

# Towards a Benefit-based Framework for Understanding Business to Business Services and its impact on Contract and Capability

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## Abstract

This paper discusses the inseparability characteristic in business to business (B2B) services. In the first proposition, we argue that four types of uncertainties arise due to the inseparability of purchase and consumption. This brings about valuation risk at point of consumption that, in turn, has a crucial impact at the point of contracting and pricing. In the second proposition, we elaborate on the dynamics of co-creation of value by the customer and the firm and propose a benefit-based framework for a revised understanding of service capability and an end-to-end visualization of service that may be applicable to solutions-oriented B2B service contracts.

*Key Words:* B2B, services, inseparability, co-creation of value, pricing, contracting.

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## Introduction

Growth in business to business (B2B), particularly in the e-commerce area, has been very much fuelled by technology and the growth in services (Kinney, 2002). Services now account for about 70% of aggregate production and employment in OECD economies.<sup>5</sup> This sector also comprises some of the world's largest corporations who are major buyers and users of advanced technology and who are the most active innovators, facilitating a major re-engineering of a growing number of firms across all sectors of the economy. In the B2B arena, service firms are a major stimulant to productivity and efficiency, and through e-commerce, are having a catalytic effect in accelerating changes that are already underway in the economy.<sup>6</sup> Indeed, B2B services have experienced the fastest growth (Fitzsimmons et al., 1998), surpassing 1 trillion US dollars according to some estimates.<sup>7</sup> In the UK, AIM research has shown that business services account for 50% of UK job growth over the last 20 years (Abramovsky, Griffith and Sako, 2005).

Despite the growth of the service economy, research in service has lagged behind, particularly in B2B services. We posit that this may be due to the lack of consensus in determining the nature of service, and the lack of research in examining fundamental characteristics of service and its impact on organizations.

Our paper begins by proposing a possible way forward where we distinguish between service as a context and service as a concept, with the latter comprising activities, deeds, performances and processes exhibiting IHIP (intangibility, heterogeneity, inseparability, and perishability) characteristics that deliver some value to customers, consistent with extant literature and the American Marketing Association (AMA)'s definition. Service

<sup>5</sup> Wölfl, A. (2005), "The Service Economy in OECD Countries", STI Working Paper 2005/3, OECD, Paris.

<sup>2a</sup> "The Service Economy, Final Report of the Business and Industry Policy Forum on Realising the Potential of the Service Economy", OECD Business and Industry Policy Forum Series. Paris, France. 2000

<sup>7</sup> The Economist, 2004

as context, on the other hand, would refer to a bundle of services (of the SaC variety) and goods in a continuum of tangibility-intangibility, perishability-durability, separability-inseparability and heterogeneity-homogeneity. These are often described in contextual/industry terms e.g. hospitality, health care, transportation, financial, telecommunication, lawn care, car repair services. Our study investigates one particular characteristic, that of inseparability and its impact on B2B service contract and capability.

In the first section, we argue that inseparability impacts on contracting due to uncertainties associated with the separation of purchase and consumption. First, an experiential and heterogeneous service promised to be delivered at a future time creates uncertainty in contracting at present time. Second, a B2B service includes not only a buying/selling centre, but also a consuming/delivery centre. Hence, the customer is not merely one, but several individuals or teams; what we term as the consuming community. The service value delivered to the consuming community would therefore have an impact on the buying community at the contracting stage. Third, the customer may not be able to predict *when* the service may be needed in the future, which leads to further uncertainty at contracting due to the state dependency of service value. Finally, the expected value of the future service may be discounted by the customer at the contracting stage, much like discounted cash flows. These four types of uncertainties will then lead to valuation risk (Ng, 2008), which we embody in a proposition that defines the present value of the service to the customer at the contract stage.

In the second section, we propose that inseparability implies the co-creation of value by both the firm and the customer in service encounters. The study also argues for a distinction between benefit and value and defines benefit as the outcome of the co-creation of value, and proposes that not all co-creation result in the highest possible benefit to the customer. A benefit-based model is proposed that links co-creation, benefits and price, providing an end-to-end visualization of the goods-service offering from contract to delivery. A discussion of the model ensues and we locate the function of service within a goods-service offering. We then present a way to re-think capability and satisfaction based on the model presented. The paper

concludes with a discussion on the study's managerial implications and the next step in empirically verifying the framework.

### **Development of Service Research**

Defining the nature of service has been a challenge to researchers. Early work by Baker (1981) highlighted that while there seemed to be a widespread consensus on the importance of services, precise definitions are difficult, owing to the varied nature of service industries. Most service definitions surround the idea of "activities" or "processes" and the word "service industry" is widely used to denote an industrial sector that "do(es) things for you, they don't make things" (Silvestro and Johnston 1990, p. 206). Current literature in service seems to suggest that the term "services" is still without a definition that is generally accepted (Blois 1974, Minter 1982, Lovelock 1983, Drechsler 1990, Gronroos 2001, Vargo & Lusch 2004).

Early researchers such as Rathmell (1966) made a fundamental distinction in considering a good as a thing (noun) and a service as an act (verb). The former was an object whereas the latter was a deed or an effort. He further explained that products were located along a goods-service continuum, with pure goods at one end and pure services at the other, but with most products falling between these two extremes. Mitchell and Greatorex (1993) on the other hand, argued that goods and services are different but "what there is less agreement about is the way in which they differ and the extent to which these differences are relevant and significant from a marketing perspective" (p.179). This view is not ubiquitous as there are still considerable differences in opinion as to whether goods and services are fundamentally distinct (Bateson 1977; Judd 1964; Lovelock 1980; Uhl and Upah 1983; Wyckham, Fitzroy, and Mandry 1975).

Notwithstanding the lack of agreement, it has long been recognized that there is an important interdependence between services and goods, with most services requiring physical goods to support and facilitate the delivery system (Greenfield 2002; Rathmell 1974). Shostack (1977) implied that there are very few pure goods or pure services. Most attempts had been made to differentiate services and goods on one or more dimensions ultimately arriving

at a continuum (Bell 1981, Liechty and Churchill 1979, Rathmell 1966). Levitt (1981) also suggested that there was considerable overlap between services and goods, and Storey & Easingwood (1998) used the term “service product” to describe the bundle of services and products offered to meet the requirements of the customer for the particular service. A contemporary definition by Kolter et al. (1996) stated that “a service is any activity or benefits that one party can offer to another which is essentially intangible and does not result in ownership of anything”. Along similar lines, the AMA’s definition of service places emphasis on two aspects of services. First, they associate services to “activities” or “processes” that are performed by the seller. This definition is similar to “deeds, acts or performances” as suggested by Berry (1980) and Zeithaml & Bitner (1996) and also echoed by Gronroos (2000) who describes services as “an activity or series of activities provided as a solution to customer problems”. Second, the AMA also defines services by underlining its characteristics such as the degree of intangibility, heterogeneity, inseparability and perishability.

