Studying Multi-sourced IT Service Chain Arrangements - The Case of Mission Critical Outsourcing

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STUDYING MULTI-SOURCED IT SERVICE CHAIN ARRANGEMENTS - THE CASE OF MISSION CRITICAL OUTSOURCING

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Abstract. *Multi-sourcing as a strategy for IT outsourcing (ITO) is becoming more important. Although already identified in the early days of outsourcing, companies selected multiple providers for their IT services. The explicit management of these relations was left implicit both in practise and in research. Multi-sourcing has mostly been addressed as a competitive strategy, until now little attention has been paid to the collaboration between the parties and the evolution of the relationships. In this paper we investigate how to study successful multi-sourced IT service chain arrangements. In our approach we have conducted an exploratory case study of a successful Dutch specialist outsourcing provider for mission critical outsourcing. As an outcome of this case study we have developed a research framework to study the development of collaboration in relationships for multi-sourced IT service chains in the mission critical context.*

Keywords: Multi sourcing, Outsourcing, Mission Critical Systems, Collaboration

1 INTRODUCTION

IT Outsourcing (ITO) received much attention in the last decade, both in the business world and the academic world. The purpose of IT outsourcing is to have part of the IT service fulfilled by an external party, specialised in that work. IT outsourcing research literature was mostly concerned with the why of outsourcing, the preliminary parts of contracting and the asset and people transfer problem (Dibbern et al., 2004). Unfortunately IT outsourcing deals have shown mixed results. In a recent practitioner's study two main concerns have been raised with respect to outsourcing: the lack of actual quality during delivery of the services and the lack of understanding of the business (Ertel et al., 2006). These concerns are validated by the ICT Outsourcing Outcomes study, where "Demonstrable value for money" and "Improve Service" are recognized as the most applicable outcomes sought in outsourcing situations (Cullen et al., 2008). With the raising concern regarding the outcomes of outsourcing,

research is now also focussing on the relationship in outsourcing. The shift in attention indicates a clear change of research interest from getting to the contract to executing the contract, both are now considered equally important (Kern and Willcocks, 2002; Poppo and Zenger, 2002).

The IT outsourcing arena however is changing. After the era of the big outsourcing deals, in which complete IT departments and functions are transferred to can-do-all IT providers, multi-sourcing as a strategy has become more important (Cohen and Young, 2006). Multi-sourcing or selective outsourcing has already early in the outsourcing literature been suggested as an alternative to the big deals as a means to reduce risk (Lacity et al., 1996). This strategy has dominantly been proposed from a competitive viewpoint (Lacity et al., 1995). By introducing multiple parties the competitive tension is used as a way to provide the customer with means to control the providers.

In multi-sourcing strategies the complete IT delivery of a business initiative is split-up in several allotments and divided over multiple providers, hence forming an IT service chain. This split up provides benefits such as vendor specialisation and reduction of risk, but also adds complexity since the relationship between suppliers is now explicit for the customer (Gallivan and Oh, 1999). If quality issues are eminent in dyadic client-vendor relationships, it might be expected that these issues multiply in multi-sourced IT service chains. These concerns and outcomes make clear that simply recognizing the fact that the relationship is important and that providers should commit resources to it is not the single answer to relationship management. Outsourcing success is measured by customer satisfaction, where customers are able to achieve their business goals. This can only follow from a combined focus on both service quality and relationship quality in which these business goals are leading.

The study of successful configurations in the multi-sourced service chain requires also, next to the combined focus to both service and relationship quality, a focus on the collaboration between the parties. The customer may select the vendors, but often the vendors did not select each other. The quality of the combined service, however, depends on how well these parties operate with each other. The focus on the relationship and the execution of the contract is essential in basic outsourcing relationships, and this is certainly true for multi-sourcing arrangements. Until now, the issue of developing successful collaborative relationships in the multi-sourced IT service chain has hardly received any research attention.

The purpose of this paper is to develop a research framework to study successful multi-sourcing arrangements with a focus on the evolution of collaboration in the multi-sourced IT service chain. The research question addressed in this paper is: how to study successful multi-sourced IT service chain arrangements? We develop a research framework based on an exploratory case study.

In the next section, we will first discuss the research method applied. We continue with the elaboration of the outsourcing spectrum and define the specifics of multi-sourcing arrangements. After which we will describe the results of the exploratory case study. Finally, we reflect on the case and define the research framework, based on this framework we conclude and discuss further research.

