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Ongoing Buyer-Seller Interaction in Business Services Including the Perspective of Service Providers

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Summary

Prior studies have investigated the ongoing interactions between buyers and sellers of business services after the contract has been signed. These studies draw on a classification of business services, which identifies four types of services based on how the buying company uses these services, and demonstrate that for each of the four service types, different patterns of interaction are most successful. A limitation of these studies is that they build on data collected at the buying company only.

This paper presents the results of a single embedded case study based on two-sided data collection. We study the purchase of cleaning services for trains, train stations and office buildings at the Dutch Railways (DR) (first unit of analysis). At a more detailed level, we study ongoing interactions with two suppliers each providing all three types of cleaning services (second unit of analysis). The focus in this paper is on the service provider's perspective of the ongoing interaction. We focus on supplier capabilities to demonstrate why one buyer-seller interaction is successful, whereas the other is not.

Introduction

Service management and services marketing researchers have consistently been emphasizing that services are produced in interactive processes between the seller and the buyer (Grönroos, 2000; Lovelock, 1983; Lovelock, 2001; Zeithaml & Bitner, 1996). Traditionally however, these disciplines have mostly been concerned with consumer services. Despite calls for more research into services directed at organisations rather than consumers (Brown, 2002; Parasuraman, 1998), the research on business services is still rather limited.

Also from a purchasing and supply management perspective, limited academic research is available on business services (Carter & Ellram, 2003; Sheth, 1996). The literature that is available focuses on the initial stages of the purchase process (e.g. supplier selection, Day & Barksdale Jr, 1994) as opposed to the ongoing business relationship. As an exception, Mitchell (1994) briefly discusses problems and risks in purchasing consultancy services and complements the stages comprising the up-front decision-making process with project management and performance evaluation.

Grönroos (2004) emphasises the importance of the service encounter and the customer-service provider interactions it comprises. It is in the ongoing business relationship that value is 'co-created' in interaction between buyer and seller (Vargo, 2006; Vargo & Lusch, 2004). This is echoed by Wynstra, Axelsson and Van der Valk (2006), who emphasise the processes and practices that make up the daily activities of organizations and that relate to strategic outcomes. They point out that the ability to understand and manage the ongoing interaction with a service provider is equally important to being able to specify and contract a service.

Wynstra et al. (2006) furthermore argue that buyer-seller interaction varies systematically for different types of business services. They propose a classification of business services, which identifies four types of services based on how the buying company uses the service. Going through several iterative research cycles, the authors demonstrated that for each of the four service types, different patterns of interaction are most successful.

An important limitation of these studies however is that they are based on data collected at the buying company only. In order to address this limitation, a recent embedded case study into ongoing buyer-seller interaction was based on two-sided data collection. This case study concerned the study of the purchase of three different types of cleaning services at the Dutch Railways (DR) from two different suppliers (and as such comprises two cases). Whereas the ongoing interactions were highly problematic for one supplier, the interaction with the other supplier was highly successful. In this

paper, we focus on the development of supplier capabilities to explain why the differences in success emerge.

The organization of our paper is as follows. First, the theoretical background for this research is presented. We focus specifically on the dimension of supplier capabilities and briefly discuss some of the relevant literature. Then, a brief overview of the research design and data collection methods is presented, followed by summaries of the two cases. The two case summaries are then analysed in terms of supplier capabilities to demonstrate how they can be developed to achieve successful ongoing exchange of business services. Finally, the conclusions and limitations of this research are discussed.

Theoretical background

Research in the field of purchasing and supply management (PSM) has traditionally focused on industrial goods. Existing PSM research on services mainly addresses the difficulties associated with the selection and contracting stages of the purchasing process (Day & Barksdale Jr, 1994; Mitchell, 1994). For example: services are hard to evaluate in advance (or even in hindsight) of the purchase. This complicates supplier selection, since it is difficult to assess whether the service purchased from a particular supplier will fulfil the buying company's expectations.

In contrast, the Industrial Marketing and Purchasing (IMP) Group has been strongly and consistently arguing that studies of business marketing and purchasing should focus less on the 'transactional' purchasing process, and more on the *ongoing interactions* between customer and supplier (Ford, 2002; Håkansson, 1982; Håkansson & Snehota, 1995). These ongoing interactions in business relationships are highly relevant, particularly since most firms tend to engage in a limited number of long-lasting relationships. This idea is echoed by services marketing and service management scholars (Grönroos, 2000; Grönroos, 2004; Lovelock, 2001; Zeithaml & Bitner, 1996), who argue that future research in this field should specifically focus on the service encounter and the interactions it comprises. Research conducted in these disciplines however mostly revolves around consumer services.

This should have triggered a substantial amount of research into the ongoing interactions between buyers and sellers of business services. Building on the studies of the IMP Group on ongoing interaction between buyers and sellers of industrial goods, Wynstra et al. (2006) argue that the way a buying company uses a service is the main driver for effective variation in interaction. Based on this driver, they propose a classification of business services, which identifies four types of services.

