

# **Purchasing Business Services The Impact of Perceived Risk on Buyer-Seller Interaction**

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## **Abstract**

Most of the research into Organizational Buying Behavior (OBB) has studied the behavior of buying firms in different purchase situations in relation to the associated level of perceived risk. At the same time, research in this area seems to have mainly focused on the initial purchasing process rather than on the dealings between buyers and sellers during a contract period.

Yet, these dealings are of utmost importance when considering business services, for which the presence of ongoing buyer-seller interaction is a key characteristic.

This paper investigates the level of perceived risk in relation to the ongoing buyer-seller interaction for various kinds of business services. The results of these case studies indicate that differing patterns of interaction will emerge most strongly for services that are characterized by a high level of perceived risk. On the one hand, this paper provides insight into contextual factors that influence the design of effective buyer-seller interfaces and interaction processes.

**Keywords:** Business services, purchasing, perceived risk, buyer-seller interaction.

## Introduction

Services have become the main driving force for economic growth and international trade to the extent that one can speak of the 'service economy' (Fisk et al. 2000). Already more than a decade ago, a North-American investigation among 116 manufacturing and service companies showed that services accounted for a weighted average of 54% of total purchases (39% on average for the 59 manufacturing companies, 81% for the 23 service companies and 62% for the 34 public authorities) (Bales and Fearon 1995). As such, the procurement of business services has become a substantial element in firms' total acquisition of external resources (Axelsson and Wynstra 2002; Bales and Fearon 1995; Fisk et al. 2000). At the same time, Sheth (1996, p. 14) points out that academic knowledge about services purchasing seems limited in comparison with knowledge about product purchasing.

Research that is available demonstrates that organizational buyers view the purchase of business services as being essentially different from the purchase of goods (Jackson et al. 1995; Stock and Zinszer 1987). The characteristics of services (intangibility, simultaneity, heterogeneity and perishability) make certain elements of the procurement process for business services more difficult, more important or just different in comparison with the procurement process for goods (Axelsson and Wynstra 2002). These dependent variables (complexity, importance, uncertainty) all contribute to the level of perceived risk associated with a service purchase.

Researchers in the area of services marketing (Grönroos 2000; Lovelock 1983; Lovelock 2001; Zeithaml and Bitner 1996), have consistently been emphasizing that services are produced in interactive processes between the seller and the buyer. This emphasizes the presence of ongoing buyer-seller interaction, or in other words: continuous interaction during the service exchange process. This ongoing interaction impacts service quality. Grönroos (2004) recently emphasized the importance of the service encounter and the customer-service provider interactions it consists of. Zeithaml et al. (1988, p. 35) state that "in most services, quality occurs during service delivery, usually in an interaction between the customer and contact personnel of the service firm".

Although the services marketing discipline has traditionally focused its research efforts on *consumer* services, the same line of reasoning applies to *business* services, where ongoing buyer-seller interaction, i.e. interaction after the contract has been settled, is a main determinant of successful service exchange.

In line with this, Axelsson and Wynstra (2005; 2000) suggested that it might be fruitful for studies into the procurement of business services to focus less on the 'transactional' purchasing process and more on the ongoing business, where the design and management of interfaces and interaction processes are an important determinant of the actual outcome of the customer-supplier relationship. Researchers in the field of Industrial Marketing and Purchasing already acknowledged the importance of ongoing interaction some 25 years ago (Håkansson 1982).

We posit that this ongoing interaction is affected by the level of perceived risk, which result from the fact that not everything can be foreseen in advance of the purchase. At the same time, it is through ongoing interaction that buying and selling companies can deal with any issues that emerge during the contract period.

The concept of perceived risk has widely been studied by researchers in the field of Organizational Buying Behavior (OBB), and has been argued to be one of the main factors explaining variation in buying firm behavior (Johnston and Lewin 1996).

To our knowledge however, OBB literature has mainly focused on the initial stages of the purchasing process. The ongoing interaction following a specific purchase has received far less attention.