Such characteristics have been acknowledged as the most accepted characteristics in an overview by Edgett and Parkinson (1993) encompassing 106 publications from 1963-1990, as well as by an earlier work of Zeithaml et al. (1985). These are now commonly found in service textbooks, and are collectively known as “IHIP” (Lovelock 1999, Zeithaml et al 2006, Ng 2007). Although services generally display the IHIP characteristics, there is also literature that heavily criticizes these characteristics, citing service industries that have tangible outputs (e.g. software), are not inseparable in production and production (car repair) or are not fully perishable (recorded lectures) (Lovelock & Gummesson 2004; Johns, 1999; Edvardsson, Gustafsson and Roos, 2005).

Recently, service research has had greater success in finding consensus. A number of scholars (Gummesson 1995; Kotler 1997) have proposed that both goods and services render service, consistent with Shostack’s (1977) earlier question on whether automobiles are actually “tangible” services. Storey and Easingwood (1998) also observed that the importance of physical products lie not so much in owning them, as in

obtaining the services they render. Gummesson (1994, p.2) proposed that “customers do not buy goods or services in the traditional sense. They buy an offering and the value (may) consist of many components, some of them being activities (services) and some being things (goods). As a consequence, the traditional division between goods and service is long outdated”. It is not surprising that most goods businesses now view themselves primarily as services, with the good being an important part of the service (Rust 1998).

Vargo and Lusch (2004), in proposing the service-dominant logic in marketing, claimed that goods are appliances used in service provision, and goods and service have a nested relationship. They defined service as the application of specialized competences (skills and knowledge), through deeds, processes, and performances for the benefit of another entity or the entity itself (self-service) (see also Gronroos 2000 for a similar conceptualization). They suggested that economic exchange is fundamentally about service provision; in short, everything is a service. Similarly, Prahalad & Ramaswamy (2000) noted that appliances are “artifacts around which customers have experiences”. Such an understanding of service echoes early literature (e.g. Norris, 1941) that concluded that “goods are wanted because they are capable of performing services” (p.137) and Levitt’s (1972) prescient claimed that “everybody is in service”.

*Service as Concept vs Service as Context.* Our synthesis of the above academic literature illustrates the difference between what we term service as context (SaX) and service as a concept (SaC). We define service as concept as that of activities, deeds, performances and processes exhibiting IHIP characteristics that deliver some value to customers, consistent with extant literature and AMA’s definition. Service as context, on the other hand, would refer to a bundle of services (of the SaC variety) and goods in a continuum of tangibility/intangibility, perishability/durability, separability/inseparability and heterogeneity/homogeneity and which are often described in contextual/industry terms e.g. hospitality, health care, transportation, financial, telecommunication, lawn care, car repair services etc. By defining service as a concept separately from service as a context, we aim to locate the confusion that has arisen from much of the conflicting research in services so as to

move research in services forward. In addition, service as a concept also distinguishes itself from tangible goods so that better progress could be made in researching the relationships between them. This does not mean that we consider service as a concept different from goods. Instead, our proposal implies that our treatment of service is that of an IHIP product (or goods as more tangible, consistent, durable and separable products, depending on your vantage point), in agreement with early researchers who argue that “products” (be they goods or services) have inherent characteristics such as IHIP which is more relevant to research (Wykham et al 1975, Enis & Roering 1981). Investigating characteristics are, in our opinion, far more effective in advancing research in service, particularly when researching B2B of manufacturing and engineering systems where goods and services are weaved in a complex manner. In combination, goods and (SaC) services, by service-dominant logic, propose value to the customer. From here on, our reference to ‘service’ would denote that of the SaC variety. With a clearer theoretical exposition of service and goods, we now turn towards its manifestation in the B2B area.

### **B2B Service & B2B Goods**

Business-to-business (B2B) transacting is currently experiencing phenomenal growth. From procurement and outsourcing to information processing and consultancy, businesses are working together more than ever before, buying from each other and collaborating for innovation and sustainable market advantage. The rapid growth is a reflection of organizations’ tendencies towards outsourcing, “renting” services from independent providers rather than producing them from in-house (Wilson and Smith, 1996). The make-or-buy decision is a major issue in many modern organizations (Jackson et al., 1995) and firms have to constantly reassess when to produce their own services and when to buy them (Fitzsimmons et al., 1998). Indeed, many firms have found that specialized companies can now handle their internal services, for example, accounting, legal, recruitment or even R&D, much more effectively than if they were to do it themselves (Tschetter, 1987). With the advent of greater innovation in technology and as



national economies become more open to one another, this trend is set to grow.

The body of work in the general B2B marketing domain (be it goods or service) is well established. It investigates the nature and scope of business markets (e.g. Fill and Fill, 2005; Ulaga, 2001), the importance of relationships (Cannon & Perrault Jr, 1999; Dwyer, Paul & Oh, 1987; Möller and Halinen, 1999), organizational buying behaviour (Sheth, 1996; Webster & Wind, 1996), channel organization, structure and networks (e.g. John, 1984; ), critical success factors (e.g. Eid, Trueman and Ahmed, 2002), and management strategies (e.g. Webb, 2002). Related to this is the literature on channel management (e.g. Coughlan et.al., 2001) and Transaction Cost Economics (e.g. Klein, Frazer and Roth, 1990; Heide and John, 1990). In B2B service literature, Jackson and Cooper (1988) found that business services often need to be customized to meet an organization's needs and that they are also more complex (Jackson et al., 1995; Stock and Zinszer, 1987; Fitzsimmons et al., 1998). Attempting to classify B2B services, Aljian and Farrell (1982) found that business services can be defined as four types; professional, facilities & equipment-related, personnel-related & labor and craft services whereas Dobler et al. (1992) suggest three different categories of services; personal, equipment processing and employee-related services. Similarly, Jackson et al. (1995) divide business services into two categories: maintenance, repair, and operation (MRO) services and production service while Boyt and Harvey (1997) classify industrial services into elementary, intermediate and intricate services.

Notwithstanding these works, there aren't many studies that examine fundamental B2B issues arising from the service concept i.e. the interactive, experiential and process-dependent nature of a service with IHIP characteristics, particularly from the perspective of benefits to the customer and how to deliver it (Goldstein et. al., 2002). The existing literature often examines B2B issues within a service *context*, rather than understanding the impact of the service *concept* on the fundamental goods-centred principles (e.g. Zahay and Griffin, 2004). For example, Halinen, (1997) investigates advertising services while Levinthal and Fichman (1988) studied auditing



services, both of which are within a service *context*. While there is merit in contextual studies, such studies may not contribute substantially towards an understanding of services at a theoretical and abstract level, which is necessary for service industries to learn from one another.

