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RELATIONSHIP BETWEEN BUYER AND SUPPLIER IN OUTSOURCING OF INFORMATION TECHNOLOGY SERVICES

Ana Lúcia Martins (corresponding author),
Instituto Universitário de Lisboa (ISCTE-IUL), Business Research Unit (BRU-IUL)
almartins@iscte.pt

Henrique Duarte
Instituto Universitário de Lisboa (ISCTE-IUL), Business Research Unit (BRU-IUL)
henrique.duarte@iscte.pt

Daniela Costa
Instituto Universitário de Lisboa (ISCTE-IUL)
daniela_filipa_costa@iscte.pt

ABSTRACT

Companies rely on others to achieve its goals. This is not only true in terms of management of the flows of information and materials through the supply chain but also in terms of performing specific processes and sub-processes intimately related to the company's operation. IT Outsourcing (ITO) is increasing worldwide and the relational governance impacts the outsourcing outcomes (Lacity et al, 2016). This perspective is usually visited for the buyer and supplier perspectives using decision makers and leaving a gap in literature in terms of the perspective of the consultants.

This paper aims at analysing, in ITO, how the development of the relationship between buyer and supplier strengthens supplier performance over time, from the perspective of the consultants. A survey to IT consultants was applied and then a multilevel analysis was performed, taking account for the aggregate values of the variables characterizing buyer supplier relationships based on Johnston and Staughton (2009), Krause et al. (2007) and Blonska et al. (2013).

Findings show that strategic relationships are associated with higher supplier investment in relational management. In this type of relationship higher levels of trust are linked to an attribution of more recognised benefits from the relationship, and reciprocal investment to the buyer. Furthermore, an improvement of the dedication in the relation and an improved service performance were attributed by IT consultants to the supplier.

Keywords: IT outsourcing; buyer supplier relationship type; relational governance; relational management; supplier development; B2B relations

INTRODUCTION

The IT Outsourcing (ITO) business in 2015 was up to 157 billions of dollars worldwide (Marorelli and Benkel, 2015), a number that highlights the relevance of this type of outsourcing to companies and, consequently, for supply chain performance. Managing ITO contracts involves two sides: the hard and the soft ones (Barthélemy, 2003). The hard side relates to the development and execution of a rigid contract. The definition of the contract has impact on the quality of the IT service provided as it can reduce ambiguity in the output, while the soft side relies on the development of relational management, increasing trust between the partners, contributing to higher mutual obligations and enhanced outcomes (meta-analysis presented) (systematic reviews presented by Lacity et al., 2016, and by Liang et al, 2016). However, is not clear in which circumstances investment in relational management could produce higher outcomes. In this paper it is sustained that, from a supplier-buyer perspective, relational management has higher impact on strategic relations where the quality of interaction will greatly affect IT consultants performance, and lead to a generic performance improvement on both parties involved (Krause et al., 2007), than on

transactional relationships where both parties might concentrate on the strict fulfilment of the contracts.

Relations between companies are paramount to supply chain performance as it involves the access to resources or competences and impacts outcomes and the value proposition of the buying company (Ford et al., 2003). The established relationships can be more strategic or more tactical (Johnston and Staughton, 2009), which will impact the quality of the services the buyer companies provide and their competitive positioning in the supply chain (Johnston et al., 2012). Transactional relationships are often characterised as "arm's length" relationships (Henderson, 1990). These are often short term relationships (but can also last for long periods) in which the buyer can easily replace the supplier without harm to its regular business. Strategic relationships, on the other hand, involve inter-dependency from both parties toward a common goal. As so, these are usually long term relationships with sharing of risks and benefits between the parties. Accordingly, it is expected that strategic relationships contribute more to suppliers' development by making investments in their ability to provide the outsourced service (either by supporting managerial development, by providing financial support or by transferring human resources), assuring higher service quality and strengthening future mutual relationships.

Usually the assessment of the performance of the relationship between buyer and supplier is based on inputs from the participating companies. Nonetheless, the relational management in ITO is put to practice, in great extent, by the consultants and strongly influenced by the collaboration of the buying company. In this vein, this paper aims at analysing, in ITO, how the development of the relationship between buyer and supplier strengthens supplier performance over time, from the perspective of the consultants. This perspective might allow understand how the vivid experience of the actors on the field affects and is affected by the relational management and the soft side of ITO relationships, generically.

