

Critical Success Factors for Outsourcing Strategy Implementation: Iran Automotive Industry

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ABSTRACT--- *This paper investigates critical success factors affecting successful outsourcing strategy implementation within Iran automotive industry. The sample have been selected from managers and technicians of two main Iranian auto-makers (IRANKHODRO and SAIPA) and structural equation modeling (SEM) was employed for testing significance of the model's relationships. The results indicate that Trust, Transaction Cost, Technology and Supplied Product Quality are among critical success factors that affects outsourcing success.*

Keywords--- Outsourcing, Critical Success Factors, Automotive Industry

1. INTRODUCTION

In this rapidly changing environment and today's complex markets, outsourcing has become a great research area in various industries (Aksoy, Sucky and Ozturk, 2014). The concept of cooperation among firms is an inevitable must that enables companies to be focused on their own core activities and delegate other noncritical parts to other specialized partners. This process is known as outsourcing. In other words using a third party company to provide logistic services is considered as outsourcing (Erturgut, 2012). After emergence of specialized operation theory, outsourcing has been discussed as one of the hot topics in supply management literature (Li-jun, 2012; Ishizaka and Blakiston, 2012).

There are some potential risks associated with outsourcing strategy including transaction risks, management risks, relationship risks and out-of-control risks (Chi, Ci and Zou, 2011). Thus, with the growth of outsourcing importance for businesses, there is a greater need to identify and control the risks associated with it. Despite the importance of this research era, limited researches have been conducted to understand the probability and consequence of occurrence of these risks, as well as the ranking and classification of them (Gandhi, Gorod and Sauser, 2012). To avoid such risks and achieve to favorite effectiveness in outsourcing implementation, it needs to evaluate all potential suppliers from various aspects before signing outsourcing contract.

Strategic supplier selection is a multi-criteria problem which includes both tangible and intangible criteria, some of which may conflict (Aksoy *et al.* 2014). It is sometimes very complex, since it involves a great variety of uncontrollable and unpredictable variables that affect the final decision (Bilisik, Caglar and Bilisik, 2012). Regarding to multidimensional nature of outsourcing strategy (Schwarz, 2014), a comprehensive approach needed to identify all factors that affect effectiveness of outsourcing practices. In the past two decades in Iran, an increasing trend in outsourcing has occurred in different industrial and construction projects (Sepehri, 2013).

The purpose of this research is to investigate critical success factors affecting successful outsourcing strategy implementation within Iran automotive industry.

2. 2. CRITICAL SUCCESS FACTORS

2.1 Trust

Studies assessing the supplier-buyer relationships build up an important topic of the research works on supply chain literature (Karakadilar and Sezen, 2012). Trust is an important part of any interaction, exchange or transactional relationship because risk that is inherent in exchange transactions is reduced by trust.

Generally trust defines as a positive belief or expectation about reliability, dependability or confidence toward a person or an organization (Sun *et al.*, 2012). It plays a key role in improving relationship between outsourcing parties (KAYNAK and AVCI, 2014) and one of the most important psychological issues that affect decision making process of all contract actors is their trust (Leaua and Anitei, 2012).

It is argued that the presence of trust is a prerequisite for the partner companies to make the necessary investments and sharing information (Karakadilar *et al.*, 2012). The extant literature suggests that a buyer's trust of a supplier and the supplier's performance affect the buyer's long-term orientation toward the relationship (Cannon *et al.*, 2010). Thus trust is an important consideration prior to adoption of outsourcing options and selection of suppliers. KAYNAK and AVCI (2014) identified five factors influencing buyer trust including logistic service accountability, financial accountability, marketing accountability, contractual accountability and environmental accountability that are used in this research as measures for evaluating trust in the context of outsourcing relationship between parties within Iran automotive industry. So hypothesis 1 is:

Hypothesis 1: Trust has a significant effect on successful outsourcing strategy implementation.

