will copy the new business model in a more complete way. Overall, we remark that complementary assets play a bigger role in the case of a full copy.

Table 12 also demonstrates that the probability effect of peripheral complementary assets, although they are bigger in number, is lower compared to the effect of core complementary assets. This is seen for basic and for full copy. It means that the complementarity rather than the number of complementary assets plays a bigger role in the probability of copying a new business model.

With respect to timing, we see that the number of complementary assets is more important in the advent of basic copy. The degree of complementarity is then more vital when deciding about a full copy reaction.

We conclude that part 1 and 3 of H2 are supported. The trade-off however between number and degree of complementarity of complementary assets is more ambiguous with respect to explaining the timing of an incumbent's response towards new business models.

Table 12: Overview tests for peripheral complementary assets

		Probability	Timing	Completeness
Peripheral Complementary Assets (B)	Basic copy	0,169**	0,116****	
	Full copy	0,204***	0,213****	0,178**
Core Complementary Assets (B)	Basic copy	0,276***	0,080****	
	Full copy	0,285***	0,281****	0,231**

4.3.2 Dynamic capabilities

H3: The higher the incumbent's dynamic capabilities, the more likely, the quicker, and the more complete it will respond to a business model innovation. A company's market orientation, absorptive capacity, and entrepreneurial character are key types of dynamic capabilities.

The effect of the incumbent's dynamic capabilities is supported by our results. However, only entrepreneurial behavior has significant positive effect on an incumbent's probability to respond; even bigger and more significant in case of full copy. We also note that absorptive capacity was not included in the first analyses because of high correlation with complementary assets. If we include absorptive capacity (and thus exclude complementary assets), we see however also no significant effects of absorptive capacity.

Results show that the impact of Absorptive Capacity and Entrepreneurial Behavior is positive and highly significantly supporting that higher dynamic capabilities lead to a quicker response of an incumbent. The effect is even bigger in case of full copy. We also see that Market Orientation slows down the incumbent's response, supporting our remark of the danger of a too narrowly defined market orientation of incumbents (See section 2.2.2).

In terms of completeness of the incumbent's response, we notice a significant, positive impact of Entrepreneurial Behavior (B = 0,126**). This supports H3, because a positive impact in our completeness test means that an incumbent is more inclined to adopt a full offering of online market research.

The results indicate the importance for incumbents to possess dynamic capabilities to deal with the changing environment created by a new business model in their industry. Entrepreneurship in particular seems to enable incumbents to respond swiftly.

4.3.3 Structural inertia

H4: The higher the structural inertia of an incumbent, the lower its probability of copying a new business model, the later and the less complete it does so.

Results show that the higher the structural inertia of an incumbent, the lower its probability of copying a new business model is. Significance is however only found in the case of a basic copy.

Our tests present a very strongly significant negative effect of structural inertia towards the incumbent's response timing. This means that the bigger an incumbent's structural inertia, the later it will respond towards a business model innovation.

Our completeness analysis does not give a significant result for structural inertia, but the indication is that higher structural inertia drives incumbents towards lower response completeness. Another indication for this lower completeness when having more structural inertia is that the negative impact of structural inertia is bigger in the case of a full copy than for a basic copy.

We thus find evidence that inertia hampers an incumbent's response to new business models.

4.3.4 New business model attractiveness

H5: A new business model's attractiveness has a positive influence on the incumbent's copy behavior in terms of probability, timing and completeness.

Our results show that the online market research's attractiveness has a significant positive impact on an incumbent's response behavior. The higher the attractiveness of a business model innovation, the higher the probability that an incumbent will copy the new business model.

In terms of timing we don't find support for H5 in our data. There is a very significant negative, but again very small influence of the attractiveness of online market research on response timing of the incumbent.

In our completeness test there is no significant effect of market attractiveness at all.

4.3.5 Degree of threat

H6: The greater the threat of a new business model towards the incumbent's core competence(s), the less likely an incumbent will copy the new business model but the earlier it will do so.

Our test results don't support H6, but the opposite.

The greater the threat of a business model innovation, the more likely an incumbent will copy the online offering. This is especially true for a basic online market research offering. The threat of a new business model also significantly postpones a reaction of incumbents to copy the business model innovation. These results contradict earlier findings on the response of incumbents to innovation in their industry (Mitchell, 1989).

A potential explanation for our findings is that business model innovations represent a different type of innovation than a technological innovation for incumbents to tackle. Our findings demonstrate that incumbents who are highly threatened by a business model innovation do respond to it, but respond late. This result, combined with the non significant effect of the attractiveness of the market, allow us to speculate about the process that underlies these findings. It appears that incumbents, in an effort to minimize the effect of the new business model, act as late as possible. In fact, incumbents can, by entering a new business model, provide it with additional legitimacy and accelerate its cannibalization effect. Given this, it makes sense for incumbents to delay entry.