We therefore propose to study perceived risk in relation to ongoing interaction between buyers and sellers of business services. The results of this study are used to augment a classification proposed by Axelsson and Wynstra (2005), who posit that each of the classes of this scheme requires a differentiated pattern of interaction in order to have successful ongoing service exchange. This augmented conceptual model is subsequently used in a study of ongoing buyer-seller interaction aimed at identifying these differentiated patterns (Van der Valk et al. 2006b).

First, we review some empirical results which suggest that patterns of interaction are more explicit for strategic services in comparison with non-strategic services. Subsequently, we investigate the term "strategic" and relate this to OBB literature. Based on this conceptual investigation, two hypotheses are developed, which are subsequently tested by means of two embedded case studies. We conclude

with an overview of risk reduction strategies and propose matrix, which can be used to analyze differences in risk perceptions and can help determine what actions should be taken to handle these perceptual differences.

## Differentiated patterns of ongoing interaction

Given the importance of ongoing buyer-seller interaction for the successful exchange of business services, Axelsson and Wynstra (2005) and Van der Valk et al. (2005) proposed to study the continuous dealings between buyers and seller of business services after the contract has been settled. Since from a purchasing perspective certain similarities occur for different services, they argued that it should be possible to identify systematic variation in interaction for different types of business services.

In identifying these different types we adopt a classification scheme with a buyer's perspective, which is based on how the buying company uses/ applies the service purchased with respect to its own business processes. Building on Håkansson (1982), who found systematic variations in the issues that buyer-supplier interaction patterns have to 'deal with' in relation to the type of product being exchanged (raw and processed materials, components and capital equipment), Axelsson and Wynstra (2002) posit that the application of a business service, as seen from the customer's perspective, is one of the main factors affecting the appropriate (effective) design of customer-supplier interfaces and interaction patterns during ongoing service exchange. As such, four types of services can be identified:

1. If the service does not directly affect the buying company's primary processes, it is a consumption service. An example is cleaning services for office buildings.
2. If the service directly affects the buying company's primary processes, but is not (eventually) being provided to end customers of the buying company, it is an instrumental service. An example is training for one of the buying company's internal departments.
3. If the service is (eventually) being provided to end customers of the buying company after transformation activities have been performed by the buying company, the service is considered a semi-manufactured service. An example is the in-flight catering service for an airline.
4. If the service is (eventually) being provided to end customers of the buying company without transformation activities being performed by the buying company, the service is considered a component service. An example is subcontractors for a cleaning company.

Axelsson and Wynstra (2005) performed some exploratory studies into service procurement processes by means of various case study methods, like interviews, participation in and observation buyer-supplier meetings. Because they did not explicitly address sampling methods or the design of research instruments, as a result of which standard case research procedures for ensuring external validity and reliability (Yin 2003) are not ensured, these studies are not considered case studies. However, since the data was collected and analyzed with a specific theoretical framework in mind, the internal validity of these exploratory studies is considered sufficient for providing initial support for their ideas (Dubois and Gadde, 2002).

Their observations support the idea that different types of services require differentiated interface designs in order for the ongoing service exchange to be successful. For example: when buying component services, marketing representatives are often involved in the buying team. For instrumental services, which affect the buying company's primary processes, business development representatives and process engineers were represented in the buying team.

Axelsson and Wynstra (2005) furthermore found that patterns for interaction were more explicitly defined and designed for some services. For example: a "qualified" dialogue between the companies involved could be observed for the strategic and knowledge intensive component service, whereas for the non-strategic component services, broader patterns of interacting people were found. Also, the variety and number of involved specialists differed for an advanced semi-manufactured service versus one that is a standard. Extrapolating this to instrumental services, some services comprise minor changes to existing working methods, while others concern major changes that may have an impact on the entire organization. Finally, considering consumption services, it is hard to identify strategic/

high-impact/ important services. An example could be cleaning services for a semiconductor production facility. Most consumption services, however, are of a lower strategic impact. In conclusion, these services had in common that they were considered strategic or important services in the eyes of the respective buying companies. Based on this, one could argue that the degree to which a service is “strategic” influences the extent to which differentiated interaction patterns emerge.