2.2 Transaction Costs

Transaction costs are becoming an increasingly important issue in searching and selecting reliable business partners, negotiation, formation of the contract and its control (Vasiliauskiene and Snieska, 2009). Transaction costs, consisted of *ex-ante* transaction costs that occur before assigning the contract such as costs of searching, collecting information and negotiating, and *ex-post* transaction costs that emerge after assigning the contract as costs of monitoring and enforcement (Can Kutlu, 2012). Transaction cost approach offers a powerful conceptual framework on the outsourcing (YILMAZ and BEDUK, 2014). According to YILMAZ and BEDUK (2014) research, outsourcing reduces transaction costs and resource dependency. Thus any potential supplier that imposes less transaction cost will be a better candidate for outsourcing partnership. Transaction costs are one of the key factors that should be considered in the process of evaluating outsourcing applicants. Then hypothesis 2 is:

Hypothesis 2: Transaction Costs has a significant effect on successful outsourcing strategy implementation.

2.3 Technology

According to DEMIRTAS (2013) core capabilities and its related manufacturing lines become an important issue for outsourcing decisions. The result of mentioned study indicates that machining technologies are the most important alternative in the supplier evaluation process. Shen and Yu (2013) mentioned nine criteria for strategic vender selection including production facilities and production capacity. Absolutely without needed production equipment and specialized manpower to use them it is impossible to provide satisfying services to the customer company. Thus having reliable machinery and production equipments is one of the most important characteristics of a suitable outsourcing partner especially in automotive industry. Avila *et al.* (2012) identified five selection criteria for supplier selection process including quality, financial, synergies, cost, and production system.

According to mentioned research production capacity, productive features in the production line, range of products, innovation and environmental concerns are among factors that affecting effectiveness of production system. Therefore technical capability and technological readiness plays a key role in the process of successful outsourcing strategy implementation and it should be considered as one of the aspects that build up a suitable outsourcing partner. Hypothesis 3 says:

Hypothesis 3: Technology has a significant effect on successful outsourcing strategy implementation.

2.4 Long-term perspective

Companies strongly rely on the long-term partnership they build with their suppliers to stay profitable (Karakadilar and Sezen, 2012). There are a limited number of studies empirically assessing the long-term collaboration issue within outsourcing partnership context. The fact that such studies are usually developed-country-based studies (Olorunniwo and Li, 2010; Wiengarten *et al.*, 2010) makes it academically questionable to argue that the proposed structures could be applied and generalized in emerging markets (Karakadilar and Sezen, 2012). The history of past contracts plays a key role in creating and maintaining long-term relationship among parties. Also, issue of ownership and image of the service provider company are other factors that should be considered when it comes to long-term contracts. In this research we examine the significance of long-term approach in shaping a firm outsourcing relationship between parent and contractor companies. So hypothesis 3 formulated as below:

Hypothesis 4: Long-term perspective has a significant effect on successful outsourcing strategy implementation.

2.5 Supplied Product Quality

According to Claudiu (2011) study within B2B¹ industry in Romania, *supplied product quality* is the most important criteria in supplier selection process among eight other factors such as supplied product price, discounts, availability, extra services, long-term relationship and so on. The result of mentioned research indicates that buyers are willing to purchase high quality product with lowest possible price and on credit terms (Claudiu, 2011). Thus supplied product quality is the first priority in their supplier selection process. According to Lotfi *et al.* (2013) Product quality is one important dimension of operational performance in supply chain management that attracts a lot attention from research community. Supplied product quality leads to a satisfying relationship between outsourcing partners. For the reason of safety concerns associated with supplied parts in automotive industry, quality has a critical influence in choosing the right outsourcing company. Hypothesis 4 says:

Hypothesis 5: supplied product quality has a significant effect on successful outsourcing strategy implementation.

3. METHOD OF RESEARCH

Two main Iranian auto makers (IRANKHODRO and SAIPA) have been selected as the cases of this study. Based on appropriate literature review a questionnaire was designed that encompasses various factors that affect outsourcing success including operational and relational factors for all five above constructs. After Gathering and analyzing data, the conceptual model of critical success factors for outsourcing strategy implementation created and tested using Structural Equation Modeling (SEM) method. The sample of this research has been selected randomly among managers and technicians of IRANKHODRO and SAIPA and other associated factories and the size of sample is 390 that are sufficient for SEM analytical method.