In order to achieve its goal this article grounds its literature review on the types of relationship between parties as well as suppliers' development. The survey results from the collection of several variables, adapted to the IT area. Data was collected from consultants working in different pairs of supplier-buyer relationships and after aggregated at the organizational level, which allowed testing the proposed hypotheses.

THEORETICAL BACKGROUND AND HYPOTHESES

Types of relationship and relationship development

Business-to-business (B2B) relationships can be of different nature. These are influenced by the persons involved, therefore can change as the persons involved also change (Johnston et al., 2012). Particularly, strategic relationships require interaction (Johnston and Staughton, 2009), collaboration and trust between the parties involved, contributing to the believe that they can link their own value chains to the benefit of the relationship (Johnson et al., 2012). Although formal contracts may exist, it is the spirit of the relationship that shapes how the parties interact (Johnston and Staughton, 2009). At the level of consultants, complying with contracts and mostly evidencing behaviours beyond what is strictly expected (like organizational citizenship behaviours), as well as interaction between remaining workers and departments can lead to better working conditions and improved individual and organizational performance (Andrews, 2011). Furthermore, information sharing leads to increased competitive edge, data concerning the needs of the buyer, changes in the market as well as competitors should flow between the parties (Hult et al., 2000). It can be concluded that both organizational citizenship and information sharing are relevant issues in the relationship, being this way interrelated. Based on the provided context, the following hypothesis is formulated:

H1: Information sharing between the buyer and the supplier is positively linked to organizational citizenship between the workers of the buying company and the consultants from the supplier.

Trust is a relevant issue for the development and success of the relationship. It consists of the degree in which one of the parties recognises competence in the other to perform the requested activities (Ganesan, 1994). Trust is also considered a facilitator of the relational capital (Faraj and Wasko, 2005) contributing to the robustness of the personal relations developed during the interactions between the parties involved in the relationship (Nahapiet and Ghoshal, 1998). Strategic relationships have a higher number of activities in the relation, being a cause and effect of trust. On one hand higher levels of trust will lead to increase the quality of future interactions, depending on informal work relations (Whipple et al., 2010). On other hand, trust between parties depends on reciprocity throughout time. Consequently, levels of trust will develop according to the intensity of interactions (activities in the relationship), which are expected to be higher in strategic relationships. Consequently, the following hypotheses are formulated:

H2: The more strategic the relationship is the more positive is the association with perceived trust between parties.

H3: The higher the activities in the relationship the higher the level of perceived trust between parties.

Guidance toward a long term compromise by the buyer is the perception and expectation that these have on the benefits it will receive from the supplier. Partners with a short term perspective are more concerned with short range results but when there is a long term perspective partners are concerned with both short and long term results (Ganesan, 1994). According to the same author, the range of the compromise also influences the nature of the exchange between the workers from the different companies: long term relationships depend on the exchanges between parties to maximize the outcomes. Long term relationships also reduce buyers' risk and enforces trust that short term concerns will be overcome (Ganesan, 1994). As so, the following hypothesis is formulated:

H4: Long term compromise between buyer and supplier is positively related to the perceived trust between them.

Supplier development and dedication investments

Supplier development practices are activities performed by the buyer to improve the supplier's performance or skills (Krause et al., 1998), allowing higher cooperation between the two parties, developing technical knowledge, promoting quality, distribution and ability to manage the supplier's costs. Also, dedication investments are investments made either by the buyer or the supplier in a relationship (Heide and George, 1990), that contribute to the dependency between the parties and show signs of compromise. In this vein, Wagner (2006) defined six dimensions for supplier development: four indirect (Ad hoc, Formality Level, Assessment and Communication) and two direct ones (Human and Capital). Wagner (2006) refers that some technological industries have already enrolled in these practice and concludes that they contribute to organizational success. However, supplier development has its risks as the buyer might be investing in knowledge and skills that can be used by the supplier to reinforce its competitors, but the expectation is that the investment is used on its own company (Blonska et al., 2008). The same author argues that the shift from a more transactional to a more strategic relationship leads the buyer to invest in supplier development. Based on the previous arguments, the following hypotheses are developed:

H5: The more strategic the type of relationship is the more positive will the association with supplier development practices be.

H6: Supplier development practices by the buyer are positively associated with dedication investments towards the supplier.

