
Transaction cost-based motives for multisourcing in information technology

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Abstract: From its beginning in 1990s, multisourcing has given information technology companies an opportunity to gain a competitive advantage in a turbulent environment. The article aims to understand the motives for multisourcing from a transaction cost economics perspective, and tries to resolve the paradox between choosing a form of cooperation that lowers transaction costs (TC), and deciding for multisourcing, which, based on articles and described cases, increases TC by as many parties involved as there are. Multisourcing is a relatively new phenomenon, and few studies have embarked on a topic of why it is undertaken by firms, therefore case study is a relevant research method. The article suggests that multisourcing is not chosen by firms to lower TC, but companies need to act to reduce the costs.

Keywords: multisourcing; transaction cost economics.

Reference to this paper should be made as follows: Łoboda, B. (2016) 'Transaction cost-based motives for multisourcing in information technology', *Int. J. Strategic Business Alliances*, Vol. 5, No. 1, pp.69–79.

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This paper is a revised and expanded version of a paper entitled 'Transaction Costs Lowering as a Motive for Multisourcing in the Information Technology', presented at the *International Conference on Business Management and Information Systems*, November 2012, Singapore.

1 Introduction

Multisourcing has been observed to start in the 1990s, and it appeared because the information technology services provided by a single company did not fully satisfy clients. It appeals to the need of firms for elasticity, higher quality, vigour, knowledge and specialisation, required in a turbulent environment. Multisourcing is developing (Palugod and Palugod, 2011) in outsourcing and offshoring of IT and business services (Cohen and Young, 2005), and it is getting more popular than single supplier contracts (Bapna et al., 2010). To understand appearance of the new concept and help in its implementation, it is crucial to comprehend its motives. As they have rarely been a subject of a research, the article aims at filling the gap.

As the transaction cost economics (TCE) is reckoned to be one of the most important and coherent theories for understanding the interorganisational cooperation (Teece, 2010), this framework is used in the article. TCE proposes that based on rational evidence, companies select a form that lowers the transaction costs (TC). In multisourcing, on the contrary, it is accepted that firms coordinating numerous suppliers incur higher TC. The aim of the article is to analyse whether firms decide for multisourcing motivated by the TC lowering and how they handle the paradox between the theory and practice.

2 Theoretical framework

2.1 Multisourcing definition

Multisourcing begun, when services provided by one company in a turbulent environment were not satisfactory (Dieckmann, 2003) and firms begun to move away from the large scale, often 10-year IT service outsourcing contract to multiple shorter deals. The concept of multisourcing can be characterised by four features. The most basic trait of multisourcing refers to the fact that more than one supplier is necessary, as proposed by Waszczuk (2010) and Bielewicz (2008). Multiple suppliers allow to lower costs, reach high performance and increase the bargaining power (Porter, 1985). Second, in multisourcing best-of-breed suppliers are involved to provide similar (Levina and Su, 2008) or distinct services, to increase quality and innovativeness. It allows the client to use more flexible, niche (Nagle and Maughan, 2007) and specialised suppliers (Overby, 2010), capable of gratifying their needs (Fretty and Gilchrist, 2007). Third, multisourcing aims at satisfying specified business goals and strategies. When companies are immature, unprepared and they have unclear objectives it is difficult to establish right governance. Therefore, multisourcing should lead to fulfilment of company's strategic aims and be realised in the 'pursuit of business goals' (Cohen and Young, 2005). The fourth feature concerns competitors working 'in a spirit of trust and teamwork, in a collaborative process' (Andone and Păvăloaia, 2010) aimed at delivering value to clients (Bapna et al., 2010).

Multisourcing is thus similar to a 'network of multiple relationships' (Venkatraman, 1997). The most distinctive of the four features is cooperation between suppliers. It helps multisourcing firms to achieve high quality, flexibility, innovation and a unified service. In this article, multisourcing is defined as working with at least two best-of-breed suppliers, in a spirit of trust and teamwork, in a collaborative process with and between suppliers, aimed at achieving business goals of the firm.