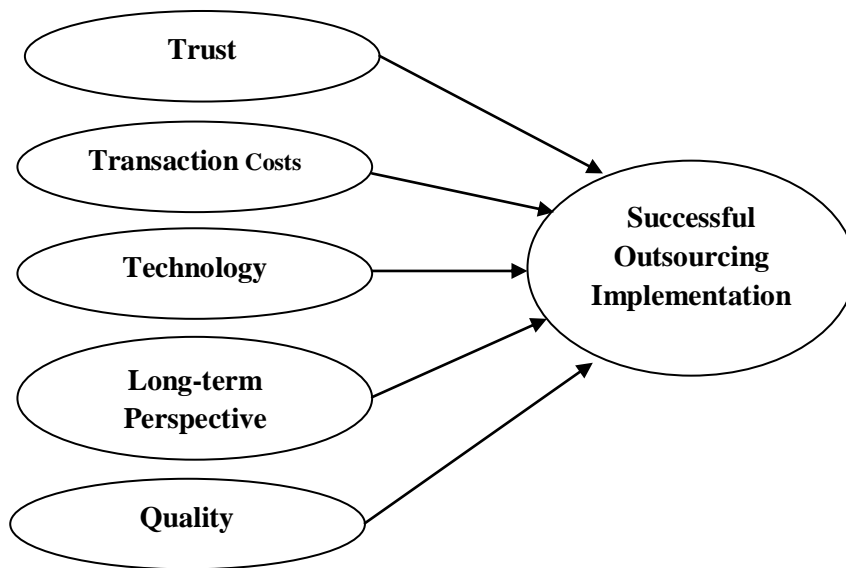


Fig.1: conceptual Research Model

4-ANALYSIS AND RESULTS

The demographic characteristics of the sample were shown in Table 1. Structural equations modeling using LISREL 8.54 for Windows were performed to test the relationships between the constructs in this study. First, a confirmatory factor analysis (CFA) was performed to identify whether the measurement variables reliably reflected the hypothesized latent variables. Second, a structural equation modeling (SEM) with latent variables was tested to determine the adequacy of the constructs of the model and test the hypotheses.

¹ Business to Business

Table 1: Demographic Characteristics

Demographic variables	%
Gender	
Male	85
Female	15
Total	100.0
Age (Years)	
27 – 45	65
Above 45	35
Total	100.0
Educational level	
Non educated	87
Educated	13
Total	100.0
Marriage state	
Single	27
Marriage	73
Total	100.0

4.1 Measurement model estimation

Table 2: Confirmatory factor analysis results

Constructs	Standardized loadings	t- value	Cranach's α
Trust			0.90
TR 1	0.78	-	
TR 2	0.78	16.16	
TR 3	0.82	17.05	
TR 4	0.83	17.21	
TR 5	0.79	16.35	
Transaction			0.89
TRANS 1	0.80	-	
TRANS 2	0.85	18.77	
TRANS 3	0.83	18.01	
TRANS 4	0.74	15.78	
TRANS 5	0.78	16.61	
Technology			0.87
TECH 1	0.85	-	
TECH 2	0.79	13.89	
Long-term			0.84
LONG 1	0.79	-	
LONG 2	0.80	14.82	
Quality			0.71
Q 1	0.77	-	
Q 2	0.74	12.80	
SOI			0.83
SOI 1	-	-	
SOI 2	0.79	16.87	
SOI 3	0.77	16.29	

We tested our measurement model using LISREL 8.54. Overall evaluation of the model fit was based on multiple indicators including: χ^2 (243.07, degree of freedom=120, and p-value=0.000); the normed fit index (NFI=0.98), the non normed fit index (NNFI=0.99), the comparative fit index (CFI=0.99), Incremental Fit Index (IFI=0.99), the root mean

squared error of approximation (RMSEA=0.051), Goodness of Fit Index (GFI=0.94), Adjusted goodness of fit (AGFI=0.91), and Root Mean Square Residual (RMR) = 0.026. These results indicate an acceptable fitness of the model to data.