Knowledge transfer between buyer and supplier

Knowledge transfer consists on how the knowledge shared by one party is received and applied by the other (Ko et al., 2005). This transfer is reported frequently in ITO focused on the degree in which the buying companies absorb and use the knowledge from its suppliers (Park et al., 2011). This transfer is dependent on the ability of the sender to code and share its knowledge as well as the receiver to value, assimilate and use this new knowledge (Cohen and Levinthal, 1990). This transfer is only possible if there is continuity in the relationship and an intense contact between the two parties (Kale et al., 2000). Long term relationships lead the knowledge sender to be more predispose to invest time to assure that knowledge transfer is successful (Uzzi, 1997). In the ITO market, trust and cooperative learning between buyer and supplier are necessary to allow the buyer to capture knowledge from its supplier (Park et al., 2011). As so, and according to the same authors, the IT consultants working directly at the buyer's facilities should develop a cooperation relation with the buyers so that these can absorb the most knowledge out of the outsourcing relationship. As this transfer is based on the Human dimension of supplier development, the following hypothesis is presented:

H7: Supplier development practices using the Human dimension by the buyer is positively associated with information sharing between the buyer and the supplier.

Supplier performance

Stank et al. (2003) proposed a 3 dimension construct to assess supplier development: operational, costs, and relational performance. This is a model focussed on the logistics area. In this area, the benefits shared during the relation are defined as a performance improvement that the outsourcing relationships allow the buying company and that should be assessed. Knemeyer et al. (2003) provide examples of potential improvement issues in the logistics area. Thus, it can be expected that in ITO strategic relations will enhance supplier performance leading to the following hypothesis:

H8: The more strategic is the relationship between buyer and supplier the stronger is the positive association with the benefits from the relation measured using supplier performance metrics.

METHODOLOGY

Research instrument and data collection

In order to collect data that would allow testing the hypotheses a questionnaire based on Johnston and Staughton (2009), Krause et al. (2007) and Blonska et al. (2013) is used with adaptation to the IT area. This questionnaire has four groups of questions and questions to assess respondents' eligibility (eg. required to stay at the buyer's company at least 20 hours per week). The first group comprises items concerning information sharing and assessment of relationship performance. The second part contains the items to assess the relationship between the consultant and the buyer. The third part relates to the characterization of the consultant and its professional situation in both the buyer and the service supply company (supplier). The fourth part aims at assessing long term relationship and dedication investments. A Likert like scale was used in the questionnaire ranging from 1 - "Strongly disagree" to 7 - "Strongly agree". A "do not know" option was always available to prevent respondents from providing answers when they did not know about the item.

The questionnaire was pre-tested with 10 consultants from different service suppliers working at buyers' companies. Consequently semantic adjustments were introduced and the length of the questionnaire was reduced to increase the number of responses. Data was collected using Survey Monkey during May and June 2016. Questionnaires were individually sent by email and also made available at LinkedIn.

Sample

Out of 260 valid responses it was possible to identify 89 different pairs of supplier-buyer relationships, which result in 142 full responses from consultants. The

aggregation of the pairs was only possible as the consultants identified the name of the companies involved (confidential disclosure was assured).

Four variables were considered to characterize the sample of the 89 pairs. Respondents (consultants) work mainly at a single buyer project (79,8% work 40 to 50 hours per week at the same buyer) and 29,2% of the consultants are at the same buyer project for at least two years. Out of the 89 pairs of supplier-buyer relations, 42% of the buyers are from the telecommunication sector, 25% from general services and 20,5 % from banking and insurance.

In this first group their opinion about the type of relationship was also asked (detailed meaning was presented): transactional (22,7%); transactional but with some characteristics of strategic (25%); strategic but with some characteristics of transactional (31,8%); strategic (20,5%).

ANALYSIS OF VARIABLES

In order to test the hypotheses the variables were built based on the items from the original studies. Exploratory factorial analysis was performed and the principal component method was used with Varimax rotation. Suitability was assessed using Kaiser-Meyer-Olkin (KMO), and through the analysis of the internal consistency (Cronbach Alpha).

All of the original 5 items from *Activities in the relationship* were considered and excellent consistency was found ($\alpha=0,909$). Globally, this scale showed good homogeneity (KMO index = 0,890).

Long term compromise was operationalised using 4 of the original variable items. Good internal consistency was found ($\alpha=0,898$) as well as good homogeneity (KMO index = 0,819).