There are however, some notable exceptions. Axelsson and Wynstra (2002) found that when compared to goods, service characteristics (IHIP) complicate the purchasing process. The lack of tangibility makes the attributes of service available to buyers vague or ambiguous (Stock and Zinszer, 1987). Buyers are unable to understand precisely the content of the service in advance of the purchase whereas goods are easier to specify. In addition, evaluating the quality of services is often more frustrating than evaluating goods. The latter is tangible so it could be inspected and examined over time (Jackson et al., 1995). According to Fitzsimmons et al., (1998), the intangible nature of services makes it difficult to evaluate the vendor as well. Even after the delivery, it is hard to judge whether services meet the expectations because they are not subjected to close scrutiny (Fitzsimmons et al., 1998). Finally, organizational buyers are more likely to emphasize the interpersonal relationship between buyer and seller in their attempt to evaluate services (Jackson et al., 1995).

Following the previous section's exposition on service and goods characteristics, we now explain our understanding of B2B service as opposed to B2B goods. B2B service is one where much of the value proposed by the firm is delivered through activities, processes, performances i.e. *service*, while B2B goods is one where the value proposed by the firm is delivered through a tangible good. The sale of tractors would be a B2B goods transaction, while the service support and maintenance of tractors would be that of a B2B service. The service dominant logic would claim that all products, be they goods or services, would still deliver service (Vargo and Lusch, 2004). Hence, what is a B2B good and a B2B service is a matter of degree of service provision through services and goods. However, we maintain a theoretical (and admittedly naïve) distinction for a few reasons.

First, we are interested to understand the more fundamental characteristics of services that could impact upon how organizations conduct

their activities particularly in contracting, managing and understanding risk, capabilities and innovation, and how service-focused activities may complement or conflict with tangible goods-focused activities when brought together in a package offering such as the case of complex engineering services. In other words, we aim to understand services and goods on their own qualities, before understanding how they are brought together to render value to customers. This is important because the shift of focus towards service needs to be examined at a theoretical level so as to understand what is useful about service logic and yet not neglect the value of a goods-centred view (Brodie, Pels and Saren, 2006).

Second, Vargo and Lusch's (2004) service-dominant view identifies operant resources i.e. resources that are invisible and intangible such as information, knowledge and skills, as key to competitive advantage. Such resources are often found tacitly in organizations that offer both goods and services. Understanding where 'the service' is being located amongst a goods-oriented system would help locate and develop such resources to help the organization grow its service offerings. By doing so, we would be better able to identify how services could be scaled for efficiency and greater profitability.

Finally, while the service-centred view is a useful theoretical abstraction using the service-dominant logic or any other logic, operationalizing it in companies would be a challenge (Duncan and Moriarty, 2006; Shugan, 2004). Hence, the start of evolving from a goods-centred view to a service-centred view, what we would term as service transformation, is to understand the tacit manifestation of service characteristics in traditional goods-dominant processes and systems. It is also important for this understanding to be at an abstract level to facilitate the transfer of knowledge across diverse service industries.

To illustrate our argument, we provide an example of where a product that has originally been sold as a good has evolved into a service. The Microsoft Windows operating system was originally more of a 'good'; it was a software CD that came in a box and required the client to install and use. Today, the Windows operating system is sold more as a service (commonly

termed *software as service* in the industry (Dubey and Wagle, 2007)), where the CD enables the client to upload a small programme onto a PC that in turn allows Microsoft to communicate and interact with the customer through the internet over time, i.e. delivering the *service* of an operating system throughout its installed life.

Clearly, the mode of delivering value has changed (even though the benefits could be the same, or better) as it now includes the service encounter between client and firm over a period of time, while previously the client was left alone by the firm after purchase. However one chooses to understand how the value is created, whether service, goods, resource or any other logic, it is therefore important to understand the role that the IHIP characteristics of a service play in the delivery of value, amidst goods-oriented practices prevalent in organizations today.

In understanding service as a concept, and acknowledging its IHIP characteristics, we now investigate the implications of *one* such characteristic, that of *inseparability*, which we claim has a critical impact on B2B services.

### **Impact of Service Inseparability on B2B Contracts and Pricing: Separation of Purchase and Consumption**

The main difference between the purchase of service as opposed to the purchase of tangible goods is the fact that services have two parts to the exchange that involves the firm – the *purchase* and the *consumption* – and both may be separated over a meaningful length of time (Ng, 2007, 2008; Shugan and Xie, 2000, Xie and Shugan, 2001). With goods, the state of consumption is in the hands of the buyer, and the firm is often not present nor is it usually responsible for it, e.g. a consumer using a barbecue set that has been purchased much earlier. However, unlike a piece of equipment, a service cannot be inventoried by the buyer before consumption, since it has not yet been produced (the inseparability characteristic). Hence, buyers cannot buy a service and keep it with them until the time they wish to consume. This means that the inseparability of consumption and production adds a complex dimension to *the value* of the service at the *point of*

*consumption/production*, and this in turn has a huge impact on how it should be priced and contracted at *the point of purchase*.

Furthermore, *the time* of consumption is often a factor in service delivery and value. For example, buyers who buy flight tickets in advance have to inform the airline of their date of travel. This seems straightforward enough and the price could be set by the airline on that basis, and accepted by the buyer. However, a buyer engaging a divorce lawyer also purchases the service in advance but the value may be uncertain, depending on whether there is an amicable settlement or if the case goes to court. The same goes for a B2B buyer who purchases a 5-year or 10-year service support and maintenance programme.

From the perspective of contracting, the impact of the separation between purchase and consumption creates uncertainty in how the service would be valued at the point of contracting. This uncertainty has to be understood in four parts.

First, the uncertainty rests in the value the client hopes to obtain when the service is consumed/delivered at a later date. Arising from the experiential and heterogeneous nature of service, the higher level of uncertainty from consuming services has been extensively discussed in academic literature. Researchers have suggested that the consumer's searching behavior for goods or services is motivated in part by risk and their ability to acquire relevant information with which purchase uncertainty can be addressed (Bauer 1960, Cox 1967). In distinguishing the differences between perceived risk in the purchase of services and in the purchase of goods, Murray (1991) explored the concept that consumers use information sources in a distinctive way to reduce the uncertainty associated with services. Evidence suggests that by their underlying characteristic nature (heterogeneity and inseparability), services may be perceived to be particularly risky (Guseman 1981, Murray and Schlacter 1990). In addition, the co-creation of value for service delivery/consumption may implicitly involve both the customer and firm, resulting in heterogeneity of service not entirely under the control of the firm. For example, if a radar needs to be serviced but the ship is delayed returning to dock, the firm would have greater difficulty delivering on its promise. Hence,

the heterogeneous conduct of the interaction lends greater uncertainty to the value at the contract stage. Co-creation of value will be elaborated in greater detail in the next section of this paper.