2 RESEARCH METHOD

This paper is the start of systemic (action) research in the development of collaboration in multi-sourcing arrangements. As stated in the introduction, the research question addressed in this paper is: *How to study successful multi-sourced IT service chain arrangements?*

Following this research question three sub questions are formulated:

1. What is multi-sourcing and how does it differ from outsourcing?
2. What is an IT service chain?
3. What is the definition of success in multi-sourced IT service chains?

The first two sub questions will be answered in the next section based on an analysis of the literature. An interpretive exploratory case study is used to answer the the third sub question and finally the overall research question.

2.1 Exploratory Case Study

An exploratory case study is a type of case study research, next to descriptive and explanatory case studies. It is most appropriate for studying new areas of research (Yin, 2003). In this research an exploratory case study will be used to develop a research framework that will guide further research into the development of collaboration in multi-sourcing arrangements. As stated by other scholars further research into outsourcing requires more idiosyncratic research (Cullen et al., 2008). The study of multi-sourcing arrangements has hardly received any attention and therefore qualitive and interpretive approaches are considered more appropriate to address the topic and to gain a deeper understanding of the specific determinants (Darke et al., 1998; Doolin, 1996; Walsham, 1995). For this research we therefore choose a positive approach to research multi-sourcing arrangements and deliberately select successful arrangements (Avital et al., 2006).

2.2 Data Collection and Analysis

For data collection in this case we have used four sources. We have used the independent market research for the Dutch outsourcing market. This comprehensive study covers about 90% of the dutch outsourcing market (Chambers/Giarte, 2006, 2007; Equaterra/Giarte, 2008). As the unit of analysis for this case study we have selected a successful Dutch outsourcing service provider, which has been receiving outstanding evaluations from its customers, as investigated by an independent market research on outsourcing. To understand the multi-sourcing concept we have used three customer cases as the embedded unit of analysis.

The main body of evidence was collected by participant observation of the first author. Being actively involved in a number of customer case environments, notes have been collected carefully. These observations have been combined with in-depth, unstructured interviews with the directors of the outsourcing vendor to further conceptualise the determinants for successful outsourcing relationships.

As a cross reference, a wide body of documentation has been used such as annual reports, company introductions, and customer case level project documentation.
The evidence collected is the basis of a case study database. A subset of this database is used and summarized in the results section of this paper. Based on the results, a research framework has been constructed. The case study was used to identify the concepts deemed relevant for high quality service provisioning in mission critical outsourcing. In the analysis we have used these high level concepts and defined the relationships between the concepts

3 OUTSOURCING

"IT Outsourcing (ITO) is the contracting out of IT service provision to one or more external organizations." (Domberger, 1998). For the provisioning of a service, in this case IT, an inter-organisational link is established for the delivery of this service and some form of control is transferred to an external organization. This therefore rules out the delivery of services in the form of (sub-) contracting individuals.

The IT outsourcing phenomenon covers a wide spectrum of services. This ranges from outsourcing specialist functions like technical writing and software testing to the provisioning of services like datacenter facility management and desktop support. Another type of outsourcing is Business Process Outsourcing, in which a complete business function is serviced by an external party. This can range from calldesk support to specialized R&D functions.

The main body of research considers outsourcing as a replacement of an existing IT function. Specifically questions like the strategic intent, contract formation, transfer of assets and people and the control by customers of the newly formed outsourcing relationship are addressed (Dibbern et al., 2004). In the search for optimal outsourcing arrangements, different strategies are researched like selective and functional outsourcing (Grover et al., 1996).

In selective outsourcing only part of the IT function is outsourced. It concerns the middle ground somewhere between 20 and 80 percent of the IT budget is outsourced. Anything above 80% is considered Total outsourcing and below 20% as Minimal outsourcing. Functional outsourcing does recognize different functions: system operations, system management, system development and help/calldesk. However, the collaboration between the different functions is not further addressed (Lacity et al., 1996).

Even the early deals already considered multiple parties, the much researched Kodak deal already involved three parties: IBM, DEC, Business Land (Gallivan and Oh, 1999). However, since the very early start of the outsourcing phenomenon it has been studied as a dyadic relationship between client and service provider. The use of multiple providers has specifically been addressed as a way to

minimize risk by introducing a competitive atmosphere amongst the providers (Lacity et al., 1995). Knowing that their work can be taken over by a competitor, keeps suppliers "alert" and force them to deliver the right quality for the right price.