Two of these concern services that remain within the buying company, whereas the other two concern services that move downstream to (end) customers. The first group consists of consumption services and instrumental services. Consumption services do not directly affect the primary processes of the buying company (cleaning of office buildings for an airline). Instrumental services on the other hand do affect how the buying company's primary processes are carried out (management consultancy to improve the purchasing function at an airline). The second group consists of semi-manufactured and component services. Semi-manufactured services are used as an input in the buying company's primary processes and become part of the buying firm's offering to its customers (weather forecast to make a flight and fuelling plan at an airline). Finally, component services are being passed on to the buying company's customers directly (luggage handling for an airline).

Wynstra et al. (2006) argue that the customer-usage dimension is one of the main determinants of effective buyer-seller interfaces and interactive processes during the period after the contract has been signed. This period is hereafter referred to as the 'ongoing service exchange'. Therefore, different patterns of interaction will be most successful for each of these four types of services. Interaction is conceptualised in terms of a number of 'structural' variables related to the buyer-seller interface (i.e. key objectives of interaction, buyer and supplier critical capabilities, buyer and supplier representatives involved) and a number of processes of interaction (communication and adaptation). Starting from some initial exploratory case studies, 36 cases (service purchases) at nine different buying companies were studied in a subsequent field study by the authors of this paper. Several analyses were conducted with various subsets of the data to investigate what these successful interaction patterns look like for each of the four types of services.

For example, in the ideal pattern for component services, the key objective is to make sure that the

service to be purchased fits with existing service offerings. People knowledgeable about (end) customer requirements (marketing, or even from customers themselves) are involved in the ongoing interactions. The buying company translates these customers' requirements, and coordinates and synchronizes the various elements of the service purchased with their own offerings. The supplier matches capacity with demand and deals with the buying company's customers in the way the buying company wants them to. Communication concerns the requirements of customers, the fit of the service with the rest of the offering, and the customers' evaluation of the service.

For instrumental services, the key objective is to achieve the desired effect/ change in the buying company's primary processes. Business development and process representatives are primarily involved in the ongoing interactions. The buying company is able to specify the desired change to certain processes; the supplier understands how the service will result in the desired effect on the buying company's primary processes. Project management/ implementation skills are highly important buyer/ supplier capabilities. Trends and developments inside the buying company and the supply market are an important topic in the communication, as to align both parties both in the short and in the long term.

Similar patterns were developed for the other two service types. The results have been summarised in Table 1.

Insert Table 1 here.

Research design

We investigate ongoing buyer-seller interaction by means of a single embedded case study. We choose to adopt the case study method since we are trying to understand phenomena that have an important social element and comprise "how" and "why"-questions (Yin, 2003). Recently, also Edmondson and McManus (2007, as in Eisenhardt and Graebner, 2007) stressed that theory-building research that relies on case studies are specifically suitable for addressing research questions regarding the 'how' and 'why' in unexplored areas. Case studies can thus be used to develop theory by trying to make sense of empirical observations (understand what is happening) and by developing ideas by going back and forth between theory and data. Dubois and Gadde (2002) refer to this process a systematic combining. Furthermore, Dubois and Araujo (2004) argue that case studies are very suitable for studies in which interactions and relationships form the basic units of analysis.

The case study has an embedded design because it comprises the study of the ongoing interactions for three types of services between one buying company and two different suppliers. The suppliers form the first units of analysis, which are embedded in the second unit of analysis, namely the buying company DR. The objective of the case study is to describe the ongoing buyer-seller interactions for each of the three service types, to see: 1) whether the interactions are differentiated for these three services; and 2) whether the interactions are successful.

The buying company at which the case study is conducted is the Dutch Railways (DR). DR transports over 1 million passengers between 390 train stations in the Netherlands. Additionally, their task is to manage, maintain and develop the various train stations. Cleaning is part of these activities: having clean trains and clean train stations is one of the key objectives of DR in order to properly service their customers. DR therefore buys cleaning services from external providers for trains and stations, and for office buildings. This case study comprises the purchase of cleaning services for these three objects from two suppliers, each operating in different regions.

Because the cleaning services are directed at different objects, the use of these three cleaning services differs. As a result, the three cleaning services belong to different classes in the classification of Wynstra et al. (2006):

- The cleaning of train stations is purchased by DR Stations (Stations) and takes place continuously during the day. Besides daily cleaning activities (mopping the floors twice a day), the cleaning crew is also responsible for getting rid of small nuisances, like a package of French fries that is dropped by a passenger. The cleaning service is passed on to customers of DR, i.e. passengers, unaltered.
- The cleaning of trains is purchased by DR Trains (Trains) and consists of three activities: modular cleaning jobs (performed on a nightly basis), periodical cleaning jobs (performed simultaneously to

maintenance activities), and "turning point" cleaning (performed at the end of a track, before a train is turned and continues its time table). The cleaning service eventually becomes part of DR's offering to passengers in the form of a clean train. Therefore, cleaning of trains is considered a semi-manufactured service.

- The cleaning of office buildings is purchased by DR Offices (Offices) and concerns cleaning during the daytime of offices and other areas (like the cafeteria) in DR's office buildings. The cleaning of offices is a consumption service.