Second, B2B goods literature has had multiple discussions on buyer behaviour. It is commonly accepted that the B2B buying decision process would include a buying centre and a selling centre whereby the buying centre includes all those within the customer organization that has an influence over the buying decision e.g. purchasing manager (who sources for suppliers), engineer (who proposes the specification), the financial controller (who decides on payment terms). Conversely, the selling centre includes those in the selling organization who assist in the sale e.g. the accounts executive, the technical manager, etc. (Sashi and Kudpi, 2001). In B2B services, due to the separation of purchase and consumption, there is not only a buying centre but also a consuming centre. Similarly, there is not only a selling centre but a delivery centre. This implies that service delivery is not merely directed towards one person within an organization, but towards several individuals. The consuming community has an influence on the buying centre at the contracting stage, but it is a challenge to understand what is *value* for each member of the consuming community as well as *how* their individual perceptions of value would have an impact on the contract.

Third is the uncertainty of value attached to the state dependency, or situational nature of the customer's needs. For example, customers may not know when they need to make a phone call. Similarly, in the defence industry, it may not be possible to predict when an aircraft needs to be deployed. When customers need to contract on a value that is in the future and they are unsure *when* they would value such a service, their needs and their value for the service are termed as situational or *state dependent* (c.f. Karni, 1983; Fishburn, 1974; Cook and Graham, 1977). This creates uncertainty to *both* the customer and the firm at the contracting stage. Often, firms contract the service based on availability e.g. an availability contract in the defence industry or a monthly contract for telecommunication. In such cases, *both* the delivery *and* the availability of the service become part of the service offering. While organizations may be aware of the former and could price/contract

accordingly, it is often a challenge to contract/price on the latter as *availability is of value to the customer even if the actual service does not get consumed*. Even if the contract is for service delivery at a particular future time, the consumption (and hence the value) is still state-dependent as the customer may not need the service it has contracted for at that time. For example, clients could purchase engineering support services for one year but if all the equipment is functioning well, this service may not be consumed at all. Expected non- or lower-value consumption will have implication at the point of contracting, particularly for B2B services. While service-dominant logic will argue that the equipment and the support service would be rendering the same service (and more consistently so), it is clear that the processes and systems to deliver the equipment and the service are not the same and indeed, in the goods-dominant world, they are also often not contracted on the same basis.

Finally, the expected value delivered by the firm at some future time may be discounted at the contracting stage, much like future cashflows would need to be discounted to present time. In other words, customers would reduce their valuation of the service because they may not be able to project how much they might need the future service at the present time. How does the customer discount future value? How are such risks shared at contracting stage? What mechanisms could be included for risk sharing? More importantly, what strategies are available to the firm to prevent the customer from over-discounting the future value of the service? There has been very little research in this area. Ng (2007) proposed the use of refunds for non-consumption of future service as an actuarial mechanism to stimulate demand at the present but clearly, any strategy that reduces customers' discount on future service value would help in the firm's ability to derive a higher price for the contract. Interestingly, taking this point to its logical conclusion, the value of the service is not merely about the ability of the firm to deliver the service, but about how much the customer would discount that value due to the separation of purchase and consumption.

The four uncertainties mentioned above contribute to what we term as *valuation risk* to the customer. This means that customers run the risk of

purchasing a service that, at consumption, would lead to a value lower than what they had anticipated, and on which they had based their purchasing and contracting decision.

This leads to the following proposition:

*Proposition 1: At contracting stage, the value that is of importance for the contracting and pricing of the service rendered is the present value of the expected benefit of the service to be delivered at some future time  $t$  and where the expected benefit of the service delivered at that time is co-created, state-dependent and delivered across the customer community i.e.*

$$\text{Expected Present Value (EPV)} = \frac{E[B(\theta_t, V_t(v_f, v_c))]}{(1 + \bar{r})^t}$$

Where:

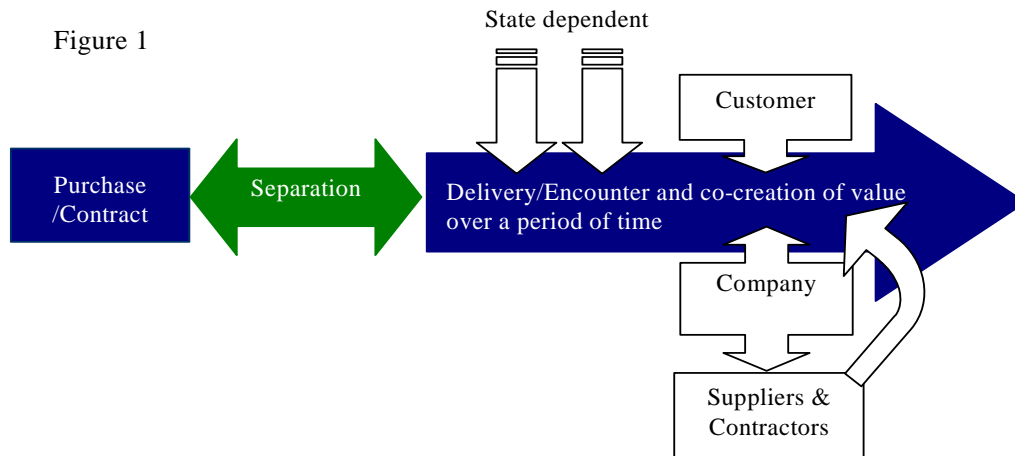
$\bar{r}$  = the discount rate (which is an  $n$ -dimensional vector dependent on customer's degree of risk aversion and customer's ability to project their needs)

$E[B(\theta_t, V_t(v_f, v_c))]$  = the expected benefit of the full service to be contracted on  $(V_t)$  that is uncertain due to state-dependence  $\theta$ , heterogeneous and experiential co-creation of value by the firm and customer ( $V_t$  as a function of  $\bar{v}_f$  and  $\bar{v}_c$ ) and where  $\bar{v}_f$  and  $\bar{v}_c$  denote the  $n$ -dimensional vector of co-created value propositions across the consuming and delivering community.

A diagram illustrating the separation of purchase and consumption is seen in Figure 1 (below)



Figure 1



### Impact of Service Inseparability on B2B Contracts and Pricing: Co-creation of Value

Proposition 1 suggests that the expected (not present) value of a firm's product offering is a function of state dependence and the co-created value of both the firm and the customer. We now turn towards a discussion on that co-creation.