2.2 Transaction cost-based motives for interfirm cooperation

TCE is one of the most appropriate theories used to explain cooperation between companies, as in Coase (1937) and Williamson (1975). According to the theory, companies choose among three main governance structures: market, hybrid and hierarchy (Williamson, 2002), after having undertaken a rational analysis of the relative TC of make-or-buy (Klein, 2004). The costs are present when organising, managing and

monitoring transactions and are influenced by opportunism, bounded rationality, amount of partners, uncertainty, complexity (Williamson, 1985), asset specificity and frequency.

No structure is free from TC, neither *ex ante*, incurred when negotiating or writing a contract, nor *ex post* costs, experienced with adaptation, management or guarantee fees. Hierarchies are concerned with such TC as costs of: management, risk of interfirm relations, and required level of engagement. Market exchange experiences such TC as costs of: an access to satisfactory price, contract writing and execution. It is chosen, when adaptation, performance evaluation and safeguarding costs are low. When specific investment is required to make a contract effective, asset specificity appears (Thompson, 2003), which makes performance of market transactions weaker (Poppo and Zenger, 1998), due to quasi rents and opportunistic behaviour. In such case, vertical integration bears lower costs (Klein, Crawford and Alchian, 1978). If TC exceeds the production cost advantage, a hierarchy would be undertaken (Rindfleisch and Heide, 1997), and it is also a better alternative in an extended enterprise (Tanriverdi, Konana and Ge, 2007).

The hybrid syndicates features of market and hierarchy. It is created to avoid weaknesses of market and hierarchy, that is, limited availability of resources, low effectiveness and efficiencies of scale, and risk. Costs of shirking and cheating are lowered by combination of price and hierarchy as an application tool (Hennart, 1993). It is possible to evaluate TC when selecting a specific supplier (Gulati, 1993), when such cost-inducing elements need to be taken into consideration as language barriers, government support, quality, culture fit, financial robustness, process, methodology and supplier reputation (Qu and Brocklehurst, 2003).

2.3 TCE-based motives for multisourcing according to the theory

In an environment where firms can choose among a wide selection of hybrid cooperation forms, vendors and geographies (Sharma and Loh, 2009), multisourcing increases in importance, driven by asset specificity as well as environmental and behavioural ambiguity. Multisourcing can decrease some costs compared with the market exchange. It concerns costs of contract writing, because of less frequent contracting due to domination of a few-year contracts; of partner search and logistics as in the market there are more suppliers available, of opportunism, uncertainty and risk, all three connected with a longer period of contracts, which allows less frequent price and partner search. However, there are some TCs, which are higher in multisourcing than in markets. It concerns an access to assets, human resources (HR) and knowledge, which is more costly in longer period contracts due to fewer possibilities to search for time-bound price opportunities and lower flexibility of the transaction. Counteraction of shirking also incurs higher costs of management and headquarters (HQ). It is more difficult and thus costly to find right partners whose culture, objectives and competencies are adequate to the needs of the company. Comparing factors increasing and decreasing TC, it is possible to conclude that multisourcing introduces more sources of costs as compared with the market.

When multisourcing is compared with hierarchy, there are even more sources of increased TC. Multisourcing observes higher costs of search for high quality suppliers with similar cultures and objectives, which takes place every few years and with numerous suppliers, hence the costs of contract writing are higher, and risks of opportunism appear. It can negatively influence the decisions to outsource (Tiwana and Bush, 2007). Logistics and access to information are connected with higher costs, when

firms aim at contract completeness. Preparation of a tailor made IT system demands a specific investment, thus a hierarchy should be preferred, otherwise switching and coordination costs are increased, which may cause opportunism of more specialised transaction (Klein, Crawford and Alchian, 1978).

Multisourcing involves setting proper motivations and monitoring of numerous suppliers, making it more difficult to gain synergies of scale. Undertaking transaction with many suppliers is also connected with uncertainty and higher risks and does not provoke to long-term planning. There are also some costs which are lower than in hierarchy: access to assets, HR and knowledge, because it is possible to find technologies in the market rather than develop them within a company, thus the costs of attaining flexibility are inferior, and the risk of shirking is lower.