## **When is a service strategic?**

Buying companies often use company-specific approaches as to identify what is strategic and what is not. Although these approaches often concern slight adaptations to existing portfolio models (Kraljic 1983; Van Weele 2005), the underlying rationale for dealing differently with different purchases thus varies across buying companies.

Most of these purchasing portfolio models are based on concepts derived from OBB literature, like importance (see for example the work on buy-classes by Robinson, Faris and Wind (1967)) or risk (see the work on perceived risk by Sheth (1973)). From their review of the three most influential models of organizational buying behavior (Robinson et al. 1967; Sheth 1973; Webster and Wind 1972), Johnston and Lewin (1996) conclude that much of the variation in organizational buying behavior can be related to the level of *perceived risk* associated with a particular purchase situation.

Mitchell and Greatorex (1993) and Sheth (1973) build on Bauer (1960) and claim that perceived risk is a combination of consequences (measured in terms of seriousness/ importance) and uncertainty. Indeed usually, perceived risk is viewed as the function of two variables: the importance of the purchase and the level of uncertainty associated with the outcome of the purchase (Gelderman and Van Weele 2002; Henthorne et al. 1993; Kraljic 1983; Wilson et al. 1991).

Johnston and Lewin (1996) view perceived risk as a function of the importance of a purchase, the complexity associated with the purchase, the level of uncertainty associated with the outcome of the purchase, and the time pressure surrounding the purchase. We elaborate on these different elements in the following subsections. For the purpose of this paper, we are only interested in those factors that are related to the purchase at hand, i.e. the service-specific factors like importance, complexity and uncertainty. Admittedly, time can be service-specific when it concerns the sourcing of a new oil platform, but for the purpose of this paper we assume time to be a company or industry-specific factor.

### *Importance*

The importance of a business service can be evaluated in various ways. One method for assessing the importance of a purchase that is often used in practice is to take the ratio of spend on that purchase to the total purchase spend of the organization. Various purchasing portfolio models have adopted this ratio as one of the dimensions used to position individual purchases (Gelderman and Van Weele 2002; Kraljic 1983; Van Weele 2005).

McQuiston (1989) defines importance as the purchase’s impact on organizational profitability and productivity. The larger the perceived impact of the purchase, the higher the importance. Importance/ seriousness could thus refer to the importance of the service for continuation of the buying company’s production processes, to the potential consequences of service delivery failure (decreased customer satisfaction), or to the amount of financial resources spent on the service.

Fitzsimmons, Noh and Thies (1998) claim that the criticality or importance of a service, provides the purchaser with useful information for making purchasing decisions. Here, importance is high or low depending on the relationship of the service to the firm’s core business activity. Fitzsimmons et al. (1998) expect higher level management involvement for services that are important to the core business.

Given the somewhat different definitions of importance, we propose to define importance based on the following three dimensions: 1) size of the service spend in comparison with the spend on other purchases in the company; 2) importance for (final) customer satisfaction; and 3) importance for continuation of daily operations/ processes. Finally, in light of the regulatory impediments that play a role in many industries (waste disposal, sustainable entrepreneurship, child labor), we include a fourth aspect of importance: the service contribute to the firm’s license-to-operate.

### *Uncertainty*

Grönroos (2000) defines a service as “ ... a process consisting of a series of more or less intangible activities that normally, but not necessarily always, take place in interactions between the customer

and employees and/or physical resources or goods and/or systems of the service provider, which are provided as solutions to customer problems". This definition touches upon uncertainty by mentioning activities, interactions, and solutions to problems. Activities are generally characterized by variation. Considering the fact that for services, the customer is often a co-producer of the service, activities in service provision can be considered unique and unpredictable. Interaction implies the presence of two or more parties, with different objectives and expectations. Finally, concerning solutions to problems, uncertainty arises with regard to whether the problem defined is actually the problem that really needs to be addressed and whether the solution identified is the solution that will really solve the problem.