When contracted to sell a tangible good, the benefit from the good is often derived by the buyer without any involvement of the selling firm (as is the case with consumer goods e.g. using software or a DVD player). This is why the exchange of goods is often viewed as transactional rather than relational (Bridge, 2005) i.e. the firm's responsibility often ends at purchase, leaving the buyer to consume whenever s/he wishes. State-dependency is also not relevant since the good is always available and the buyer can choose the state at which the use of the good would yield the highest benefit e.g. taking a beer out from the fridge on a warm day. In the case of services, as highlighted before, the buying/selling of a service is followed by its consumption/delivery. The latter is often known as the *service encounter* (Czepiel, Solomon and Surprenant 1985; Bitner et. al., 1990), and would still involve the service firm due to the inseparability characteristic. The service encounter is defined as all activities involved in the service delivery process (Bitner, 1990; Bitner, Booms & Mohr, 1994). Managers and service researchers describe this as the "moment of truth" to indicate the defining

period when the interaction between the firm and buyer is of crucial importance to determine customer satisfaction (Bitner, Booms and Tetreault, 1990; Churchill & Surprenant, 1982; Anderson & Sullivan, 1993). This encounter could be very short e.g. a phone call, reasonably long e.g. a cruise, or very long, e.g. maintenance and support systems over years, and they could also be discontinuous e.g. health care, court case. In fact, the encounter process and the interaction between the customer and the firm could happen over a long period of time (e.g. service and support of aircrafts). The conduct of the encounter is important as it has an impact on how the service should be *contracted* at the point of buying/selling. Consequently, the firm's task is not merely to manage the service encounters but also to understand the promise of the service that is made at the point of purchase/contract. That promise (and its credibility) will impact on expectation and therefore the nature of the contract. If a firm promises quality service, the firm is in effect not only promising that it is able to deliver superior service, but also to manage the uncertainties and heterogeneity of the encounter to a high level of satisfaction, even if such uncertainties are not directly controllable by the firm.

The service encounter also embodies the co-creation of value. Co-created value implies the involvement of the customer and the firm (Bitner, et. al. 1997), e.g. maintaining and servicing equipment and parts on site, integrating systems, providing consulting services. In other words, the client and the service firm co-create the value of the service *together*. This supports Vandebosch and Sawar (2002)'s findings – after collecting data from 1,500 senior executives – that managing customer interaction activities is a strong source of value to customers.

What then, is value? Organizations have been called upon to deliver superior customer value as the next major source of competitive advantage (Payne and Holt, 2001; Eggert, Ulaga, & Schultz, 2006; Liu, Leach, & Bernhardt, 2005; Ulaga & Eggert, 2006). Yet, the concept of value has been elusive and has been approached from many perspectives (Payne and Holt, 2001). The term *value* carries a meaning in many disciplines, including economics, psychology, sociology, semiotics, and law. Woodruff (1997) observed that customer value concepts differ because of time and context.

For example, consider an individual who is a novice at welding, and must therefore undertake training. Initially, he or she will value instruction, but as his or her skills and knowledge increase, the value of the training will diminish. The contextual conditions of value have been investigated by Eggert, Ulaga, and Schultz (2006) who complemented the work of Flint, Woodruff, and Gardial (2002). Woodruff (1997) presented the following definition of customer value:

*'Customer value is a customer's perceived preference for and evaluation of those product attributes, attribute performances, and consequences arising from use that facilitate (or block) achieving the customer's goals and purposes in use situations'.*

The customer value hierarchy (Woodruff, 1997) suggests that customers consider value 'in a means-end way'. The model proposes that customers think of products as bundles of attributes, and attribute performances. For Woodruff, this structure of attributes, consequences, and goals, is a critical conceptualization of customer value.

More recently, the concept of customer value has been considered using a relationship marketing perspective (Eggert, Ulaga & Schultz, 2006; Flint, Woodruff, and Gardial, 1997; Liu, Leach & Bernhardt 2005; Payne & Holt, 2001). This view accentuates value creation within a relationship, as opposed to transaction-based exchanges. However, as Oliva and Kallenberg (2003) note, transitioning from a transaction-based business model to a relationship-based model requires an evaluation of organizational principles, structures, and process, and consequently, represents a 'major managerial challenge'. Such thinking has evolved into current ideas around the co-creation of value where resources (i.e. "people, systems, infrastructures and information" (Gronroos 2006)) work together through processes to achieve the optimum benefit for the consumer.

In co-creating value, Bitner et. al. (1997) claims that customers could be partial employees, contributors to their own satisfaction and quality of the service and if customers choose to produce the service by themselves, they

can become competitors to firms. Within such thinking, researchers have proposed that firms do not really provide value, but merely value propositions (Vargo and Lusch, 2004) and it is the customer that determines value and co-creates it with the firm. Hence, a firm's product offering is merely value unrealized until the customer realizes it through co-creation and gains the benefit.

This has also been suggested by Woodruff and Flint (2006) when they propose a new *bidirectionality* for mutual satisfaction. Gummesson (2002) also suggested the term *balanced centricity* to illustrate this concept. Woodruff and Flint suggested that customers have an obligation to assess the needs of the provider and to assess resources to deliver these needs as part of the co-creation of value. In doing so, there is a need to understand the role of the customer in firm's processes and systems, and the role of the firm in customer's processes and systems. Arnould et. al. (2006) illustrated this with a cultural resource-based theory of the customer. In their study, they extended Vargo and Lusch's work by conceptualizing how consumers access operand resources (i.e. tangible resources such as material things on which an operation or an act is performed to produce an effect) and operant resources (Constantin and Lusch, 1994) (intangible resources such as skills or information which are used to act on operand or operand resources) to extract value-in use by co-creating with the firm that in turn, accesses its own operand and operant resources. For example, asking a friend to come along for a second opinion on a purchase would be social operant resource, and bringing a shopping cart to the supermarket would be an operand resource.

In the B2B space, operand and operant resources could also mean the physical resources (e.g. a hangar) or intangible resources (e.g. specialized skills of the customer's employees) so as to attain the benefit of the service provided (e.g. maintenance of aircraft). Payne et. al. (2007) developed a process-based framework for co-creation where they proposed customer value-creating processes, firm value-creating processes and encounter processes where customers derive benefits from the firm's value propositions. Table 1 (next page) shows the three main dimensions of co-creation

(customer, firm and the encounter) and the characteristics of each distilled from extant literature.