In this paper we consider multi-sourcing as defined by Gartner: "Multi-sourcing: the disciplined provisioning and blending of business and IT services from the optimal set of internal and external providers in the pursuit of business goals." (Cohen and Young, 2006). We interpret this as the careful selection of specialist service providers by a client, either from within the own organisation or outside the organisation. This means that the client controls which party is involved (by means of contracting) and is the principle actor in the coordination. Furthermore, with optimal set we do not only refer to the right person for the right job, but also to the right party willing and able to collaborate with the other parties involved. Although clients might select their vendors, the vendors themselves not necessarily choose each other.

The parties are contracted to deliver a specific function for a specific business goal, this rules out the more tactical competitive procurement tactics in which organisations have general agreements on pricing and conditions only. The blending of business and IT services refers to the fact that although this is an IT centric effort, complete business functions ranging from call-desk to managing of financial back-offices (e.g. treasury, risk management or mortgage back-office departments) can be outsourced. Finally, the pursuit of business goals refers to a more vertical orientation towards a business initiative, in which the complete organisation for this initiative has to be developed, combined and selected.

4 RESULTS

To understand the important determinants in successful multi-sourcing arrangements we studied the practices of an IT outsourcing service provider. The involved company is a Dutch player providing global enterprise customers with infrastructure management services, which from now on will be referred to as PROVIDER.

In an independent study of the outsourcing market, the company was well evaluated regarding service quality and general satisfaction. The study was performed by an independent organization based on structured interviews with representatives of customers without the outsourcing providers being involved directly. The case study company has shown the highest customer satisfaction ratios in the industry (in The Netherlands) in three consecutive years (Chambers/Giarte, 2006, 2007; Equaterra/Giarte, 2008). Because of the fact that this company is best-in-class, we selected it as the subject of our study.

The company, which was the result of a management buy-out, is now privately owned by the three directors. All three directors previously had positions at large IT service providers before they became

members of the management team of the Dutch branch of an American company providing fiber/network traffic and datacenter services worldwide. The management buy-out took place in 2003, after the American mother company went Chapter-11. At that moment the three directors bought the assets and the existing customer base. They continued and refocused on the niche of mission critical outsourcing specifically with a clear intention to become a quality leader. They intended to make customer satisfaction, as opposed to sheer market growth, the leading principle in their organisation.

4.1 Mission critical outsourcing

Mission critical outsourcing is concerned with servicing business critical IT environments, i.e. a particular business function or initiative with corresponding IT services. The main characteristic of business critical IT environments is that it really impacts the business if applications are not available. Consider for example the web front-end of a web retailer. When the product catalogue is not available, this would directly mean no business activity, and therefore no income. The management of these mission critical applications requires another approach than for example the management of large suites of generic office desktops. The non availability of a desktop does in general have less impact on the performance of the business.

Desktop management, which is by far the largest portion of the outsourcing market, is mostly managed in a reactive way with support responding to end-user calls. Business critical systems require proactive management to prevent downtime and hence immediate action after incidents to prevent disruption of the service as much as possible. In business critical systems the quick restoration of an IT service is the most important guiding principle. In mission critical systems an availability close to 100% is required.

From a system management point of view there is also a difference in scale. While desktops are serviced by the thousands, leading to strong standardization, a typical business environment only has a handful of business critical applications. These applications are very specific to the business, either custom build or packaged software. The management of outsourced mission critical systems requires customized solutions per customer.

Furthermore, to be useful in a dynamic business environment, there is a high frequency of changes. This seems to be in conflict with high availability and requires an awareness of risk. Within mission critical it is essential to develop the collaboration within the IT service chain, such that knowledge sharing takes place and working procedures can be set up to reduce risk.

4.2 Organization of the service provisioning

At the heart of PROVIDER’s service delivery is what the company refer to as Model B, a customer team based model of service delivery. This approach is the opposite of Model A, the tiered service provisioning, as shown in figure 1. Serivce delivery in model B is achieved by forming a dedicated

team of skilled personnel that is directly engaged with the customer environment. It is not uncommon in large traditional organisations to be structured in competence centers based on skills and disciplines.