4.3.6 Competitive behavior

H7: Incumbents are significantly influenced by incumbent market leaders in responding towards a new business model.
H8: Incumbents are not significantly influenced by newcomers in responding towards a new business model.

We see in Table 7 till 10 a very big (minimum B = 1,013**) and significantly positive effect of incumbent's copy probability being influenced by market leaders. The more market leaders copy (basic or full) online market research, the more likely and more complete an incumbent will also copy online market research, but the later it will do so.

If we test for the influence of copy behavior of newcomers we leave out Attractiveness because of high correlations, but we can still apply Competitive Behavior, because of no high correlations between market leaders' and newcomers response behavior. From our results we see that there is no effect of newcomers' response behavior on the copy completeness of incumbents towards online market research. On probability and timing of the incumbent's response, there are very small but highly significant results. The more newcomers copy the online market research business model, the more likely an incumbent will also offer online market research (B = 0,063**** for basic copy and B = 0,031* for full copy). The more newcomers however copy the online market research business model, the later incumbents will react (B = -0,032**** for basic copy and B = -0,046 for full copy).

H9: Incumbents experience a bigger imitation behavior effect among incumbents that are similar in size and/or resources.
H10: Incumbents experience a bigger imitation behavior effect among incumbents that have similar complementary assets.

Our results for probability tests show that there is a very small but significantly positive imitation behavior based on similarity in size (B = 0,017** for small agencies and B = 0,024** for larger agencies) and complementary assets (B = 0,021*** for low complementary assets and B = 0,022** for high complementary assets). This significant effect occurs only in the advent of a basic copy of online market research and is much smaller than the imitation effect based on market leaders' behavior (cf. minimum B = 1,013).

In terms of timing we see a very small but significantly negative imitation behavior effect for incumbents similar in complementary assets especially in the advent of a full copy (B = -0,012** for low complementary assets and B = -0,013** for high complementary assets). This effect is very weak in comparison with the highly negative imitation effect based on market leaders' copy response (cf minimum B = -0,415**).

H9 and H10 are thus not supported by our dataset.

4.3.7 Embeddedness

H11: Embeddedness has significant effects as moderating variable and no or less significant effects as a direct independent variable.

Table 7 and Table 10 indicate that there are significant effects of Embeddedness as a moderating independent variable especially for the timing of incumbents to respond towards online market research. The biggest significant effect (positive) is of Structural Inertia x Embeddedness meaning that embeddedness decreases the negative effect of structural inertia. When testing for embeddedness as a direct independent variable for probability, timing, and completeness of an incumbent's reaction towards online market research, we find not any significant effect.

The moderated effect of Threat on the probability of responding is very large for a basic copy (B = 0,617**) when we include Embeddedness as a moderating independent variable. This means that the more embedded or the older a market research agency is, the less a threat towards the existing market offering triggers the agency to respond. The moderating effect however is not found significant for a full copy of online market research.

5.1 Two golden questions

There are three basic strategic options for incumbents when confronted with an upcoming new business model: no reaction, basic copy of the new business model, or full copy (cf. complete imitation). The type of reaction and the appropriate timing is driven by two strategic questions: “Am I able to do it?” and “Why should I do it?”

Companies should ask themselves those two questions before deciding if, how, and when to react.

5.2 The ability to respond

If incumbents want to be able to increase their responsiveness towards heavily changing environments and deal effectively with new business models, they should monitor and manage their complementary assets, dynamic capabilities, and structural inertia.

Incumbents should assess their complementary assets and manage them. Results indicate that the possession of complementary assets helps incumbents to deal with new business models in their industry. Incumbents that have a wide range of complementary assets not only have a higher likelihood to respond to a new business model, they also do it earlier than others. However, it is not always needed to have a high number of complementary assets. The degree of complementarity of an incumbent’s assets towards a new business model has even more importance in terms of response likelihood and completeness. Incumbents that have assets highly complementary with the business model innovation respond more quickly than others in a complete way.

Important to note is that we could speculate (further research here is needed) that the degree of complementarity and the number of complementary assets is key in the incumbent’s management of complementary assets. Number and complementarity of assets could thus be seen as two axes of a decision matrix used in the management of complementarity assets.

Results also show the importance of building up dynamic capabilities (especially entrepreneurial behavior) and avoiding structural inertia to respond timely to changing business models. This pleads for flat and entrepreneurial organizations.

5.3 The motivation to respond

The motivation of incumbents to react is especially motivated by competitive behavior. However, results also seem to let us speculate that an interaction between threat and market attractiveness could be a defendable argument for incumbents to delay action. This interaction could be e.g. that a copy creates increased legitimacy which could decrease threat, and that in turn could increase attractiveness. This creates again increased copy, etc.