Table 1: Three main dimensions of co-created value and their characteristics (cf. Payne, et. al. 2007; Bitner et. al., 1997)

Firm's Value Proposition	Co-created Value in Encounters	Customer's Value Proposition
<ul style="list-style-type: none"> <li>• May be delivered by technology, people, systems or tangible products (e.g. a hotel room, a phone, an engine)</li> <li>• Delivered through procedures, tasks, mechanisms, activities, resources</li> <li>• Exchange-centred, firm-centred</li> <li>• Often delivers to 'some objective' value proposition or expectations</li> <li>• Often has a finite boundary/ending of task</li> <li>• Usually within the firm's control (or perceived to be)</li> <li>• Focuses on competencies, capabilities, knowledge</li> <li>• Able to plan, implement, develop metrics</li> <li>• Takes the customer-type or segment as given, although looks out for changes in preferences</li> <li>• 'Inside-out'</li> <li>• Functional lines are clear with territorial boundaries, power and politics</li> <li>• Workflow has a specific direction</li> <li>• Systematic organizational learning is possible as knowledge is more explicit and can be captured (e.g. knowledge of customer profiles, preferences, processes)</li> </ul>	<ul style="list-style-type: none"> <li>• State dependent</li> <li>• Interactive, dynamic and often non-linear</li> <li>• Empowerment and control issues dominate</li> <li>• Customer could be resource or a partial employee to the firm's value proposition</li> <li>• Activities could be an exchange of resources, or a joint performance of activities</li> <li>• Lacking in framework and analysis</li> <li>• Includes normative actions and implicit warranties from both the firm and the customer in terms of each own's capabilities</li> </ul>	<ul style="list-style-type: none"> <li>• State dependent</li> <li>• Provides competence in the co-creation process</li> <li>• Controls quality</li> <li>• Impacts on level of benefit attained</li> <li>• Provide resource</li> <li>• Co-marketer</li> <li>• Obtains benefit depending on amount of information, knowledge, skills and <u>other operant resources they can access and use</u></li> <li>• Customer learning included (remembering, internalisation, proportioning)</li> <li>• In consumer studies, it would focus on consumption</li> <li>• Critical for B2B studies but less researched upon</li> </ul>

## The Benefit-based Model as a Framework for B2B Contracts

Firms may need to align its own processes and resources to co-create with the customer, as only the customer knows when the service provider would provide the most optimal benefit in a particular environment. This is even more crucial when state dependency is high. For example, in a recent meeting of managers with one of the authors of this paper, one manager was extolling the virtues of the newest phone to roll off their production line when the author commented, 'what if the customer has forgotten the phone number of the person he's trying to call?' The point of the comment is that the *benefit* of a phone (e.g. to make a phone call) is dependent on when the phone call should be made, but that value cannot be realized if the customer isn't able to use the phone for various reasons, either that the customer finds its usage too complicated, or just simply because the customer has forgotten the number of the person he's trying to call. In addition, only the customer would know when is the right 'state' to attain the benefit (i.e. when s/he needs to make that phone call) and what resources s/he needs to tap into (e.g. remembering the phone number) to attain the highest benefit. If the state is not conducive or when the resources are not available, the benefit of the phone to that customer at that point is low (or has no benefit), regardless of how wonderful its features are. The example above illustrates the point that the customer does not buy the product for its features or attributes, but for the benefits that the product can bring (Ng, 2008). Similarly, early researchers such as Gutman (1982) referred to products as means for reaching "end-states".

Yet, much academic literature still seems focused on delivery of the attributes, rather than the benefits. The reluctance to focus on benefits may be due to the fact that benefits are usually situational in nature, highly context driven and usually not within the control of the firm (Woodruff, 1997; Eggert, Ulaga & Schultz, 2006; Flint, Woodruff & Gardial, 1997). Yet, if co-creation has to be understood in the fullest, the customer's role in attaining benefits for themselves in co-creation cannot be ignored and researchers would have to face the challenge of understanding customer consumption processes in co-creating value *for benefits*. To be more concise, we distinguish between value and benefits, and define benefits as the portion in Woodruff's (1997) definition of value presented earlier. We also propose that benefits would mean

'customer's goals and purposes in use situations'. Consequently, benefit is the outcome of co-created value.

In proposing our framework, we argue that not only do firms and customers have the power to *co-create* better value (e.g. the firm producing a phone that can store numbers and the customer knowing when to use a phone), they also have the power to *co-destroy* value (e.g. the firm making the phone too complicated to use and the customer leaving the phone at home), leading to reduced benefits. Woodruff and Flint explain that when both parties co-create value, roles may overlap. Hence, we propose that not all co-creation result in the highest benefits, and in some cases may result in benefits that are lower than what was contracted on. Hence, bidirectional thinking, together with current thinking in relationship marketing, have to consider that the co-creation towards mutual satisfaction (i.e. the relationship) does not always lead to optimal benefits to the customer and the firm.

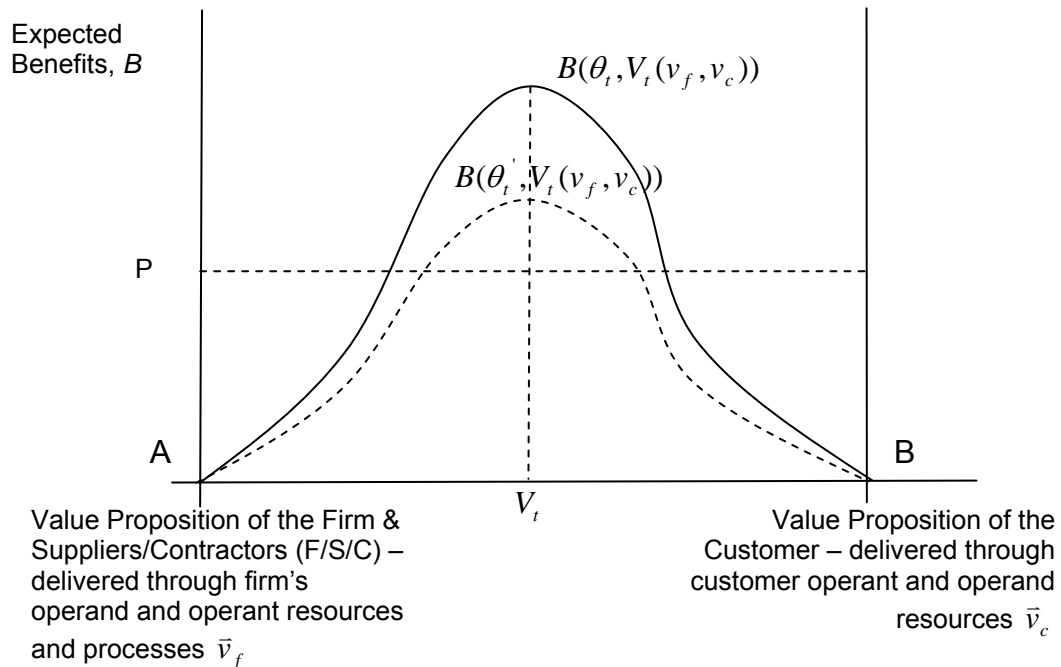
Furthermore, the issue of asymmetry in co-creation is less important when considering the benefits of the co-created value. Hence, co-creation may be symmetric in power (cf. Woodruff and Flint, 2006), but may be asymmetric in tasks, resources and processes from each party. In deriving the benefit of a haircut, a customer may only need to sit in a barber chair. Clearly, the firm would contribute more in terms of tasks and resources (the customer will also need to contribute expectations and needs) but despite the asymmetry, the co-creation may result in a high level of benefit.