In the traditional competence center based model A of service provisioning, the customer relationship is handled by a small team of mostly relationship managers that have to shop internally for skills and resources. The operational service provisioning is optimized and handled by a generic and central call desk that handles service requests. Based on the assumption that not all calls need to be handled by expensive experts, call desks are staffed by employees with less technical skills. If a call desk operator cannot handle the call, it is escalated to a second line employee, which functions as a service broker trying to allocate the call to specialists. Furthermore, model A is structured and governed contractually through Service Level Agreements (SLA's) that for example define response rates for requests in different categories. Partners, like software vendors, are considered the fourth line support in this model.

Model A might work well in the case of servicing thousands of standardized desktops, where an incident on one of the desktops is expected to have little impact on the performance of the organisation and therefore incidents should be resolved in a cost efficient manner as specified in SLA's. However, Model A fails for instance for servicing the applications on a trading floor. In that environment downtime of one of the applications has tremendous impact on business performance.

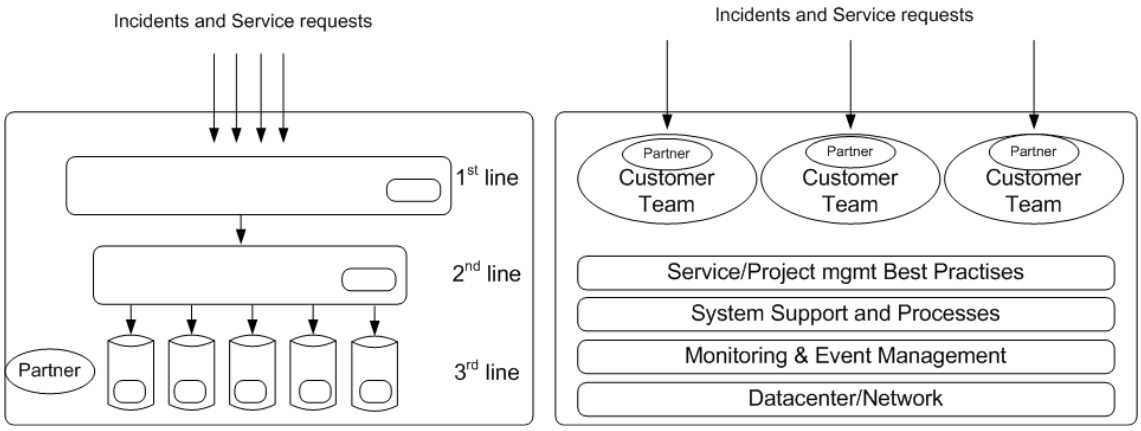

Figure 1: Visualisation of the Model A and Model B of service provisioning

For mission critical applications quick action is required and incidents are escalated up to board level between the client and the vendor. As a result the vendor goes into crisis mode, selecting a set of experts of different disciplines and putting them in one room to resolve the issue with highest priority. The purpose of the dedicated model B approach is to have direct contact with knowledgeable experts that know about the context of the customer environment instead of having specialized skills only. A team of experts is always in available and fully engaged with a particular customer environment, supported by generic functions. In this model the collaboration in the service provisioning is starting internally including direct and personal relationships with external partners like software vendors.

4.3 Three customer relationships

We describe three customer relationships. The first (CUST1) is a large TIER-1 bank and has already a long relationship with PROVIDER. The bank has its own IT department and experience with outsourcing. In order to increase time-to-market for the development of new products and markets it looked for a specialist to complement the existing software vendor. The second customer (CUST2) has a shorter relationship with PROVIDER. CUST2 started as a subbrand of a large TIER-1 bank and now has defined a strategy to become a large european online retail bank for a broad set of financial products. The relationship was brought in by a software vendor, previously in a relationship with PROVIDER, when a new financial product was developed. The third customer (CUST3) is a project in progress and setup as a totally new initiative to start an online savings bank for a large financial institution that is new in online banking.

Characteristics of the three customer relationships are:

- CUST1: the transfer of the IT environment from an existing arrangement between a large IT service provider and the mother company.
- CUST2: the start of a new product for a subdaughter/label of a large bank, where the existing products are already provided by other organizations and department.
- CUST3: the start of a new business initiative totally separate to existing initiatives. All three customers are serviced by PROVIDER.

All three customers receive the same custom designed service this service provider is offering. We will briefly discuss some characteristics of this service model in the following sections.