When the market and hierarchy do not fulfil expectations, hybrids are chosen. Consequently, it is useful to compare the relative TC in multisourcing and another hybrid structure: a large long-term one-partner deal, referred to as mega deal, which often precedes multisourcing. Multisourcing also incurs higher TC than a mega deal. It increases costs related to one relation approximately by as many partners as there are.

It concerns such costs as search for supplier and quality among suppliers, whose culture and objectives fit, contract writing and its completeness, coordination and management, and higher HQ costs. When numerous partners are involved, the efficiency of scale decreases, logistics becomes more complicated, and uncertainty and higher risk of opportunism are observed. The cost and risk of expecting good behaviour by looking at reputation and of using contractual safeguards is higher (Parkhe, 1993). Costs are increased not only by contracting with numerous parties but also by frequent contracting, because contracts are written for shorter periods of time. TCs are decreased by fewer possibilities of shirking if employees are managed properly, by the possibility to be flexible, also with respect to access to assets, HR and knowledge. Aforementioned sources of TC, which are lowered and increased by multisourcing, are presented in Table 1.

Table 1 Transaction costs lowered and increased by multisourcing as compared with market, hierarchy and mega deal

<i>Transaction costs increased by multisourcing versus</i>		
<i>Market</i>	<i>Mega deal</i>	<i>Hierarchy</i>
Access to assets/ HR/knowledge	Contract completeness	Access to information
Access to good price	Contract writing	Access to specific assets
Culture fit	Culture fit	Contract completeness
Diverging objectives of partners	Diverging objectives of partners	Contract writing
Flexibility	Efficiency of scale	Control/monitoring
Management (HQ costs)	Having to coordinate many suppliers	Culture fit
Partner search	Information search on suppliers	Diverging objectives of partners
Shirking	Logistics	Having to coordinate many suppliers

Table 2 Transaction costs lowered and increased by multisourcing as compared with market, hierarchy and mega deal (continued)

<i>Transaction costs increased by multisourcing versus</i>		
<i>Market</i>	<i>Mega deal</i>	<i>Hierarchy</i>
	Management (HQ costs)	Information search on suppliers
	More frequent contracting	Logistics
	Opportunism	Risk and opportunism
	Risk	Search for supplier, and quality among suppliers
	Search for supplier, and quality	Uncertainty
	Shorter time for return on investment	Unrealised synergies
	Uncertainty	
<i>Transaction costs decreased by multisourcing versus</i>		
<i>Market</i>	<i>Mega deal</i>	<i>Hierarchy</i>
Contract writing	Access to assets/HR/knowledge	Access to assets/HR/knowledge
Opportunism	Flexibility	Flexibility
Partner search and logistics	Shirking (if monitored)	Shirking
Uncertainty and risk		

Source: own elaboration

In comparison with all three structures, the TC of multisourcing are higher than those of market, hierarchy and mega deals. Thus, it is possible to conclude that firms decide for multisourcing in spite of higher cost. After having made the choice, firms can handle the costs by properly arranging, managing and monitoring transactions (Child and Faulkner, 1998). Therefore, the following proposals can be offered for the research: *Proposal 1: firms are not motivated to multisourcing by an opportunity to lower transaction costs. Proposal 2: firms implement measures to decrease the transaction costs throughout the relationship.*

3 TCE-based motives for multisourcing in IT among firms

3.1 Method of analysis

To verify the proposals identified based on literature studies, it is necessary to check whether companies explicitly refer to TC as a motive for undertaking multisourcing or whether they undertake this form of cooperation when it does not lower the TC. Furthermore, it is necessary to identify if firms use any measures to decrease the TC and what they are. As multisourcing is a new phenomenon, case study is a relevant research method. Cases were analysed following Yin and Eisenhardt (Piekkari, Welch and Paavilainen, 2009), who underline that the method is appropriate for early phases of

research on a particular topic. Case study allows developing testable and valid theory (Eisenhardt, 1989) and analysing a current phenomenon in its realistic context with the usage of numerous sources of evidence (Piekkari and Welch, 2011).