We present a stylized model of a two-dimensional co-creation of value which can be viewed in figure 2 and propose the following:

*Proposition 2: The co-created value by the customer and the firm ( $V_t$ ) is a convex combination of the value propositions by both parties (i.e.  $\bar{v}_f, \bar{v}_c$ ) to attain benefit  $B(\theta, \bar{v}_f, \bar{v}_c)$  for the customer, and revenue  $P$  for the firm and whereby the benefit to the customer is state dependent i.e.  $\theta$ .*



Figure 2: Benefit-based framework for understanding Value co-creation



$V_t$  is the convex combination of value proposed by customer and the firm. The point between A & B is dependent on the quality of the encounter between firm and customer.

We first clarify that our model is a representation - hence there are no units involved on the axes. It merely provides a high level abstraction of concepts that we believe should be included, and propose how these concepts come together. By doing so, we aim to have a framework to visualise how an end-to-end (contract to delivery) model of goods and services coming together to deliver benefits to the customer would look like and how it may relate to price and contract. The two-dimensionality of the model is a simplification. In reality, there are many employees from the customer organization co-creating value with the firm in a B2B service context e.g. the pilot working with a defense company to understand the operation of an aircraft, the engineers at the ground working with the same company, and

other employees of the company discussing service and support plans with the military general. The normalized functional form of benefits and co-created value is also a stylized version for ease of explanation. Clearly, there could be many different functional forms.

Our model shows that the principle of co-created value implies that *both* customers and firms provide a value proposition (through their use of operant/operand resources and processes) and the resultant co-creation during the encounter provides benefits to both (benefit to the customer and revenue to the firm). The need to link co-created value to benefits is paramount because the firm, in selling and contracting with the customer at the purchasing stage, would need to price their service offering and the customer, in their projection of their future expected benefits, would need to know what operand or operant resources they need to access to derive those benefits before a purchase contract can be agreed upon. By linking benefits to co-created value and locating the role of price within the model, our model provides an end-to-end visualization of service contract and delivery.

Researchers often discuss value as though the firm has to deliver value to some absolute or highest level. In reality, firms are usually contracted to deliver what has been promised and there must be some financial returns on quality, a point stressed by Rust, Zahorik and Keiningham (1995). In B2B service support of engineering equipment, this is even more crucial, given that higher levels of service could result in much higher costs, e.g. higher inventory levels of parts. Our model provides a way of visualizing how the co-creation of value provide benefits to the customer and how the benefits link to the corresponding contracted price. The model suggests that when the firm manages the co-created activity well, the benefits could be higher (e.g. at  $V_i$ ), resulting in the customer's willingness to pay a higher price for the service since the benefits are higher (assuming the value discount at contracting stage stays the same). However, if the co-creation is not well managed, benefits could be low, resulting in the customer regretting entering into the contract in the first place.

The model also suggests how and when a tangible good is incorporated within the framework. In proposing value to the customer, the

model emphasizes the benefits obtained. Hence, the model is neither goods- nor service-based since the realisation of benefits could be through both goods and services. Also, if the goods value-proposition within the co-creation activity falls short of realizing benefits with the customer, the service provision has to plug the gap so that the customer will not have reduced benefits. This is the reason why complex equipment would need to be packaged with training and integration. As goods become more complicated (e.g. engineering equipment and systems), the *service* to achieve benefits become increasingly important. It is therefore not surprising that as technology advances, service provision become increasingly crucial, especially when customers become more demanding and competition increases.

Similarly, if the service provision is too heterogeneous or the state dependency becomes a problem to derive high benefits, services might strive to be more goods-like, or be replaced with goods altogether (goods are often always available to consume and suffer from less state-dependency issues). Internet banking, as a substitute for normal banking, is far less heterogeneous and its availability at all times assist customers to derive benefits whenever their state requires the service.

Hence, firms may construct their value offering to customers by making their goods more service-like, or packaging with services, to aid customers in realizing benefits during the service encounter/co-creation. Conversely, firms may want to propose services that are more goods-like to be less heterogeneous and reduce state dependency effects of co-creation.

*Corollary 1: The optimal combination of goods and service in the firm's value proposition will depend on cost efficiencies AND which combination is most able to co-create value with the customer to achieve the highest benefits.*

*Corollary 2: The role of service (goods) in a goods-service offering could be (a) that of substituting the value proposed by goods (service) or (b) that of realizing the benefit of the good when co-creating value with the customer such that benefits are higher.*

Through the use of a simple normal function, we also illustrate the possibility that the firm may not be fully responsible for the benefits. The firm's involvement in co-creation could be very high and yet not result in the highest benefit. For example, a waiter hovering around a customer's table may be high involvement of the firm but may result in lower benefit for the customer. Finally, the shift in the function (to  $B(\theta', \bar{v}_f, \bar{v}_c)$ ) illustrates the state-dependency of the benefits. A customer contracted to service a piece of equipment on a quarterly basis may not derive its fullest benefit if the equipment wasn't used at all since the last service. This would explain why support contracts are based on use (e.g. no. of hours of flight time for an aircraft). The model also suggests that not all the co-created activity is controlled by the firm i.e. the way customers construct their value proposition through accessing their own resources is an important factor in deriving benefit. Hence, if the customer does not have resources to co-create the value with the firm, this will result in reduced benefits.

Our model extends research that looks into complete customer solutions (Bennet and Tipping, 2001; Foote et. al. 2001). Literature in this stream have proposed that customer have no interest in goods or services, but are only interested in solutions to problems they face. Hence, customer solutions are "offerings that integrate goods and services to provide customized outcomes for specific customers" (Sawhney, 2006, pg. 265). Solutions-based orientation tends to be valued by consultants working in complex B2B industries (Gann and Salter, 2000) and is often customized for different organizations.