Traditionally, each of DR's subunits (Stations, Trains and Offices) purchased their own cleaning services. Recently, DR decided to leverage the volume of cleaning activities by conducting one tender (per region) for the three cleaning services together. By purchasing all three cleaning services from one supplier, volume discounts would be possible. DR furthermore hoped to achieve efficiency increases, since the supplier would be able to optimise its time utilisation. In the past, train cleaners from one supplier would be waiting for "turning point" and do nothing, while at the same time the station cleaners from another supplier would be cleaning the platforms. Furthermore, by combining the three types of cleaning, DR would be able to offer suppliers both day-time and night-time work, which should have a positive effect on the suppliers' prices. DR therefore added a company-specific assignment to the research, which was to evaluate two purchase trajectories in terms of joint tendering and the implications for contract management.

Data collection methods and analysis

Data collection primarily took place by means of semi-structured interviews. Between June 2006 and January 2007, about ten interviews of 1.5 to 2 hours each were conducted with the senior buyer, the members of the commodity team (who develop the sourcing strategy for the commodity 'cleaning'), and members of the purchase teams that actually conducted the tenders. The commodity team and the purchase team both consist of representatives Stations, Trains and Offices. The interviews in June 2006 were mainly for purposes of orientation; intensive data collection took place between September and December 2006. Interviewing multiple informants regarding a certain topic enables data source triangulation (Yin, 2003).

The people to be interviewed were identified by the senior buyer, who was the main stakeholder in this project. Some people were interviewed multiple times because people either were involved with more than one purchase team or assumed dual roles (for example: being a commodity team member, who is also part of a purchase team). The senior buyer was also interviewed multiple times, since she carried main responsibility for the sourcing of cleaning from RD and as such had been involved in all purchase trajectories. The senior buyer furthermore also is part of the commodity team.

The interviews with the senior buyer focused on the tactical/ strategic considerations for purchasing for bundling the purchase of the three cleaning services. Furthermore, since the senior buyer had an overview of all activities related to the sourcing of cleaning, interviewing her helped clarifying issues and eliminating inconsistencies resulting from the other interviews. The interviews with commodity team members addressed similar issues, but then from an internal customer's perspective. Finally, the interviews with the purchase team members addressed the actual tender trajectory (specification, selection, contracting) and how DR and the service provider interact during the contract period. To resolve any conflicting observations, we verified these observations with the involved interviewees by a follow-up using telephone or email. Furthermore, informal discussions took place before and after interviews and meetings with the senior buyer.

Representatives of two suppliers were furthermore interviewed to obtain an understanding of how they view the new contracts with DR. The primary contact persons at the supplier were provided by the members of the purchase teams at DR. The various supplier counterparts of the different DR team members were identified in advance and the supplier was requested to have each of these people participate in an interview. Unfortunately, multiple people could only be interviewed at one of the suppliers (the General Director and the Head of Sales were interviewed at this supplier, as opposed to only the Manager National Accounts at the other). The people interviewed had mainly been involved in the sales trajectory, but claimed to have sufficient insight in the daily collaboration between their company and DR (the cleaning providers' company sizes are not very large; we can therefore assume

that these people have a good overview of the post-contractual dealings with DR). Also, the ideas obtained from the interviews with the suppliers were verified with DR and vice versa, as to ensure that an unambiguous and complete picture had been obtained. The functions of all people interviewed can be found in Table 2.

Insert Table 2 here.

Questions for the interviews were derived from the lists of interview questions used by the Industrial Marketing and Purchasing (IMP) Group in their studies of ongoing interaction between buyers and sellers of industrial goods (Håkansson, 1982). The questions addressed topics like the characteristics of the companies involved, the characteristics of the three cleaning services, the purchase process, the ongoing business and the success of the joint contract. For the last topic, we asked the buying company about their perception of success relative to their expectations in advance of signing the contract. As such, we follow Parasuraman (1998, p. 312), who noted that service quality is a function of a gap between expectations and performance. We gave specific attention to their perception of the process of ongoing service delivery and the service actually delivered. This is in line with Grönroos (1982) and Edvardsson and Olsson (1996), who make a distinction between the outcome of the service (what customers actually receive) and the process of service delivery (way in which customers receive the service).

Each interview was recorded and transcribed; these transcriptions were verified with the interviewees. The results were furthermore discussed among the research team to further enhance validity[1]. Table 3 summarizes how we dealt with validity and reliability issues.

Insert Table 3 here.

In addition to interviews, other data collection methods were used, thereby enabling method triangulation (Yin, 2003). Various documents were studied, like Excel sheets containing overviews of supplier selection decisions, contracts, and supplier performance ratings.

Finally, an organised discussion session took place near the end of the interview period to discuss the results. This meeting, which lasted 1.5 hours, was attended by all commodity team members (five people), the project leader of the purchase trajectories, and the senior buyer for security services (this commodity is going through a similar development as cleaning). The head of the commodity team chaired the meeting, and after the findings of the study had been presented by the authors, they were discussed among the attendees. A summary report was made of the meeting, and verified with the senior buyer.

Analysis

After the interviews had been transcribed and approved by the interviewees, the interviews were coded in terms of various topics related to the initial purchase trajectory and the ongoing interactions. Codes used were specification, supplier selection, contract / Service Level Agreement, contract management/ ongoing dealings, evaluation/ performance. Data thus came from analyzing and interpreting what interviewees were trying to say (Stuart, McCutcheon, Handfield, McLachlin & Samson, 2002, p. 427).