Articles containing cases of multisourcing were found in databases such as EBSCOhost and ProQuest, as well as in Computerworld archives. To include a case, it was necessary that an article contained a description of TC-related reasons for undertaking multisourcing by a company. Six such cases were found, describing multisourcing in Hewlett Packard (HP), General Motors (GM), Procter&Gamble (P&G), Industrial Equipment, BP and DuPont. No specific timeframe was set, however with emergence of multisourcing in 1990s, identified cases were executed between 1997 and 2010.

The method is not free from faults, including the threat of subjective interpretations and creation of not comparable, generalisable datasets (Leonard-Barton, 1990). To counter, numerous cases and reference to theory are used. IT was selected for the study because literature on multisourcing focuses predominantly on IT services.

3.2 Is TC lowering a motive for multisourcing?

TC lowering has not been mentioned directly by any company taken into scrutiny and only a reference to factors incurring TC has been made. Increase of TC by multisourcing took place when searching and selecting suppliers and arranging transactions. For example, prior to outsourcing HP needed to draft and divide scopes of responsibilities and connections between the outsourced and kept in-house parts of service (Bielewicz, 2008). Second, it was mentioned that management of many suppliers is more multifaceted than managing single relationships (Sobińska, 2009), which bears higher transaction and coordination costs. GM outsourced a full scope of IT services, but they employ 2,000 people to manage suppliers and draft the strategy. It agrees with that management of numerous providers and forming an appropriate governance structure is more costly and time-consuming (Skinner, Delaney and Stamp, 2007). Third, renegotiations with multiple suppliers are more costly and they bring less benefits of scale (Waszczuk, 2010), hence multisourcing can be a more expensive solution than a mega deal, with an exception of very large IT outsourcing contract, which even split into smaller pieces can bring efficiencies (Munro, 2010) and except for outsourcing to low-cost geographies, which can produce cost advantages (Mitchell, 2006). Finally, in multisourcing, the costs of monitoring, supervision and control are increased, and responsibility for poor performance is more difficult. Concluding, numerous sources of TC increasing factors are mentioned by firms at the arranging, managing and monitoring stages, which do not stop companies from undertaking multisourcing.

The only aspect of multisourcing, which has been mentioned to lower the TC in analysed cases, refers to risk-related factors of lowering the uncertainty, increasing flexibility and becoming independent on one partner (Waszczuk, 2010). GM chose multisourcing to achieve flexibility, P&G goal was to 'sever the ties of dependency' (Gibson, 2006) and HP's priority was safety, because multisourcing allows for exchanging the suppliers in a situation when one of them has problems (Bielewicz, 2008). The phenomenon allows also for minimising potential losses connected with a threat of breaking the system safety (Sobińska, 2009a). It also helps to mitigate currency or environmental problems (Ellegaard, 2008). For example, Industrial Equipment diminishes some offshoring risks, asking three preselected suppliers for additional works

quotations, thus getting a reasonable price (Rottman and Lacity, 2006). Risk lowering is especially vital in slowdown of the economy (Sobińska, 2009a). However, it is important to note that most tests for uncertainty have found it insignificant in selection of boundary of a firm (Prokop, 2010). Moreover, when a large deal is split into smaller contracts, it is possible to resolve some of the faults of the initial deal (Bielewicz, 2008), and the cost experienced by an incomplete contract is lower. Concluding, the uncertainty avoidance is the only source of lowering the TC mentioned by firms.

None of the firms mentioned the TC as a direct motive for multisourcing, however factors both decreasing and increasing TC were mentioned by them. There were numerous kinds of factors, which increased the TC recognised at all stages: of arranging, managing and monitoring transactions. Despite these costs, multisourcing was undertaken. The uncertainty and risk reduction was the only cost-reducing factor emphasised by most companies. The proposal 1: *firms are not motivated to multisourcing by an opportunity to lower TC* can be claimed right, as firms did not state that TC lowering was a motive for multisourcing and numerous cost-increasing factors were mentioned, which did not discourage companies from multisourcing. Such a conclusion can be explained by the role of multisourcing, which is to innovate, to deliver a seamless service and to expand IT capabilities, which trade off costs (Nagle and Maughan, 2007). In a turbulent environment, firms may accept higher TC, because flexibility brings them more benefits. In addition, TC are less apparent in case of large deals split into multisourcing and in offshoring.