4.4 Plan

In all three customer cases the relationship between client and vendor was new. In the case of CUST1 the relationship started with a formal request for proposal that was send to PROVIDER and a number of other large established providers. In case of CUST2 the relationship started when PROVIDER was proposed to the customer by the software vendor responsible for delivering the online banking software to CUST2. In the case of CUST3, the client came to PROVIDER because the company was recommended by external outsourcing consultants.

In all three cases PROVIDER assembled a bid team, but specific to this company is to assemble a bid team consisting of engineers. It is not uncommon in outsourcing relations to have a bid team preparing the proposal and a delivery team taking over. A lesson learned in the company is that the plan-build-run cycle is done by one and the same team. The rational to do so by PROVIDER is to start the personal relationship early, offering both trust and knowledge transfer. This has an impact on both the customer and the team itself. By having the same team build and operate what has been designed, so not relying on separate architectures to coordinate between bid and delivery teams, the risk of context loss is reduced. Because there is no loss of knowledge in the handover from the bid team to the delivery team also succes in acceptance tests is increased. Furthermore, the risk of selling a service that the delivery team cannot build is avoided. And trust increases between customer and supplier

when the teams get to know each other better. Finally, there is also a knowledge transfer on an interpersonal level that starts from day one.
In the Model B approach, customer teams approach the onboarding of the customer environment by designing a new environment based on internal hosting by PROVIDER. The applications are considered to remain the same, but new hardware and a new architecture is defined based on the requirements of the customer. For a good understanding of the applications, an application architecture is necessary. This is based on reference architectures of the software suppliers and added with proprietary practises, such that solutions can be developed tailored to the policies and requirements of the customer. The proprietary practises of PROVIDER are tuned to mission critical applications and for example define how to design infrastructure architectures, to host the application landscape, monitor and support processes are setup. The proprietary practises are generic in nature and are not particularly focussed on specific hardware or software platforms.

4.5 Build

Once the customer has signed, the project starts with a build of the new infrastructure. After building the infrastructure the application onboarding begins following a typical application (testing) cycle with integration and user acceptance tests. In this approach of parallel builds knowledge is transferred as well on both business and technical details.
At the same time the operational and tactical service management processes like the handling of incidents, changes, periodic service reporting and governance is setup. This interaction on the service processes are both towards the customer and to the suppliers. It is the operationalisation of the intentions set out in the contract.
The other two cases involved newly build environments which follow the same implementation processes. In the case of CUST2 a new relationship is established between software vendor and customer and integrated within the existing service management processes of client. The software vendor and PROVIDER had previously established relations for another customer. Since these relations were established, operational and governance procedures could be reused. In the case of CUST1 and CUST3 a new relationship between the software vendor and PROVIDER had to be established. However, the software vendor also performed the system integration. Therefore, it was necessary to develop two relationships: one with the project/integration team and one with the global support operations teams in the go live situation.
In this particular approach the transformation process starts from the beginning. A new environment and new formally defined service and governance processes are established. In traditional transfer based outsourcing deals it is not uncommon to adopt the existing IT staff and IT systems first. After that the supplier has to improve the service by turning around the staff that came over with the transfer.

4.6 Run

In the run phase the platform has become available for the client. PROVIDER operates according to a fixed fee, all changes included model, as an alternative model to time-material arrangements. This choice transfers risk from the client to PROVIDER and was chosen to develop a right first time attitude. Since the income is fixed, the profitability goes up if less time needs to be spend on the implementation of changes. Collaboration in the IT service chain is a prerequisite, since the success of the changes depend also on the quality of the other partners.
All parties in the IT service chain have to learn to participate in collective planning and to choose the most appropriate approach for handling and processing changes. In case of incidents, the partners have to find each other, collectively performing root-cause analysis in case of incidents. Since these customers operate in regulated markets, PROVIDER has to support the audit and compliance checks from the central bank and the mother companies, which introduces new stakeholders. More importantly, the parties team up together for new initiatives. Having established their relationships they are, in all cases, working together to develop new financial products for the customer and open new markets.

5 ANALYSIS

The purpose of this paper is to design a research framework to study successful multisourcing arrangements in the domain of mission critical systems. In the previous section a case is provided to explore the determinants which are important for the success. Essential is the need for the development of the collaboration between the parties in the arrangement. In this section we analyse the case and create the research framework. These determinants are identified and complemented with basic propositions to guide further research.
The basic proposition in the analysis is that multisourcing arrangements are relationships or service chains of parties that ultimately all service the same customer. In the case study it was defined that the vendor is servicing customers together with other parties to fulfill the IT service needs of the client. As stated in the introduction, customers search for demonstrable value for money, in which both quality and understanding of the business are essential, in outsourcing relationships. There is one principle actor: the customer, which is serviced by multiple parties. This is reflected in the first definition:

Definition D 1:
An IT Service Chain is a multisourcing arrangement, or network of actors, that service one principle actor.