Our study provides a more general theoretical framework in understanding solutions orientation that incorporates the more basic characteristic of services. We use benefit as a more general term to solutions, as not all benefits are solutions to problems. We show how benefits may be derived from co-creation of firm and customer in a service encounter that includes goods and services, and how the encounter could then achieve benefits. We also show how the co-creation, if not well managed, may not provide the most optimal benefits, Such a framework would, in our opinion, find greater cross-industry applicability than solutions orientation that is

customized for each organization which may have limited transfer of knowledge.

### **Managerial Implications of the Benefit-based Model**

*Rethinking capability and satisfaction.* Our model provides a framework to understand service transformation and capability. According to the model, capability is now about achieving the highest benefits for the customer (which in turn allows the firm to derive potentially higher revenues). This also means that operand and operant resources within the firm and the processes and systems through which the resources interact, be they goods or services, should be targeted towards a value proposition that co-creates the highest benefit for the customer. This co-creation includes the firm, the customer and often intermediaries and suppliers as well. This point has to be taken one step further. The customer's skills and abilities to access necessary operand and operant resources is now crucial to the firm's capability, as even the best value proposition from the firm may not result in the highest benefit. This implies that the firm has to be empowered to think about its own capability as that which *includes* the customers' processes, systems and skills. Particularly in the B2B context where two organizations are co-creating value, the alignment of the two organizations in creating value propositions that derive the highest benefit would be essential. Our model implies that *capability* is how the firm is able to integrate or educate the customer into proposing a value that matches the firm's value proposition for the highest benefit, and benefit is a proxy for the satisfaction the customer attains from the service.

To illustrate using our previous example, whose problem is it if the customer has forgotten the number to call on a mobile phone? It's quite easy to say that it's the customer's problem but our model proposes true service capability as one that comes from an organization's ability to recognize that customers often forget numbers, and the firm that wants true capability would ensure that the customer derives the benefit by looking at innovative solutions such as a phone with memory storage, as is the case with most phones today.

In the case of the Windows operating system, Microsoft recognized that the value proposed by its operating system, no matter how sophisticated, may

not result in benefit for the customer if the customer does not know how to install it. By understanding that the value has to be realised through co-creation (admittedly Microsoft may not articulate it in this manner), Microsoft will endeavour to engage and understand the customer so that the full benefit of its operating system can be attained. As products become more complex, the *service* to realise the goods value proposition becomes crucial.

The impact of service and goods together as a means of realising benefits, even for a normal consumer product, has been in existence since there were products; it has merely not been articulated. As an analogy, who provides the benefit of a cold can of beer on a hot day? One may say that it's the beer company but it's the customer who goes to the fridge, opens it up and drink it. That service of proposing the value of the beer is performed by the customer and indeed, the customer chooses the best time (e.g. a hot day) for the best benefit the beer can provide. S/he does all that without a high involvement of the firm, and the value proposition of the firm is embodied within that can of beer. As goods become more complex, the customer may become less able to realise their benefits and the firm has to have the capability, indeed the firm has to re-think capability as that which includes a sense of empowerment to assist customers in realising the benefit of their goods-service offering.

The co-creation of value for benefits has an impact on innovation and competitive advantage as well. Following the previous analogy, do firms compete by making a better beer, or should they just assist customers in realising its benefits? In a goods-dominated world, organizations fail to recognize that innovation could belong not merely to better technological goods, but also to better services that assist customers in co-creating value for higher benefits. Often, even innovation in tangible products is actually a way to help customers attain skills in co-creating value, such as the memory storage of phone numbers.

Even 'service' organizations fall victim to goods-focused mentality. A hotel room isn't able to help a customer realise its benefit (a good night's sleep) if the customer is stressed the night before a big meeting. What, then, is the obligation of the hotel? How should the hotel think about its service

capability in helping the customer realise the benefit? Clearly, value innovation would go very far in both increasing customer satisfaction and deriving higher revenues.

Often, organizations limit their involvement with their customer. They say they provide value, but are less interested to help customers realise the benefits of the value. They draw a line between themselves and the customer, giving a 'product' (a phone, a hotel room) to the customer and considering that as the end of their obligation. And when things go wrong, to the organization, service is about customer support or call centres. Our framework implies that if a customer calls the call centre or customer support, the organization has failed to realise the benefit for the customer. While that it is inevitable that the firm would not always be successful and customer support is essential in recovering customers, true service capability comes from an organization that not only understands how customers need help in realising the benefit, but organize their organization around ways to assist customers in realising benefit.

Such a re-organization, from our point of view, requires an understanding of how the organization's processes and systems that are goods-centric, i.e. of which activities and processes surround resources that are tangible goods (e.g. supply chain), are required to integrate with processes and systems that are service-centric, i.e. of which activities and processes surround intangible resources such as information, skills and knowledge, to help customers realize benefits.

## **Conclusion**

Our paper is a first step towards visualising B2B goods and service contracts that are service-focused, incorporating current thinking in literature. We claim contribution to extant literature in the following ways. First, we progress research in services by looking at the impact of the inseparability characteristic and its impact on contracts. Our findings, articulated in proposition 1, show that the 4 uncertainties arising from the inseparability characteristic, result in valuation risk to the customer which in turn has a



crucial impact on contracting. Second, we provide an in-depth understanding of the service encounter and the co-creation of value by customer and firm, and in proposition 2, we propose a benefit-based framework that may be applicable to solutions-oriented B2B contracts. Our framework integrates extant literature in service, co-creation and B2B in an effort to visualise a goods-service value offering that can be linked back to contract and pricing. We locate the function of service and suggest how goods and services may be interacting within a value offering. With our framework, resources, processes, systems and tasks for co-creation could be mapped to ascertain how benefit is realized by both firm and customer. This would then aid analysis and innovation.

The co-creation of service, state dependency of benefits, delivery to customer community and the discount of future service value to present time have huge contracting implications. Aside from the price to be charged, contracts may need to stipulate the role of customers and the firm. Firms may also need to assess if the customer is really best suited for some of the co-created processes and how the firm could assist the customer in deriving higher benefits. In co-creation, suppliers and other intermediaries may destroy or create value. All these factors will have an impact on the expectations of the service to be delivered at some future time, but contracted at the present time. The valuation risk faced by the customer at contracting stage may need to be shared and the firm would need to design mechanisms and incentives towards ameliorating some of the risks, perhaps allowing for price discrimination or bundling practices. In addition, the processes and resources to co-create value have a degree of substitutability between them and the firm would need to assess which combination of costs would render the highest benefit to the customer.

The above framework now provides a foundation for empirical research in this area. Further research from this paper will study three B2B contracts (one in the defence industry, one in the telecommunications industry and one in the banking industry) to examine the applicability of the proposed framework.

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