3.3 Measures to lower TC in multisourcing

As multisourcing in itself does not lower the TC, companies undertake measures to lower the costs, which can be categorised into preparedness for the multisourcing strategy, good governance and measurement of the results (Cohen and Young, 2005).

Preparation for multisourcing begins with a strategic decision, setting precise goals and investment (Overby, 2010). Multisourcing was a strategic choice for BP and DuPont from the start of the company (Cohen and Young, 2005). Reaching maturity in terms of process management, as GM did, is also a part of preparation. GM combined their systems and applications from 10,000 to 2,500 and described 44 IT processes (Bielewicz, 2008). Using appropriate and complete contracts, Gulati (1993) eliminates costs by lowering the risks of opportunistic behaviour.

Good governance allows suppliers to provide unified and cohesive service (Kobayashi-Hillary, 2006). To lower their costs firms need to develop expertise in managing the outsourcing contract, to launch standards of development and integration tools, templates, and testing checklists (Howard, 2006), and aim for a higher quality of service, which is a consequence of a close relationship between the client and suppliers (Williamson, 1981). For example, GM required their service providers to use the same language and standards for depiction of requirements, acceptance and authentications of systems, monitoring, project management, configuration management and safety (Mitchell, 2006). Governance is easier when providers, who are competitors, cooperate with each other as partners (Cohen and Young, 2005) and exchange information. For example, P&G supports the communication by organising quarterly meetings with all suppliers (Gibson, 2006).

Monitoring can also lower the TC of cheating when suppliers are screened ex-ante and monitored ex-post (Vitharana and Dharwadkar, 2007), relationship strength is

measured and operational-level agreements are set (Bhattacharyya, 2006). Service level, price, value, contract relationship performance, alignment and vision are possible measures. DuPont's contract included the following measures: financial and contract performance, service delivery, process execution and improvement initiatives (Cohen and Young, 2005). It is necessary to explain the measures for service providers to understand the connection between their service and the strategy of the client (Kumbakara, 2008), because in multisourcing when the service is split between numerous suppliers it is difficult for them to comprehend the whole of the service.

To conclude, firms introduce numerous measures to overcome the TC by properly arranging, managing and monitoring transactions. It proves the second proposal from the previous section right, because numerous remarks of firms indicate that they implement ways to lower TC throughout the relationship.

4 Conclusion, theoretical and managerial implications

The question of motives for multisourcing is open for further discussion, and this article was aimed to help understand its motives in the light of TCE, with a special focus on TC lowering. It analysed TC in multisourcing in comparison with market, hierarchy and mega deals. An analysis of motives and TC-related factors experienced in multisourcing mentioned by firms has shown that opportunity of lowering the TC is not a factor motivating companies to this relationship. In contrast, firms decide for multisourcing despite it bearing high TC. Therefore, firms need to implement measures to lower the costs at the phase of arranging the relationship, managing and monitoring suppliers.

These conclusions have important practical and theoretical implications. In managerial practice, firms willing to undertake multisourcing can realise that in this relationship TC would not be lower and that they need to implement cost preventive measures by properly arranging, managing and monitoring transactions. All these factors contribute to the complexity of the multisourcing governance, which can be offset by an opportunity for innovativeness, flexibility and competitive advantage.

Theoretical implications refer to the fact that the findings seem to contradict the TCE, which states that companies choose a governance structure that decreases TC. It has been observed previously that decisions in IT can contradict many of the TCE assumptions, and only a reference to uncertainty and small numbers helps in explaining the incongruities (Lacity and Willcocks, 1995). The dilemma can be explained in a following way: taking into consideration both TC and counteracting measures undertaken by firms, multisourcing lowers the TC. It also happens in case of large deals and outsourcing to low-cost locations. Finally, the costs are offset by the benefits of higher flexibility and innovations.

Apart from elaboration on TCE based motives for multisourcing in IT, the article helps to comprehend why proper governance is necessary in multisourcing, as it constitutes a condition for moderating the TC. The article offers a fertile standpoint for future research, as it is worth to quantify the factors lowering and increasing TC, as well as to conduct similar studies in other industries where multisourcing is observed, as well as identify motives based on other theoretical frameworks.

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