The document studies provided more detailed insight into issues like Key Performance Indicators and their interrelationships, and the way in which the services to be delivered had been specified. As such, we could verify claims of interviewees about for example the completeness or clarity of the contract. The data from the discussion session was analysed in a similar manner as the interviews. The feedback obtained provided us with support that the picture we had obtained was correct and that the ideas we developed for potential improvement of the situation were relevant.

Based on these analyses, descriptions of the interaction patterns were made. Furthermore, the main findings with regard to the initial purchase trajectory were described. The descriptions of the patterns

[1] The research team consisted of one principal researcher and the two co-authors of this paper.

of interaction were then compared with the 'ideal' patterns of interaction developed in prior research to see whether and where discrepancies arise. It was found that discrepancies occurred most strongly with regard to the supplier's functional representatives involved in the ongoing interactions and the capabilities the supplier brought into the relationship (we will explain how we arrived at this conclusion when discussing the results of the cross-case analysis in our Findings section).

Type of functional representatives and capabilities are part of the dimensions along which a pattern of interaction can be described, and highly important, since the quality and productivity of business services are often highly dependent on the (human) resources involved in the production, delivery and consumption of those services – on *both* sides of the relationship (Grönroos, 2000; Gummesson, 1998; Zeithaml, Berry & Parasuraman, 1988). Capabilities (or: competencies) are also mentioned in the SERVQUAL model (e.g. Parasuraman, Zeithaml & Berry, 1985) as an element that partly determines service quality. Capabilities in services are required to jointly engage in value-creation (Vargo, 2006). According to Walter et al. (2001), value creation is the main reason for buyers and suppliers to engage in value creation in the first place. It is thus highly relevant to consider whether the parties involved have the competencies required to obtain the desired end result. Therefore, while the patterns were still being analysed, additional literature research was conducted, guided by the emerging empirical findings. As Dubois and Gadde (2002, p/. 553) describe: "Parallel to the data collection, the search for complementary theories continued". Literature on capabilities was studied more closely to be able to evaluate why the ongoing interactions with one supplier were successful, whereas the interactions with the other supplier were not.

Ford et al. (1986) claim that capabilities describe the buyer-seller relationship in terms of what the parties can do for each other and which functions they can fulfil. This is linked to the idea that business relationships have functions, referring to the activities that either party in the relationship performs and the resources it employs in doing so (Anderson, Håkansson & Johanson, 1994; Håkansson & Johanson, 1993). Building on the idea of functions of business relationships, Walter et al. (2003) propose eight value-creating functions of supplier relationships for buying organisations. Four of these functions are direct, which means that they have an immediate effect on the buying company. The other four have an indirect effect on buying companies, because they are directly or indirectly connected to other relationships. The direct functions are: cost reduction (through lower prices), quality (for the end customer and/ or for the buying company), volume (having more volume provided by a supplier with which a good working relationship) exists and safeguard function (having multiple suppliers that can back up each other as a way to reduce risk). The indirect functions are: innovation development, market (the supplier helps the buying company to establish contracts with new potential exchange partners), scout (supplier transferring knowledge/ learnings from one buying company to another) and the social support function (working with cooperative partners may benefit the relationship atmosphere).

By combining the framework of Walter et al. (2003) and with the findings on 'ideal' competences from prior research into ongoing interaction in business services, claims can be made with regard to how certain supplier capabilities contribute to successful ongoing service exchange. Therefore, these two frameworks are used to analyse supplier capabilities in the embedded case study. First, within-case analyses are conducted of the ongoing interactions with each of the two suppliers. Then, a cross-case comparison is made.

Findings

At the moment this study was conducted, DR had bundled its three types of cleaning into one contract in three regions. Two of these regions were awarded to supplier A in 2006; the third region was awarded to supplier B in 2006. All contracts are for a period of three years, with an option to extend the contract for another year two times.

We will now describe what the patterns of interaction look like between DR and each of its suppliers.

Ongoing interaction between supplier A and the three subdivisions of DR

Considering the ongoing interactions between supplier A and Stations (thus: for cleaning of stations), the key objective is to contribute to DR's value proposition through clean junctions of public transport. Since the cleaning service of supplier A contributes directly to DR's value proposition to its customers, it is important that the supplier understands these customers' requirements and develops a cleaning program that will fulfil these requirements. However, so far, end customers are not involved/ questioned for determining what cleaning services are required. Stations has special Cleaning Advisors, who are fulltime involved with cleaning and who determine the cleaning requirements. An external third party is involved to inspect quality: periodically, this third party evaluates what cleaning activities have been performed and how well they have been performed. Furthermore, Stations uses a Service Level Monitor, a three-weekly quality check on eye-catching contaminations. The last quality measure is the end customer's perception of the cleaned object. Supplier A's performance is assessed in view of all these measures. According to supplier A however, there is no clear link between the end customers' evaluation and the quality of the cleaning activities. This results in a lot of debate regarding the quality of cleaning, rework, and dissatisfaction with both the buyer and the supplier.