In the next subsection we will first discuss success in multisourcing arrangements, after that we continue with the determinants to finally conclude with the research framework.

5.1 Success

Although all businesses have an opportunistic element and a desire to increase their own profitability, the relationship can only endure if all parties are able to achieve their business goals. The success of the relationship is determined if the customer and principle actor of the multisourced arrangement are able to achieve and sustain the achievement of their business goals. At the same time, the involved suppliers must be able to realise their business plans, in that order. We therefore define the following proposition:

Proposition P 1:
The primary indicator of the success in the multisourcing arrangements is the ability to act in the client's interest with a focus on satisfying the principle actor.

In the operations of IT systems, the quality of the system is dependent on multiple parties. In the IT service chain parties are dependent on each other. Improvement of the quality of one player only leads to a local optimum, for complete service quality parties are dependent on each other, as stated in the following proposition:

Proposition P 2:
In successful multisourcing arrangements total service quality is only achieved if the IT service chain collaboratively develops service quality.

5.2 Determinants

The success of the relationship is determined by two factors both the quality of the service and the quality of the relationship. The quality of the service is determined by factors like meeting requirements, ease of implementation of changes and the availability of the systems. As described in the case for mission critical outsouring, there is a clear focus on the high availability of the service, otherwise there is an immediate impact on the results of the customer or principle actor.
The quality of the relationship describes soft factors such as trust, understanding, commitment, flexibility and conflict resolution (Blumenberg et al., 2008). The case shows that effort has been put in understanding the business to make sure that there is a commitment to restore service. The two factors also have an influence on each other: if service quality is high, trust increases as well.
Quality of service and quality of the relationship are determined by both structural aspects and the way parties interact. The structural aspects concern the organisational structure, the system architecture, and the contractual structure. The importance of the organisational structure is derived from the identification of model A and B for service provisioning. The importance of system architecture is derived from the discussion on both the software vendor/service provider combinations in the delivery of different products for customers. The relevance of system archicture also appears from the discussion on who is designing the system that is being operated. The relevance of the

contract configuration for collaboration is identified from the discussion on the fixed fee/changes included model (Cullen et al., 2005).

Multisourcing relationships are thought the be more complex than single sourcing relationships due to the management and control of the higher number of parties that interact with the customer (and each other). As expressed in the comparison of the two service models, these complex arrangement actually do exists in all sourcing relationships. The fact that they are hidden to the customer can be considered a simplification, however due to the split between relationship and competence teams, quality can be different and even not appropriate for a specific use.

As shown in this case, providers can optimize their operating models for specific needs. This explicit realitionship to the customer now actually simplifies coordination since operating models are improved. This is defined in the following proposition:

Proposition P 3:

In successful multisourcing arrangements specialists offer improved operating models, hence simplifying the need for coordination.

Interactions take place between parties and determine the relationship. In order to develop successful relationships, a close contact and involvement in the decision making process is required. Sharing knowledge at that level is vital for vendors to prepare themselves. Interactions on the design level have a strong influence on the success of the arrangement. As discussed in the case the teams develop a solution tailored for the customer and according to company best practises. This allows greater understanding and ownership. Transformation takes place at the start of the engagement as opposed to a more adept and transform approach. By allowing the delivery team to design, build and run the solution the service gap at transformation is reduced. The development of model B as a core capability shows the relevance of the execution level interactions. To whom do customers talk in case of incidents: knowledgeable experts that can solve the issue or call-desk operators that have to forward the issue. Quality is determined by the organizational structure giving direction to the execution level interactions.

The way the structure is set up and the way the interactions take place is depending on the competencies of the parties involved. In the case we discussed how this service provider has developed specific competences to deliver high quality service (measured by customer satisfaction), to improve service based on its organisational model and develop the relationships both to the customer and other providers (Feeny et al., 2005).