In terms of *Trust*, all 6 original items were considered. Excellent internal consistency was found ($\alpha=0,919$) for the scale as well as good homogeneity (KMO index = 0,889).

Dedication investments was considered with all its 3 items. Good internal consistency was obtained ($\alpha=0,872$) as well as average homogeneity (KMO index = 0,740).

For *Information sharing*, the 3 original items were considered. Good internal consistency was achieved ($\alpha=0,873$) for the sale as well as average homogeneity (KMO index = 0,713).

Supplier development was analysed based solely on the *Human*, *Capital* and *Formal* dimensions as it was considered that the consultants would not have information to assess the remaining 3 dimensions. For *Human* only 4 out of the original 5 items were used and good internal consistency was found ($\alpha=0,899$). For *Capital* the 2 original items were used and reasonable internal consistency was found ($\alpha=0,792$). For *Formal* all 4 original items were used and excellent internal consistency was obtained ($\alpha=0,941$). Globally, this scale showed good homogeneity (KMO index = 0,891).

In order to analyse *Organizational citizenship* all 7 items from the original research were considered. The scale showed excellent internal consistency ($\alpha=0,936$) and good homogeneity (KMO index = 0,893).

Supplier Performance, was assessed through 8 items, presenting good internal consistency ($\alpha=0,938$) as well as good homogeneity (KMO index = 0,888).

HYPOTHESES TESTING

Correlation matrixes and linear regression models were used to test the hypotheses.

To test H1 Pearson correlation was used. *Information sharing* showed a significant correlation with *Organizational citizenship* ($r=0,471$, $p<0,01$). Therefore, H1 is not rejected.

As for H2, Pearson correlation showed that *Trust* is positively correlated to *Type of relationship* ($r=0,447$, $p<0,01$). It is then possible to conclude that the relationship is recognised as more strategic as the consultants perceive more trust in the relationship between the buyer and the supplier. As so, H2 is not rejected.

H3 was also tested using Pearson correlation. It was found that *Activities in the relationship* is moderately correlated to *Trust* ($r=0,429$, $p<0,01$). These results show

that as there are more activities in the relation between buyer and supplier, the consultants recognise more trust. As a consequence, H3 is not rejected.

When testing H4 Pearson correlation showed that *Long term compromise* is positively and significantly correlated with *Trust* ($r=0,483$, $p<0,01$), which allows concluding that trust tends to exist in long term relationships. This way H4 is not rejected.

In order to analyse H5, 3 Linear Regression Models were conducted, each with independent variable the corresponding component of *Supplier Development* (*Human*, *Capital* and *Formal*). The independent variable used was *Type of Relationship*. Concerning the first model, the introduction of the independent variable allowed increasing the power of explanation of the model to 10,2% ($R^2=0,102$; $\Delta R^2=0,08$; $p=0,006$). Analysing variance using ANOVA, $p=0,029$. Type of relationship showed $p=0,006$, which allows concluding that the more strategic the relationship is the more supplier development exists based on the human component. In terms of dependent variable supplier development – capital, the introduction of Type of relationship in the model increase the explanation power of the model to 18% ($R^2=0,180$; $\Delta R^2=0,112$; $p=0,001$). A more detailed analysis showed $p=0,001$, which allows concluding that the more strategic the relationship is the more there is supplier development using the capital dimension ($\beta=0,351$; $p<0,01$) and that the less contact the consultant has with the buyer, the more supplier development exists in terms of financial support. Lastly, using supplier development – formal as dependent variable, the introduction of Type of relationship as independent variable allowed increasing the power of explanation of the model to 22% ($R^2=0,022$; $\Delta R^2=0,064$; $p=0,015$), nonetheless, the Anova test showed that the relationship is not significant ($p=0,276$). Based on all the analysis performed, it is possible to conclude that H5 should not be rejected.