This was aggravated by the fact that supplier A had difficulties with organising the cleaning of trains, as a result of which they had to shift their energy and attention from stations to trains, thereby taking both management and operational capacity away from stations. According to the Trains purchase team member in one of the regions: *"Supplier A had never before cleaned trains: Trains therefore had to teach supplier A what train cleaning is all about. I have spent a lot of time at our cleaning location to explain about our company, our requirements, how to clean trains, et cetera."* His colleague in the other region stated: *"Supplier A was sort of walking around with the specifications in one hand, to see what tasks they did and did not need to do."* Also Stations had to put in a lot of extra effort to make the contract work (to the extent that some of the people got seriously overworked).

Considering the interactions between Trains and supplier A, also here, the key objective of cleaning is to contribute to DR's value proposition. Since the cleaning of trains (during the day) is performed during DR's operations, supplier A has to be very flexible in terms of performing the cleaning activities (a train may arrive a little earlier or a little later), and reliable as to not create disturbances in the time-table. Supplier A however indicates conflicting interests between Trains and Stations: *"For example: when we know a train is not coming or coming later, we want to clean platforms. Trains however does not want us to, since they then feel like they are paying for the cleaning services of Stations."* – Manager National Accounts supplier A. Furthermore, quality is evaluated by Trains quality inspectors, which supplier A does not deem very objective.

The interactions between Offices and supplier A are less problematic. They were hardly affected by the problems supplier A had with trains and stations, since cleaning of offices is different in terms of the location, the type of people that do this work (women versus men), the type of activities performed (inside, medium-intensive labour versus outside, very intensive labour), et cetera. The key objective is to have the service being performed efficiently and effectively. Supplier A therefore needs to develop efficient routines, as well as to understand the (occasionally different) needs of the various internal customers. For Offices, the Facility Manager represents the various occupants of the office buildings, and has to identify and communicate the requirements of these occupants. The processes of interaction are much more stable, with quality being evaluated through annual questionnaires measuring the occupant's satisfaction. Supplier A has a work program and knows what to do; in case of serious discrepancies the Facility Manager and supplier A meet to discuss these.

These observations (summarised in Table 4) lead to some interesting findings. Firstly, supplier A involves the same functional representatives with all three types of cleaning, thereby suggesting that they do not clearly differentiate their cleaning activities. Indeed, supplier A has in each region separate cleaning teams for the stations, the trains and the office buildings: there is hardly any integration regarding the three cleaning activities. Thus, supplier A was not able to fulfil the profit function: all the gains resulting from volume aggregation and price reduction have been lost as a result of the problems in the ongoing interactions and the lack of integration of the service processes. Secondly, the cleaning of trains and stations is highly problematic and quality has not substantially improved (thus: no quality function). The indirect value-creating functions are not addressed at all: whereas supplier A may have been able to transfer learnings from their activities for airlines to their activities for DR

(scout function), this does not seem to be the case[2]. In this case, DR was the party with specific knowledge, not supplier A. The problems in the ongoing interaction also negatively affect the social support function. The fact that so few value-creating functions are fulfilled underlines the fact that these interactions are not very effective.

We now turn to the findings for the ongoing interactions with supplier B, after which a comparison is made.

Insert Table 4 here.

Ongoing interaction between supplier B and the three subdivisions of DR

The interactions between the divisions of DR and supplier B for cleaning trains and stations are different than what we have just seen for supplier A (the findings for office cleaning are quite similar and are therefore left out of this analysis). Firstly, since stations have to be cleaned in a way that contributes to customer satisfaction, supplier B puts in a lot of energy to make sure that the quality targets are met. Furthermore, they are very much aware that they are part of DR's customer process, and therefore try to perform their cleaning activities with a customer's point-of-view. For example: when a passenger drops a package of French fries on the platform, cleaning this up may deserve priority over emptying the bins on the train. Supplier B admits that this can be developed further, and DR could help by investigating their customers' requirements and preferences. Furthermore, supplier B claims that they do not assign just any cleaner to cleaning stations: they feel that their cleaners are part of DR in the eyes of the end customers, and this sets certain requirements on which people perform this job in terms of language, clothing and attitude (customer friendliness/ orientation). According to supplier B, not all employees are equally suitable to perform this job.

Concerning the integration with the cleaning of trains, the problems that occurred with supplier A do not occur with supplier B. Supplier B is very pro-active in optimizing the various cleaning activities they perform: the team leader continuously checks the information panel on the hall of the station to see where and when trains will arrive and sends cleaners to the appropriate platforms. If delays occur, the team leader assigns his personnel to platforms that need to be cleaned. As such, the cleaning processes for stations and trains are strongly interlinked. Also the cleaning of trains is an integral part of DR' customer processes. This is underlined by the fact that one and the same District Manager has responsibility for trains and stations: supplier B has assigned responsibility for the cleaning of stations, for trains at the stations, and for offices one person (including the offices is beneficial here, since all offices are in direct vicinity of the station).

The overnight cleaning of trains, which takes place at a separate location, has been assigned to a dedicated Object Leader. Quality is important here, since end customers are confronted with the results of cleaning. Furthermore, flexibility is important, since the number of trains that end up at a certain overnight location may fluctuate. For this purpose, frequent coordination regarding the performance of DR's time table is required.