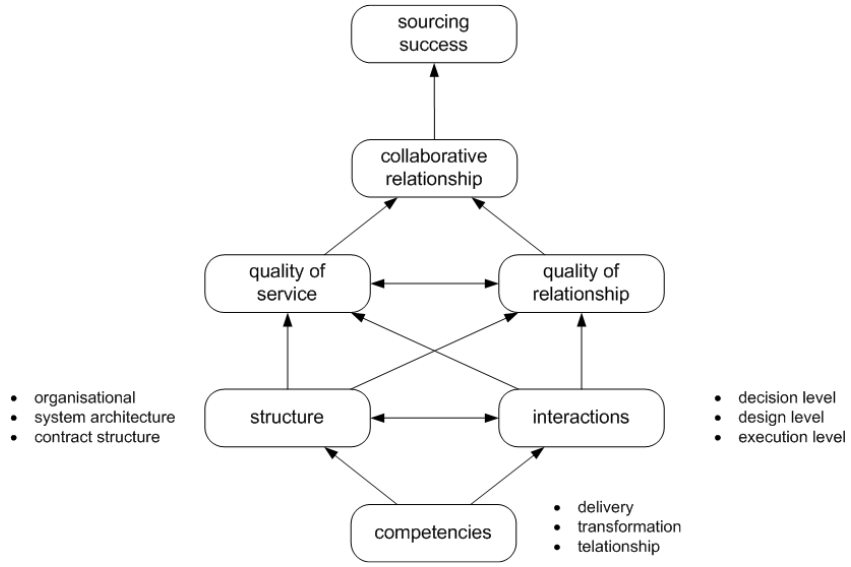

Figure 2: The research framework to study successful multisourcing arrangements

5.3 Research Framework

We would like to investigate successful multisourcing outsourcing relationships with a clear focus on improving the collaboration between the parties involved. The relationships involved concern those for business initiatives for which an IT service chain will be set up between complementary providers. In this model we take a behavioural approach with respect to organising work. This implies that work should be organised in such a way that employees are able to deliver best-in-class service. By focussing on collaboration we extend beyond the focus on an individual vendor and transpose the issue to the complete IT service chain. And so, we define the following integral research framework, as shown in figure 2.

In this diagram we define the determinants to investigate in the search for successful multisourcing arrangements. These determinants depend on each other as defined with the arrows. Some determinants mutually influence each other as defined with the dotted arrows.

The success of outsourcing is determined by collaborative behaviour of the partners. Not only the client, but also the vendors must see be able to achieve their business goals. This depends on both the quality of the service and the quality of the relationship. However, these two quality factors influence each other. If the quality of service degrades, the relationship suffers and hence it becomes harder to improve the quality of the service. These two factors depend on the structure of the multisourcing relationship but also how parties interact. The structure concerns the organizational, system architecture and contractual structures put in place. The interactions take place at the decision level, design level and execution level. Which influence each other again. Finally, the structure and interactions are determined by the competencies of the parties involved in the IT service chain.

6 CONCLUSIONS AND FUTURE RESEARCH

In this paper we addressed the research question on how to study successful multisourcing in IT service chain arrangements for mission critical systems. We have provided an exploratory case study on a mission critical outsourcing provider. The core finding of this paper is that the studying of successful arrangements for multi-sourced IT service chain requires an integral approach looking at both service and relationship quality. The study of successful multi-sourcing arrangements should not be addressed from a competitive viewpoint, but rather from a collaborative viewpoint. The contribution of this paper is the development of an integral research framework that addresses relational, structural and individual competences as determinants.

In the further research we will use the framework to continue the interpretative research into successful arrangements. In outsourcing research, much attention has been paid to contracting issues and the management of the relationship. Our framework defines a strong relationship between structural aspects, not only contracts, but also organizational structure and system architecture as a prerequisite for quality. We will therefore focus on the role of configuration and structure of inter and intra organisational relationships, but also on the role of design. Considering the importance of design, we will not only study the outcome of design, but certainly also the process and specifically who is designing when.

In multi-sourcing relationships parties are brought together, often for the first time. Not knowing the partners beforehand brings uncertainty concerning the ability to deliver and the way of working. These relationships evolve and have to be developed. In further research we will address the detailed events that occur in the evolution of such relationships.

The study of multi-sourced arrangements has not received wide attention. With outsourcing changing more in favour of multi-sourcing, we believe the integral framework as a foundation for researching such arrangements, is highly promising for both scholars and practitioners to understand what makes these arrangement successful.

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