4.2 Structural model results

After assessing and confirming the total measurement model, the structural model was estimated, the structural model was also found to fit the data well. All hypothesized relationships are statistically significant. Figure 2 presents the overall results of the structural equation model.

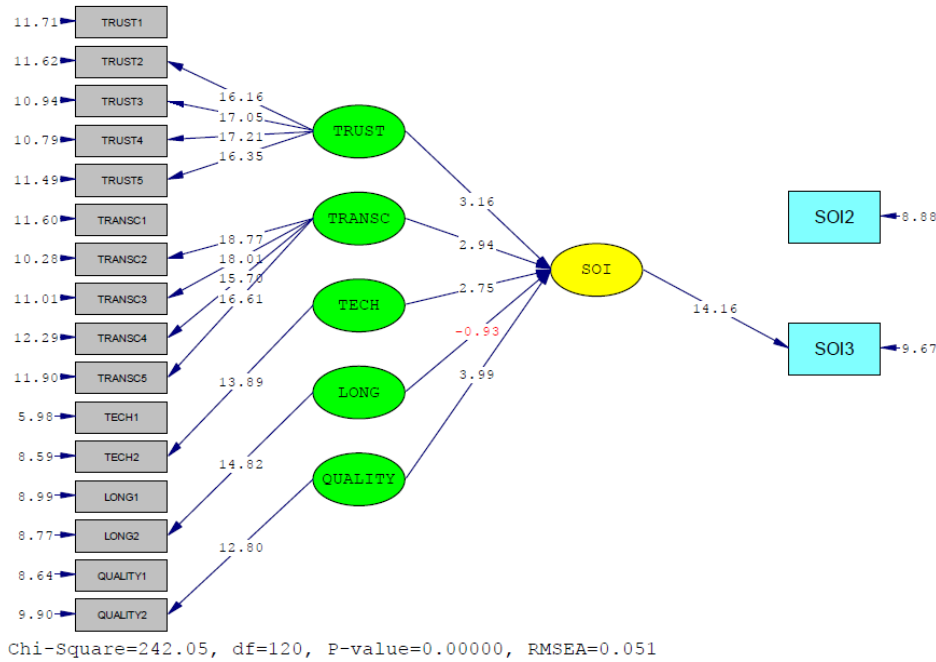


Figure 2: Structural model

Trust has a positive significant effect on Successful Outsourcing Implementation ($t = 3.16, p = 0.05$). Transaction cost has a positive significant effect on Successful Outsourcing Implementation ($t = 2.94, p = 0.05$), thus supporting hypotheses 2. Hypothesis 3, predicting that technology has a positive effect on the Successful Outsourcing Implementation, is supported ($t = 2.75, p = 0.05$). However, the hypothesized effect of long-term perspective on Successful Outsourcing Implementation (H4) is not supported ($t = -0.93, p = 0.05$). As predicted, quality was positively related to Successful Outsourcing Implementation ($t = 3.99, p = 0.05$).

Table 3: Path estimates and hypotheses results for proposed model

Hypotheses	Path	Path coefficient	T-value	results
H1: TRUST	→ SOI	0.20	3.16	supported
H2: TRANSC	→ SOI	0.23	2.94	Supported
H3: TECH	→ SOI	0.21	2.75	Supported
H4: LONG	→ SOI	-0.12	-0.93	Not Supported
H5: QUALITY	→ SOI	0.51	3.99	Supported

5. DISCUSSION AND CONCLUSION

In this paper we investigate critical success factors that affecting successful outsourcing strategy within Iran automotive industry. According to results trust, transaction costs, technology and product quality are among influencing factors that play a key role in shaping and maintaining a profitable partnership between outsourcing parties. There is no empirical evidence for the significant positive effect of long-term approach on successful outsourcing implementation.

Thus maybe there is a little willingness to working with a partner for a long time as an outsourcing partner. As table 3 shows product quality is the most important factor in supplier evaluation process.

The dynamic nature of automotive industry in Iran and many complicated parts that needs to be produced, imposed IRANKHODRO and SAIPA to get into contracts with many partners and providers. This paper introduced a framework for making right decision in choosing these partners. Future researches may implement the model of this research in other various industries and help to extent this important research area.

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