Furthermore, because DR is a key account for supplier B, general management and sales are also involved in the ongoing interactions (though less intensively as the people in operations). As a result, the various DR subunits and supplier B share their visions on a regular basis in order to align their strategies and identify opportunities for improvement.

Insert Table 5 here.

The findings are summarised in Table 5. Supplier B has been able to integrate their service activities, thereby reaping the benefits from a joint contract better than supplier A. We therefore consider the profit function to have been fulfilled. Furthermore, quality has been consistently high in the region supplier B is operating in. Regarding the indirect functions, supplier B seems to fulfil the innovation function, since they have over the years improved their service for DR. They have also drawn on their experiences with innovative initiatives with other clients (scout function). Finally, the collaboration between supplier B and DR is pleasant and constructive; thus, the social support function

[2] Note that the safeguard function does not play a role here, since DR has contracted only one supplier per region.

is fulfilled. The fact that many value-creating functions are fulfilled underlines the idea that this interaction is effective.

Cross-case comparison

When comparing the two cases (Tables 4 and 5), we find that DR has different key objectives for the three types of services. Based on this, DR involves different people, representing the different company subunits. Clear differences however can be seen with regard to the supplier representatives involved and the capabilities displayed. Supplier B involves different people in each of the three types of cleaning, whereas supplier A does not differentiate their functional involvement. More specifically, supplier A involves people at the tactical/ strategic level, which may not have a detailed overview of what actually goes on in operations. Supplier B involves people that directly supervise the people actually performing the cleaning activities. Consequently, the dialogue between DR and supplier B involves much more hands-on issues than the dialogue with supplier A, which is basically limited to a discussion of the overall quality and associated payment.

A critical issue in the collaboration with supplier A, however, was that they turned out to be technically ill-capable of performing cleaning activities on trains. As a result, DR prescribed what cleaning activities should be performed in a very detailed manner. However, the extra attention for train cleaning came at the expense of cleaning stations. Furthermore, supplier A does not explicitly acknowledge that they are performing cleaning activities of trains and station in front of customers, and accordingly does not utilise different capabilities for these services. This may be the result of the fact that DR has specified the three types of cleaning in a way similar to when they would have been purchased separately. Thus, for supplier A, there is no difference between being awarded this joint contract and being awarded three individual contracts. As a consequence, they do not differentiate their cleaning activities, and just regard the contract as containing one cleaning job at various locations. Their bid was indeed very low: only during the course of the contract did they find out that they incurred a lot of additional costs. To summarise: supplier A lacked technical capabilities, but also the understanding of the need for differentiated service provision. The lack of these capabilities is the main cause of the limited level of success in this contract.

Supplier B in contrast has devoted special attention into setting up an appropriate organizational structure for managing key account DR. Thereby they incurred increased overhead costs, but also increased their ability to customise their service provision to the wishes of the three internal customers of DR. Furthermore, by involving different representatives, appropriate management skills were available for each of the cleaning activities. The newly set-up organizational structure has strong links with the communication scheme agreed upon by both companies. This communication involves more than just the quality of service delivery: opportunities for improving the customer experience in trains and at stations are investigated and discussed. Supplier B is of the opinion that the technical quality of service delivery alone is not sufficient: other options to increase customer satisfaction should be explored. The fact that supplier B separates the cleaning of trains overnight from the cleaning of trains at the stations stresses that they understand that the cleaning process at stations (in front of customers) is something different than the cleaning process at stationing premises (away from customers).These processes are also substantially different in terms of for example the kind of activities being performed and the kind of people that perform these activities. Thus, supplier B has developed appropriate capabilities for each of the three types of cleaning, as a result of which the interactions with DR are more successful.

Then how can we explain that supplier B has so much better capabilities and people resources in place than supplier A, especially in light of the fact that DR did not approach these two suppliers in a different manner? A plausible explanation for this comes from the fact that supplier B had been performing all three cleaning activities in the region for which they were awarded the joint contract for a long time already. As such, over time, they were able to gradually build up the required skills and competencies, and grew to better understand DR and their requirements and behaviours. That the fact that having an ongoing relationship may explain these findings is also underlined by supplier A: *"A long-term contract benefits both parties: you know each other, you know the contract, you know the bottlenecks, et cetera. This leads to a better result."* – Manager National Accounts supplier A. It may also be possible that supplier B is more innovative in terms of how they wish to approach the market and differentiate their value-creating activities for their customers.

Conclusions and limitations

This paper has presented the results of an embedded case study in which three cleaning services, which belong to different classes in the classification of Wynstra et al. (2006), are bundled into a single contract. Within the context of the buying company DR, the ongoing interactions with two service providers were studied.

We found that the ongoing interactions with supplier A were perceived by DR as quite problematic, whereas the ongoing interactions with supplier B were considered highly successful. The main cause of these problems were found to be related to (a lack of) capabilities. Whereas supplier B had developed the appropriate capabilities for each of the three types of services they provided, supplier A did not differentiate. For one of the cleaning services, supplier A lacked capabilities altogether. Supplier B in contrast is very experienced in cleaning for DR, as a result of which they have a thorough understanding of DR's processes. This shows most evidently from the way that supplier B has organized the DR account internally (which brings appropriate management skills into the contract), as well as from the fact that they pro-actively try to optimize their cleaning activities performed at stations (either on trains or on the station itself). Overall, supplier B fulfils more value-creating functions than does supplier A.