Uncertainty has been a central issue in many organizational studies concerned with the behavior of organizations in response to their environments. Yet, the concept has often been defined differently by different authors. Three commonly used definitions of uncertainty are:

1. Inability to assign probabilities to the likelihood of occurrence of future events (Duncan 1972; Pennings 1981; Pennings and Tripathi 1978; Pfeffer and Salancik 1978);
2. A lack of information about cause-effect relationships (Duncan 1972; Lawrence and Lorsch 1967);
3. Inability to accurately predict the outcome of decisions (Downey and Slocum 1975; Duncan 1972; Hickson et al. 1971; Smidt and Cummings 1976).

Specifically the third and to a lesser extent the first definition are highly relevant since they draw attention to the aspect of continuous interaction throughout the service exchange cycle. Not everything can be foreseen at the time the contract and the service level agreement are drawn up: not only do buying companies experience difficulties in making the appropriate sourcing decisions, it is also complex to make trade-offs between additional cost for f.e. availability guarantees and the risk associated with non-availability if no probabilities can be assigned to the event of non-availability.

Håkansson and Wootz (1979) studied uncertainty specifically in relation to purchasing situations and identified three types of uncertainty. Need uncertainty refers to how the decision maker perceived the need and the possible solutions to fulfill that need. Transaction uncertainty has to do with how buyers perceive the individual suppliers, e.g. do buying and supplying organization fit well together or not. Finally, market uncertainty is concerned with how buyers perceive the market and the behavior of other actors in that market (stable vs. dynamic, competitive vs. collaborative, et cetera).

Considering the fact that we look at a specific dyadic relationship between a buying company and a service provider, we will focus on need and transaction uncertainty. Need uncertainty is specifically related to the service being purchased: does the service resolve the buying firm's need to a satisfactory extent? Transaction uncertainty focuses more on the buyer-seller relationship and deals with issues like the buyer-service provider collaboration.

Looking more specifically at the concept of uncertainty, we can identify two antecedents.

The first one is complexity: when a purchase is more complex, the buying company will associate greater uncertainty with that purchase. With regard to complexity, McQuiston (1989) denotes two general areas: complexity of the purchasing situation and complexity of the product/ service being purchased. The actual complexity of the service depends on the inherent complexity of the service and the inherent complexity of the context in which the service is applied (Fisher 1976, p. 30).

Fisher (1976, p. 30) furthermore proposes the level of experience the buying company has with the technological characteristics of the service and the level of sophistication of the buying firm in this specific area. In our view, this has related to the concept of novelty as defined by McQuiston (1989), which we propose as the second antecedent. Novelty refers to the extent to which buyers are familiar with similar purchasing situations (McQuiston 1989). In case of a new product (service) brought to market, novelty will be high since the buyer will need to get himself acquainted with this new product (service)<sup>1</sup>. Uncertainty as determined by novelty is thus likely to vary with different types of purchasing situations. The buy-class model as proposed by Robinson, Faris and Wind (1967) provides a versatile classification of purchasing situations, which demonstrates that, when comparing the three classes, certain aspects associated with purchasing the offerings in these classes change. With respect to uncertainty, the three types of purchasing situations will vary: in the 'straight rebuy'-situation (hardly

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<sup>1</sup> Note that, as we investigate novelty related to service purchases rather than to individuals, we exclude the situation in which the buyer is new on the job.

new) there will be hardly any uncertainty, while at the other extreme, the 'new task'-situation (very new) will be characterized by quite a lot of uncertainty.

To summarize: the level of perceived risk associated with a service purchase is determined by the importance of that service purchase to the buying organization and the uncertainty associated with that service purchase. This uncertainty in turn is determined by the extent to which the service being purchased is new to the buying company and the level of complexity associated with the service and its company-specific application.

### **Determining the level of perceived risk for business services**

Based on the above, we argue that several aspects need to be taken into account when determining the level of perceived risk associated with a service purchase.

Firstly, the importance of the service purchase needs to be determined. High importance can be the result of high expenditures being involved, of the criticality of the service for the buying company's operations, of the high impact of the service on (end) customer satisfaction, or of the fact that the service is a basis requirement for keeping a license-to-operate.