Organization imitation behavior is not new and certainly not gone. Results demonstrate that incumbents are heavily watching incumbents with market leadership rather than incumbents similar

in size and/or complementary assets. Newcomers are not ignored by incumbents, but don't have much motivation influence either.

Results however indicate that incumbents have, next to pointing the finger towards competitors, other possibilities to motivate certain response types. These possibilities include indications of the attractiveness and threat of a new business model. Apart from the monitoring of competitors, it is therefore important for incumbents to investigate the attractiveness of a new business model and the threat it poses.

5.4 Further research

Although we built up a unique dataset covering 17 years of industry knowledge and response behavior, we acknowledge that there is still work to do in terms of cross-country analysis and in terms of coupling performance-related data with the existing dataset. Especially the relationship of response behavior with performance-related outcomes is highly interesting to further investigate.

Also further investigation and refinement of the empirical model over more industries and countries is needed to untangle the specific nature of the drivers behind strategic response behavior in the advent of business model innovations. There is already clear indication (See section 4.3.5) that different effects can be expected in the advent of technological innovation versus business model innovation.

We also remark that entrepreneurial behavior appears to be the most robust type of dynamic capabilities we defined in our conceptual framework. Further research and thorough conceptualization and measurement of other types of dynamic capabilities like market orientation and absorptive capacity is certainly needed. This research is not only to better understand the concept of dynamic capabilities and the different types, but also to be able to measure and steer these types of dynamic capabilities.

6 ACKNOWLEDGEMENTS

We would like to express our sincerest thankfulness towards Flanders District of Creativity for the financial support to make this research study possible.

Also ESOMAR helped us a lot in building up our longitudinal dataset covering 17 years of unique industry data, and in understanding the market research industry by providing us with their market and price studies.

A last word of gratitude towards Ludovic Depoortere (ROGIL field research), Tim Rofessart and Stijn De Rammelaere (PROFACTS), and Niels Schillewaert and Kristof Dewulf (INSITES Consulting) for their qualitative insights and feedback.

Articles:

Armstrong, Craig E. and K. Shimizu, (2007) "A Review of Approaches to Empirical Research on the Resource-Based View of the Firm", *Journal of Management*, December, 959-986.

Baker, R., (2008) "A web of worries", *Research World,* June, 8-11.

Barney, J.B., (1991) "Firm resources and sustained competitive advantage", *Journal of Management*, 17, 99-120.

Barr, Pamela S., Anne S. Huff, (1997) "Seeing isn't believing: understanding diversity in the timing of strategic response", *Journal of Management Studies*, 34, 3, 337-370.

Bass, F., (1969) "A new product growth model for consumer durables", *Management Science*, 15, 215-227.

Boeker, W., (1997) "Strategic change: the influence of managerial characteristics and organizational growth", *Academy of Management Journal*, 40, 1, Febuary, 152-170.

Burt, Ronald S., (1987) "Social Contagion and Innovation: Cohesion versus Structural Equivalence", *American Journal of Sociology*, 92, 1287-1335.

Chandrashekaran, Murali, Raj Mehta, Rajesh Chandrashekaran, and Rajdeep Grewal, (1999) "Market Motives, Distinctive Capabilities, and Domestic Inertia: A Hybrid Model of Innovation Generation", *Journal of Marketing Research*, 36, 1, 95-112.

Chandy, Rajesh K. and Gerard J. Tellis, (2000) "The Incumbent's Curse? Incumbency, Size, and Radical Product Innovation", *Journal of Marketing*, 64, 3, 1-17.

Charitou, C. and C. Markides, (2003) "Responses to Disruptive Strategic Innovation", *Sloan Management Review*, 44, 2, 55-63.

Christensen, C.M., M.W. Johnson and D.K. Rigby, (2002) "Foundations for Growth", *Sloan Management Review*, Spring, 22-31.

Debruyne, M. and David J. Reibstein, (2005) "Competitor See, Competitor Do: Incumbent Entry in New Market Niches", 24, 1, Winter, 55-66.

Debruyne, M. and M. Schoovaerts, (2006) "Innovation outside the lab: Strategic innovation as the alternative*". FDC Research Report*, October.

Dutta, S., O. Narashimhan and S. Rajiv, (2004) "Conceptualizing and measuring capabilities: methodology and empirical application", *Strategic Management Journal,* 26, 277-285.

Hannan, M.T. and J.H. Freeman, (1984) “Structural inertia and organizational change”, *American Sociological Review*, 49, 149-164.

Haveman, H.A., (1993) “Follow the leader: Mimetic isomorphism and entry into new markets”, *Administrative Science Quarterly*, 38, 593-627.