These findings underline the importance of appropriate supplier capabilities in the ongoing interactions. In case of component and semi-manufactured services, the supplier needs to understand that they are part of customer processes. This case clearly shows the different buyer-seller linkages in the area of service operations management, whereby a mutual, thorough understanding of the buyer's and the supplier's processes is required in order to be successful in terms of ongoing service exchange. Thus, buying companies need to upfront think about how they will use the service and, consequently, about what kind of requirements that puts on the supplier.

Furthermore, the fact the cleaning of (trains at) stations occurs in front of passengers puts additional requirements on the supplier's employees in terms of language, clothing, and general service orientation. These issues should already be included in the service specification, and it certainly should be covered in the list of supplier selection criteria. Aspects like language and clothing are less critical (in terms of a potential harmful effect on customer satisfaction) when buying office cleaning. This is an aspect which DR can still develop further.

DR can learn from their experience with supplier B and try to input these learnings into new tender trajectories. Taking into account issues like customer orientation and clothing when specifying cleaning services for trains and stations may result in both DR and the newly contracted suppliers to differentiate their cleaning activities more clearly from the very beginning. The classification and the associated 'ideal' patterns of interaction can be used to (further) develop appropriate interfaces and interactive processes.

A limitation of this study is that only a few supplier representatives have been interviewed. Conducting multiple interviews with suppliers, for example with the people involved in the operational processes, would have enabled some data source triangulation (Yin, 2003). Interviews with object leaders may provide additional insights regarding for example the coordination of various cleaning activities and the appropriateness of performance criteria used. Perhaps talking to cleaners would also have value.

Although we acknowledge that conducting more interviews may increase the validity of our findings, it seems that the current informants have a fairly good overview of what goes on in the daily processes. Furthermore, the data from these interviews could be compared with data from DR. Therefore, in this study, this limitation is not deemed too problematic.

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Table 1 How the dependent variables vary per service type

Type	Key objectives	Critical supplier capabilities	Critical customer capabilities	Supplier representatives	Customer representatives	Main issues in the communication
Component	▪ Service has to become an integral part of buying company's offering to end customers	▪ Understanding end customer and how service delivered fits with buying company's customer processes ▪ Match service delivery with end customer demand ▪ Reliability	▪ Ability to clearly specify customer requirements and how service impacts customer processes ▪ Ability to communicate company culture and behaviour	▪ Marketing representatives regarding the supplier's own service ▪ 'Downstream' specialists (knowledgeable of the customer's offering)	▪ Marketing representatives, people knowledgeable of the buying firm's final offering	▪ Demands of end customer ▪ Buying company's customer processes and company culture ▪ Transition process ▪ Supplier performance ▪ Demand management
Semi-manufactured	▪ The service should become an integral part of the buying company's primary processes	▪ Understand how service affects performance buying company ▪ Flexibility to match demand patterns ▪ Reliability	▪ Clearly communicate requirements and the consequences of not meeting requirements ▪ Ability to live up to requirements and delivery schedule themselves	▪ 'Production planning' and marketing representatives	▪ Co-producers/service "production" planners ▪ End customer representation (marketing/ sales)	▪ End customer requirements ▪ Timing of service delivery ▪ Trends and developments within buying company and in supply market
Instrumental	▪ The service should affect the buying firm's primary processes in the desired way ▪ The service should fit with important characteristics of these primary processes	▪ Understand how the service affects the buying company's primary processes ▪ Project management/ implementations skills	▪ Ability to communicate desired effect on primary processes (internal customer demands) ▪ Ability to enable the supplier in achieving the desired performance	▪ Product representatives, often including a team of consultants or process engineers	▪ People involved with the primary process at which the service is directed (process engineers) ▪ Users of the primary process at which the service is directed	▪ Effects of service on primary processes ▪ Performance and improvement opportunities ▪ Coordination between primary process and service delivery
Consumption	▪ The service should be integrated with various support process	▪ Ability to develop efficient routines ▪ Ability to adapt the service to the specific situation of customer	▪ Ability to specify and communicate requirements of various internal customers ▪ View service as potential value-added rather than cost	▪ Marketing representatives	▪ Internal customers (any functional discipline or all)	▪ Internal customer requirements ▪ Improvement opportunities ▪ Daily business

Table 2 Informants

Team	NS Stations	NS Trains	NS Office	Other	Service provider
Commodity team	▪ Process Manager Quality & Control	▪ Director National Cleaning Office	▪ Facility Mgr Corporate Housing [3]	▪ Senior buyer ▪ Project leader ▪ CPO	-
Purchase team north region/ Supplier A	▪ Advisor Cleaning Mgt	▪ Contract Mgr Cleaning north region (former and current)	-	-	▪ Mgr National Accounts [4]
Purchase team south region/ Supplier A	▪ Advisor Cleaning & Environment	▪ Contract Mgr Cleaning south region	-	-	▪ Mgr National Accounts
Purchase team central region/ Supplier B	▪ Advisor Station Cleaning Mgt	▪ Contract Mgr Cleaning central region	▪ Facility Mgr Corporate Housing	-	▪ General Director ▪ Head of Sales