Secondly, the level of uncertainty associated should be established. Regarding the novelty of the service purchase, determining whether the service itself or its application is new or not is fairly straightforward. Either the company is experienced with buying a service or services similar to that service or not: an airline could for example be very experienced with buying cleaning services and less experienced with buying consultancy services. The same applies to experience with applying a certain services or services similar to that service in a specific context: an airline could be very familiar with buying cleaning for office buildings, but to a lesser extent with buying cleaning services for aircrafts.

Considering complexity, we also make a distinction between inherent complexity of the service and the inherent complexity of the context in which the service is applied. Complexity however can be dependent on many different aspects, like the "technical" content of the service (IT is more complex than cleaning), the relative intangibility of the service (marketing is more complex than catering) or the extent to which the service needs to be integrated with the buying company's processes or systems.

Axelsson and Wynstra (2002) bring forward several specific issues that need to be taken into account when buying business services. Services do not exist until production takes place. Therefore, they cannot be evaluated in advance of the purchase. Services are more difficult to quantify in terms of costs, thereby complicating pricing. Even more complex is determining what value will be gained from the purchase relative to the costs incurred for acquiring the service. Moreover, it is quite hard for buyers to define the desired content of the service, specifically when the service at hand is creative like consultancy or marketing services. These issues subsequently complicate supplier evaluation and selection.

Vice versa, it is difficult for the supplier to assist the buyer in this process and to visualize its service offering: in order to identify the most suitable service solution, the supplier requires a thorough understanding of the buying firm's processes. This makes it essential for both buyer and supplier to thoroughly communicate each other's requirements, desires and expectations: the buyer and the supplier should bring together their knowledge and insights in order to acquire a complete picture of the situation.

Further, because services are produced and consumed simultaneously, management capacity and demand is complicated. Buyers need to ensure that there is enough capacity when it is needed. Depending on the buying firm's ability to reschedule service delivery, it is essential for the supplier to be flexible. In this situation, uncertainty with regard to discrepancies between offer and demand and variability can often hardly be anticipated by allowing some stock. This problem is aggravated when considering a highly-fluctuating service.

Service production should also be of the "first time right" type. Failed production cannot be put aside, but will lead to an unsatisfactory buying firm experience. The buying firm needs to address the supplier's capabilities to produce correctly during supplier selection, as well as what the supplier should do when, despite all efforts, the initial service delivery is not satisfactory. Finally, consistency of production is important: the quality of a service is strongly affected by service provider personnel.

Aspects like supplier staff competencies and “customer skills” should be added to the existing purchasing criteria. To a larger or lesser extent, these elements of the complexity of the service and its application affect the uncertainty associated with the service purchase.

The resulting level of risk is reflected in the buyer-supplier interaction. The need for information sharing between customer and supplier is increased (Axelsson and Wynstra 2002), as a result of which the purchasing process may vary with regard to for example the time spent on the individual stages, the level of detail employed in each stage, the number and variety of disciplines involved in each stage, the extent of collaboration between disciplines, the type of information exchanged between customer and supplier, et cetera.

## **An empirical investigation of the influence of perceived risk on interaction**

We posit that the level of perceived risk influences buyer-supplier interaction. In their exploratory studies, Axelsson and Wynstra (2005) found that interactions were more explicitly defined and designed for the strategic services they studied. However, Van der Valk et al. (2006b) argues that the level of perceived risk will mostly influence the relative amount of attention given to a purchase rather than how this interaction is organized. As such, risk might affect intensity rather than the design of interaction. Consequently, Van der Valk et al. (2006b) argues that patterns of interaction for each of the four types of services will differ more strongly when those services are characterized by a high level of perceived risk. In other words: buying companies are expected to make more conscious decisions on how to deal with strategic services in comparison with routine services.