The analysis of H6 also involved 3 Linear Regression Models. The dependent variables were, respectively, *Supplier Development Human*, *Capital* and *Formal*. Using as independent variables *Trust*, *Dedication Investment* and *Long Term Compromise*, and *Human* as dependent variable, it was found that *Dedication Investments* is the variable influencing *Supplier Development Human* ($p=0,001$), i.e., the more dedication investments there is by the supplier company the more supplier development exists from the dimensions transfer by the buyer. When analysing dimension *Capital*, using the same independent variables ($R^2=0,107$; $p=0,022$), it was found that the investment in supplier development using the *Capital* component is higher when there are more labour hours by the consultant at the supplier's company and lower when the consultant spends more time at the buyer company ($\beta=0,395$; $p<0,05$). When *Dedication Investments* was introduced to the model it increased its explanation power to 28,9% ($R^2=0,289$; $\Delta R^2=0,182$; $p=0,000$). ANOVA test showed that one of the variables was influencing the *Capital*. It was found that *Dedication Investments* have a larger influence, i.e., the more there is supplier development from investment, the more dedication investments are between the parties ($\beta=0,475$; $p<0,05$) as the two variables are directly related. Lastly, *Supplier Development* from its *Formal* component was used as dependent variable and *Dedication Investments* as the independent one. The model showed a good significance level ($R^2=0,174$; $\Delta R^2=0,206$; $p=0,000$) highlighting that the dedications investments made by the supplier contribute positively to supplier development in the formal component (assessment) ($\beta=0,500$; $p<0,05$). Based on the three analyses, H6 is not rejected.

As for H7, Pearson correlation showed that *Supplier development* in the component *Human* has a good and positive correlation to *Information sharing* ($r=0,606$, $p<0,01$), which allows concluding that transferring resources and knowledge for supplier development is positively linked to information sharing between buyer and supplier. As a consequence, H7 is not rejected.

Testing H8 involved a Linear Regression in which *Supplier performance* was the dependent variable. Including *Type of relationship* as independent variable allowed improving the quality of the model ($R^2=0,143$; $\Delta R^2=0,144$; $p=0,000$). A more detailed analysis allowed concluding that the more of a strategic type the relationships are the more benefits exist from the relationship which are measured using Supplier's performance assessment ($\beta=0,395$; $p<0,05$). This way H8 is not rejected.

DISCUSSION

Findings showed that *Information Sharing* is positively linked with both *Organizational Citizenship* and *Supplier Development* practices. The correlation matrix also showed a significant correlation between *Information Sharing* and the *Type of Relationship* (of strategic nature). It was also possible to conclude that *Trust* is positively related to the *Type of Relationship* (of strategic nature), to *Activities in the Relationship* and *Long Term Compromise* between buyer and supplier. This shows that *Information Sharing* and *Trust* are recognised by the consultants as related to practices of bonding in the supply chain. These findings are in line with supply chain management literature.

Findings showed that the more strategic the relationships between buyer and supplier, the more the consultants recognise that there are Supplier development practices, both from human and financial perspectives (Krause et al., 2007; Johnston and Staughton, 2009). Strategic relationships are typically long terms ones, with sharing of goals and continuous interaction, therefore consultants recognise that the investment in development practices are stronger.

It was also found that the more strategic the relationship is, usually associated to *Long Term Compromises*, the more it is recognised by the consultants to be linked to more benefits to the buyer. This is in line with the literature review (Ganesan, 1994) as long term relationships, and the stability that it brings to the supply chain, leads to competitive advantages to the companies involved. It was found that the consultants perceive strategic relationships as more beneficial to the buyer and that, consequently, those benefits reflect in their activities.

Correlations showed that consultants perceive strategic relationships as positively linked to long term compromises, which leads to more dedication investments that are recognised by the consultants. Finally, consultants recognise that investments in dedications, namely in human development and equipment are linked to the type of relationship between the parties.

CONCLUSIONS

This research aimed at analysing if there are supplier development practices in IT outsourcing, which are recognised by the consultants. Eight hypotheses were developed, based on literature.

Findings lead to not reject any of the hypotheses. It was found that strategic relationships are associated with greater supplier investment in the relationship. In this type of relationship higher levels of trust are linked to an attribution of more recognised benefits from the relationship, and reciprocal investment to the buyer. Furthermore, an improvement of the dedication in the relation and an improved service performance was attributed by IT consultants to the supplier. It was also shown that there is a link between the sharing of information from both parties and the results of the service supplied. These findings are in line with those from Krause et al. (2007), Johnston and Staughton (2009) and Ganesan (1994), but the perspective from the consultants is new.

Findings are limited to the sample used as it is a convenience one. Nonetheless the data collection instrument proved to be reliable and able to be used in similar analysis. Further research to expand the sample used and to assess if cultural issues, such as those derived from nationality, could be assessed. Furthermore the use of external informants like representatives of supplier and buyer companies will contribute to reduce common method variance bias.

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