Helfat, Constance E., (1997) “Know-how and asset complementarity and dynamic capability accumulation: the case of R&D”, *Strategic Management Journal,* 18, 5, 339-360.

Kelly, D. and T.L. Amburgey, (1991) “Organizational inertia and momentum: a dynamic model of strategic change”, *Academy of Management Journal*, 34, 3, 591-612.

Kennedy, Robert E., (2002) “Strategy fads and competitive convergence: an empirical test for herd behavior in prime-time television programming”, *The Journal of Industrial Economics*, L, 1, 57-84.

Kiesler, Sara and Lee Sproull, (1982) “Managerial Response to Changing Environments: Perspectives on Problem Sensing from Social Cognition”, *Administrative Science Quarterly*, 27 ,4, 548-570.

Kim, W.C. and R. Mauborgne, (1997) “Value Innovation: The Strategic Logic of High Growth”, *Harvard Business Review*, January-February, 103-112.

King, Andrew A. and Christopher L. Tucci, (2002) “Incumbent Entry into New Market Niches: The Role of Experience and Managerial Choice in the Creation of Dynamic Capabilities”, *Management Science*, 48, 2, 171-186.

Kraatz, Matthew S., (1998) “Learning by association? Interorganizational networks and adaptation to environmental change”, *Academy of Management Journal*, 41, 6, 621-643.

Markides, C., (1997) “Strategic Innovation”, *Sloan Management Review*, Spring, 9-23.

Markides, C., (1998) “Strategic Innovation in Established Companies”, *Sloan Management Review*, Spring, 31-42.

Markides, C., (2006) “Disruptive Innovation: In Need of Better Theory”, *Journal of Product Innovation Management*, 23, 19-25.

Matthyssens, P., K. Vandenbempt and Liselore Berghman, (2006) “Value innovation in business markets: Breaking the industry recipe”, *Industrial Marketing Management*, 35, 6, 751-761.

Mitchell, W., (1989) “Whether and When? Probability and Timing of Incumbents’ Entry into Emerging Industrial Subfields”, *Administrative Science Quarterly*, 34, 208-230.

Mitchell, Will, (1991) “Dual clocks: entry order influences on incumbent and newcomer market share and survival when specialized assets retain their value”, *Strategic Management Journal*, 12, 85-100.

Moore, Geoffrey A., (2004) “Innovating Within Established Enterprises”, *Harvard Business Review*, July-August, 86-92.

Narasimhan, Chakravarthi and Z. John Zhang, (2000) “Market Entry Strategy Under Firm Heterogeneity and Asymmetric Payoffs”, *Marketing Science*, 19, 4, 313-327.

Newbert, Scott L., (2007) “Empirical research on the resource-based view of the firm: an assessment and suggestions for future research”, *Strategic Management Journal*, 28, 121-146.

Porac, Joseph F. and Thomas, Howard, (1990) “Taxonomic Mental Models in Competitor Definition”, *Academy of Management Review*, 15, 2, 224-240.

Ray, Sougata and K. Ramakrishnan, (2006) “Resources, Competences and Capabilities Conundrum: A Back-To-Basics Call”, *Decision*, 33, 2, July-December.

Rothaermel, Frank T. and Charles W.L., Hill, (2005) “Technological Discontinuities and Complementary Assets: A Longitudinal Study of Industry and Firm Performance”, *Organization Science*, 16, 1, January-February, 52-70.

Teece, David J., (1986) “Profiting from technological innovation: Implications for integration, collaboration, licensing and public policy”, *Research Policy*, 15, 285-305.

Teece, David J., Gary Pisano and Amy Shuen, (1997) “Dynamic capabilities and strategic management”, *Strategic Management Journal*, 18, 7, 509-533.

Teece, David J., (2007) “Explicating dynamic capabilities: the nature and microfoundations of (sustainable) enterprise performance”, *Strategic Management Journal*, 28, 1319-1350.

Wernerfelt, Birger, (1984) “A Resource-based View of the Firm”, *Strategic Management Journal*, 5, 2, p171-180.

Books:

Hamel, G., (2000). *Leading the Revolution*. Harvard Business School Press, Boston.

Kim, W.C. and R. Mauborgne. (2005) *The Blue Ocean Strategy.* Harvard Business School Press, Boston.

Lingeman, H. and M. Berntsen, (2004). *Online Marktonderzoek. Kluwer, Amsterdam.*

Rogers, Everett M., (1962). *Diffusion of Innovations.* Free Press, New York.

FLANDERS DC
INSPIRING CREATIVITY

Knowledge partner

Vlerick Leuven Gent Management School

the Autonomous Management School of
Ghent University and Katholieke Universiteit Leuven

ISBN-NUMMER : 9789078858003