Both high risk and low risk services are included in the empirical investigation, specifically since in the category of consumption services, it will be difficult to find high risk services (an example could be cleaning of a semiconductor production facility). The level of perceived risk is thus deemed to influence the extent to which differentiated patterns of interaction emerge:

- P1 Patterns of interaction are more explicit and distinctive for services characterized by a high level of perceived risk.*
- P2 All services associated with a low level of perceived risk will have a fairly similar pattern of interaction. This pattern equally applies to any of the service types, and is different from the pattern associated with a high-risk service of that same type.*

These propositions is subsequently tested by means of two embedded case studies. A review of theory in the area of buyer-seller relationships and the interaction approach resulted in the identification of four dependent variables: number and type of representatives involved and critical buyer and supplier capabilities (structural aspects of interaction), communication and adaptation (process aspects of interaction) (Van der Valk et al. 2006a). The two exploratory case studies were aimed at identifying which of these dependent variables show strong variation across the four types of services and little variation within one service type. Furthermore, the study should provide insights into which configurations of dependent variables are most successful for each of the four types of services.

Van der Valk et al. (2006a) selected two service companies for our exploratory studies, mostly because service companies were expected to have a more professional approach to buying services than manufacturers. As such, the chances of finding variation between different types of services would be increased.

In consultation with the researchers, the companies proposed one service purchase for each class of Axelsson and Wynstra’s (2002) classification for inclusion in the study. This resulted in four component services (two per company), three instrumental services (two versus one for either company) and two consumption services (one per company). No semi-manufactured services could be identified. Each of these service purchases was mainly studied by means two or three in-depth interviews with purchasers, contract owners and uses, which was followed up by a short questionnaire used to measure the level of success associated with the ongoing interactions and the level of risk associated with the service. This questions posed have been derived from literature (see appendix I for the full questionnaire).

The exploratory studies supported the idea that differentiated patterns of successful interaction exist for different types of business services. For example, with regard to the number and type of

representatives involved, representatives of external customers (often the marketing discipline) were involved in the ongoing interactions for component services, while people involved with the primary processes of the buying company and internal customer representatives were involved in the ongoing interactions for instrumental services. The level of managerial involvement was high for both component and instrumental services, with large numbers of people involved for the latter. The study included three low risk services: two were consumption services; the third was a component service. Indeed, the researchers found that the observations for the low risk component were similar to the observations for the consumption services (regarding the number and type of representatives involved: internal or external customer representatives involved and a low level of managerial involvement) (see Van der Valk et al. 2006a for a detailed analysis of the two case studies). Patterns of interaction thus emerge more explicitly and distinctively for services characterized by high risk. Furthermore: when the pattern of interaction one might expect for a given service (type) did not occur very strongly, this could be explained by the low level of perceived risk associated with that service. The patterns of interaction for these low-risk services were similar.

### **Strategies for reducing risk**

The results of the empirical study indicate that patterns of interaction are stronger for services characterized by high risk. This more explicit design of interactions could be considered an approach to reducing the level of perceived risk. By involving more or specific people, the buying company seeks to reduce risk.

At the same time, various researchers have described different risk reduction strategies.

Puto, Patton III and King (1985) discuss various risk handling strategies in their study of the industrial buyer's supplier selection process. One of these strategies is reducing uncertainty, which can be achieved by trying to gather additional information (McQuiston 1989; Sweeney et al. 1973). Furthermore, buying companies can handle the risk by risk avoidance: focusing on the probabilistic element of risk and choosing the alternative that offers the highest certainty.

In contrast, some buying companies adopt more sophisticated and quantitative techniques for vendor analysis and selection based on expected value theory (Hirsch 1960). The buying company selects the alternative with the most favorable expected value.

Yet, another option is to accept uncertainty; various researchers have demonstrated that the amount of information search, as opposed to general expectations, declines in cases of high uncertainty (McCabe 1987; Spekman and Stern 1979).

Finally, buying companies can decide to try and spread the risk, for example by adopting a multiple sourcing strategy.