Table 3 Validity and reliability in the case studies

Type of validity	Methods of addressing this in the case studies
Construct validity "establishment of correct operational measures for the concepts being studied"	▪ Triangulation of interview data with informal discussions and formal discussion session ▪ Triangulation of multiple internal informants: different internal representatives ▪ Triangulation with external informants: supplier representatives ▪ All informants received draft versions of the interview report for comments ▪ Draft version of complete case report was verified and discussed with multiple buying firm representatives ▪ Three research team members gave input during data collection and analysis ▪ Result: emergent explanations adjusted and expanded; participants agreed to the interpretations
Internal validity "establishing causal relationships whereby certain conditions are shown to lead to other conditions, as distinguished from spurious relationships"	▪ Use of conceptual framework ▪ Result: relationships between the different variables from the conceptual framework identified and substantiated
External validity "establishing a domain in which the study's findings can be generalized"	▪ Theoretical sampling of cases at the level of the service purchase ▪ Result: findings applicable to different types of service purchases
Reliability "demonstrating that the operations of a study can be repeated with the same results"	▪ Development of case protocol ▪ Development of (interview) questionnaire ▪ Taping and transcribing the interviews ▪ Result: methodology transparent and repeatable

Based on: Yin (2003).

[3] The Facility Manager Corporate Housing represented NSO in all purchase teams. Since NSO comprised a very small part of spend in the north and south regions, the Facility Manager Corporate Housing was only interviewed as a member of the commodity team and as a member of the purchase team in the central region.
[4] The supplier's Manager National Accounts was involved in both sales trajectories won by supplier A.

Table 4 Interaction patterns DR - supplier A

Type	Key objectives	Critical supplier capabilities	Critical customer capabilities	Supplier representatives	Customer representatives	Main issues in the communication
Cleaning of stations	▪ Service becomes integral part of DR's service provision/ contributes to value proposition	▪ Being able to perform prescribed working program while attaining desired quality level	▪ Translating customer satisfaction target into working program	▪ Manager National Accounts ▪ Manager Operations ▪ Regional Office Manager ▪ Object leader	▪ Cleaning advisor ▪ External quality inspectors	▪ Technical quality supplier ▪ Adequacy of working program ▪ Optimization of cleaning trains and stations
Cleaning of trains	▪ Service becomes integral part of DR's service provision/ contributes to value proposition	▪ Reliability (supplier needs to be present when train arrives) ▪ Flexibility (supplier can clean stations when train does not arrive)	▪ Timely communication of changes in time-table and delays (reliability DR performance)	▪ Manager National Accounts ▪ Manager Operations ▪ Regional Office Manager ▪ Object leader	▪ Contract manager ▪ Quality inspector Trains	▪ Execution of cleaning activities / quality of cleaning activities
Cleaning of offices	▪ Efficient and effective service provision, with minimum disturbance for employees	▪ Ability to develop efficient routines ▪ Understand needs of internal customers	▪ Ability to clearly communicate occupant requirements	▪ Manager National Accounts ▪ Manager Operations ▪ Regional Office Manager ▪ Object leader	▪ Facility Manager	▪ Daily quality ▪ Opportunities for improving efficiency while maintaining effectiveness

Table 5 Interaction patterns DR - supplier B

Type	Key objectives	Critical supplier capabilities	Critical customer capabilities	Supplier representatives	Customer representatives	Main issues in the communication
Cleaning of stations	▪ Service should become integral part of DR's offering to travellers (clean stations)	▪ Understand that cleaning is a part of DR's primary processes ▪ Pro-active in optimizing various activities performed	▪ Identifying and communicating customer wishes and requirements	▪ District Manager stations, trains and buildings ▪ District Manager 'outside' stations ▪ Sales/ general management	▪ Cleaning Advisor ▪ External quality inspectors	▪ Quality performance ▪ Collaboration ▪ Company vision/ strategy alignment
Cleaning of trains	▪ Service should become integral part of DR's offering to travellers (clean trains)	▪ Understanding of being part of DR ' primary processes/ pro-activity in optimizing various activities performed ▪ For overnight cleaning: understand supplier impact on DR performance/ ability to match demand patterns	▪ Explain how supplier performance impacts customer satisfaction ▪ Timely communication of changes in time table (reliability DR performance)	▪ District Manager stations, trains and buildings ▪ Object Leader stationing premises ▪ Sales/ general management	▪ Contract manager ▪ Quality inspector Trains	▪ Execution of cleaning activities / quality of cleaning activities
Cleaning of offices	▪ Efficient and effective service provision, with minimum disturbance for employees	▪ Ability to develop efficient routines ▪ Understand needs of internal customers	▪ Ability to clearly communicate occupant requirements	▪ District Manager stations, trains and buildings ▪ Sales/ general management	▪ Facility Manager	▪ Daily quality ▪ Opportunities for improving efficiency at equal effectiveness