It should be noted that the seller will equally be confronted with a degree of perceived risk associated with the service exchange. Knowledge asymmetries between buyer and supplier will cause the origin of risk to differ for buyer and supplier. The buying organization will be the expert with regard to its internal organization, its processes and its offerings, an area which the supplier need to come up to speed with. On the other hand, the supplier has expert knowledge on how to perform the service to be delivered and how to organize for delivery, et cetera, an area in which the buying organization is undereducated.

Sellers as such will try to influence buyer's perceptions of risk, thereby altering their behavior (Håkansson et al. 1976; Håkansson and Wootz 1979). For example: when a buyer puts excessively stringent demands upon the supplier, the supplier might try to convince the buyer that his need is less complex than he thinks. Another example is a supplier, who wishes to enter a market and who therefore tries to make buyers consider their needs as being different than before. Håkansson and Wootz (1979) further argue that sellers will try to influence buyers in the direction, which is expected to result in increased agreement between both parties.

Thus, risk reduction strategies are available to both buyers and suppliers. Which strategy is most suitable depends on the situation and on the perceptions of either party on the other party's uncertainty.

We focus on the buyer's perceived risk and associated risk reduction strategies of buyer and seller. Since perceived risk is a subjective phenomenon, we posit that buyer and seller will have different perceptions of the buyer's risk with regard to a particular situation. Furthermore, we argue that these differing perceptions will be associated with certain behaviors (ranging from doing nothing to uncertainty reducing behavior) from the buyer and the seller. One could reason that, differences in perceived risk could cause the responses of either counterpart to be different than expected. An example: when a buyer is uncertain about consistency of service delivery, he might make inquiries with the supplier to acquire new information in order to reduce this uncertainty. The supplier knows his own processes and is as such not uncertain about consistency of service delivery. Furthermore, the supplier might think that the buyer is hardly more uncertain than the supplier is (after all, the service to be delivered is not too complex according to the supplier), and therefore will be less inclined to make efforts to reduce the buyer's uncertainty than the buyer would have liked him to. As such, the seller is under investing, which could frustrate the buyer and as such damage the relationship.

*Determining appropriate risk reduction strategies*

Taking a buying firm's point of view, two perceptions on the level of perceived risk can be distinguished:

- Buyer's perceived risk: refers to the buyer's level of perceived risk associated with the purchasing situation;
- Supplier's perception of buyer's perceived risk: refers to the supplier's perception of the buyer's perceived risk associated with the purchasing situation.

Supplier's perception of buyer's perceived risk	High	Slow down	Keep up the good work
	Low	Monitor	Invest
		Low	High

Buyer's perceived risk

**Figure 1 Risk analysis matrix**

Bringing these elements together results in the matrix shown in Figure 1. Both levels of perceived risk determine the likelihood and type of action to be taken to reduce risk:

1. Buyer's perceived risk: low; supplier's perception of buyer's perceived risk: low.  
There is agreement on the level of perceived risk. This situation requires monitoring any events that might change either party's perception of the level of buyer perceived risk.
2. Buyer's perceived risk: low; supplier's perception of buyer's perceived risk: high.  
The supplier is over investing in reducing the buyer's perceived risk and should slow down.
3. Buyer's perceived risk: high; supplier's perception of buyer's perceived risk: low.  
The supplier is under investing in reducing the buyer's perceived risk: it is time to invest. The buyer will try to trigger investments from the supplier by adopting a risk reduction strategy.
4. Buyer's perceived risk: high; supplier's perception of buyer's perceived risk: high.  
Both buyer and supplier acknowledge the high risk associated with the purchase and act accordingly: keep up the good work.

Thus, if the buyer perceives the level of risk to be high while the supplier does not, the buyer will take action. Vice versa, the supplier will take action, if he perceives the level of risk to be high while the buyer does not.

It is important to note however, that the decision to take action is based on the absolute value of one's own perception and not on the difference between perceptions referred to here. The result could be that supplier puts in extremely high efforts to reduce the buying firm's perceived risk, while that is not really necessary (over investment). On the other hand, the supplier could very well be right about the high level of risk involved and should thus convince the buyer of the high level of perceived risk

involved. Ideally therefore, buyer and supplier should try to communicate and understand each other's perspectives and jointly determine the appropriate risk reduction strategy. By coordinating risk reduction strategies, both companies' resources can be exploited more efficiently and effectively.

## Conclusions and limitations

The concept of perceived risk has been widely studied in OBB literature, but mostly related to purchase decisions rather than the ongoing dealings between buyers and sellers. This period of ongoing interaction is specifically important in the case of buying business services, since business services are produced and consumed in interactive processes between buyers and sellers.

This paper therefore investigated the influence of perceived risk on buyer-seller interaction patterns. Previous empirical research indicated an effect of the extent to which a service was considered strategic on buyer-seller interaction. The term "strategic" was subsequently conceptually investigated, which resulted in the identification of the "perceived risk" construct as a factor that could help explain the interaction patterns that can be observed in practice.

In an empirical study of buyer-seller interaction aimed at identifying patterns of interaction for different types of services, the construct of perceived risk was included as a moderator on the relationship between the type of service and the associated interactions. The results of the study support the idea that the level of perceived risk has a moderating effect: for low risk services, no differentiated patterns of interaction arise. For high-risk services, strong variation in interaction occurs.

A more explicit design of buyer-seller interaction is a way to overcome the level of perceived risk associated with a service purchase. In addition, various other risk reduction strategies can be identified. Which risk reduction strategies are used and to what extent depends on the situation at hand. We have presented a matrix comprising two dimensions, namely the buyer's level of perceived risk and the supplier's perception of the buyer's perceived risk, and have argued that different risk reduction strategies are appropriate in each of the four quadrants.

The two quadrants representing a mismatch between the supplier's perception of and the buyer's perceived uncertainty can be interpreted in multiple ways, since either one of the parties could be right. Although one can hardly know for certain who is right when it comes to the level of perceived risk, differences in buyer and supplier perceptions of buyer uncertainty can result in waste of management efforts and resources. It can also contaminate the quality of the relationship, since lack of coordination can both frustrate buyer and supplier. The matrix therefore seems a useful means to analyze the consequences of these differences in perceptions, as well as what actions should be taken to overcome/ prevent them.

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## Appendix I Questionnaire “Buying Business Services”

### Part A: Questions concerning the level of success associated with the service purchase:

Please indicate your opinion on the following statements (please tick the appropriate box):	Totally disagree		Neither disagree nor agree		Totally agree
	1	2	3	4	5
1. The supplier meets the targets agreed upon in the Service Level Agreement.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Critical issues that arose have been resolved satisfactory by the supplier.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Managing the supplier in his daily operations requires more efforts than expected.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. The supplier understands what we expect.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. The collaboration with the supplier is problematic.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. The supplier involves the relevant functional disciplines in their ongoing service provision.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. The supplier provides us with the competencies that we require.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Communication with the supplier is considered to be effective.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. The service from this supplier results in value-creation in terms of profits/ sales	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. The supplier is a source of innovative ideas.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. The supplier delivers the service with high quality.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. The service from this supplier results in cost savings at our company.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### Part B: Questions concerning the level of perceived risk associated with the service purchase:

Please indicate your opinion on the following statements (please tick the appropriate box):	Totally disagree		Neither disagree nor agree		Totally agree
	1	2	3	4	5
13. The size of spend on the service obtained from this supplier in comparison with the spend on other purchases in our company is high.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. The service obtained from this supplier is important for (final) customer satisfaction.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. The service obtained from this supplier is important for continuation of daily operations/ processes.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. The service obtained from this supplier is important because of regulations imposed on our company.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17. The service obtained from this supplier is highly specialized in terms of its content.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18. The service obtained from this supplier is highly customized.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19. The service obtained from this supplier has a lot of characteristics that are nearly impossible to evaluate.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20. The service obtained from this supplier requires a lot of integration with existing processes/ systems.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21. The service obtained from this supplier requires (final) customer involvement.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22. We have experience with the content of the service obtained from this supplier or of services closely resembling this service.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23. We have experience with how the service obtained from this supplier or services closely resembling this service are used/ integrated in our company.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>