

Analysis of the Influence Factors of Outsourcing Service Provider Selection

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Abstract. Many major enterprises outsource the professional IT work to reduce costs and improve efficiency. In recent years, shipbuilding enterprises have become one of the most important IT outsourcing customers all over the world. In this paper, the key influence factors of the choice of outsourcing service providers are analyzed by AHP to support the decision of shipbuilding enterprises.

Keywords: IT outsourcing; AHP; Decision-Making

1 Introduction

Now a days, many enterprises chooses to outsource its non-core business to other enterprises to reduce cost and increase the efficiency. Because the core business of shipbuilding enterprises are not IT, it not only costs a lot to set up its own IT department but also difficult to retain top IT talents, so most of the shipbuilding enterprises chose outsource to IT business^[1]. How to choose an appropriate IT outsourcing services provider turns to be a key issue that the shipbuilding enterprises are facing, the decision-making influence factors of choosing IT outsourcing services provider are analyzed based on AHP analysis model in this paper, it provides the theory basis and the effective reference for this kind of decision making..

2 The Decision-Making Influence Factors of Choosing IT Outsourcing Providers

2.1 Cost contribution

Cost contribution refers to cost advantages by outsourcing non-core business, it is a comparative advantage but not a simple outsourcing cost calculation^[2].

Formula of cost contribution:

$$\text{Cost contribution} = (\text{self made cost} - \text{outsourcing cost}) / \text{self made cost} * 100\%$$

By the formula, it is easy to find out that cost contribution is the percentage of outsourcing cost saving. Generally speaking, self-made costs include cost of production and management costs. Outsourcing cost includes transaction cost, out-of-pocket cost, transition cost and supervisory cost, etc. The formula is as follow:

Self-made costs=production costs(raw material costs, procurement costs, manufacturing costs, equipment investment, etc)+management costs(personnel management, equipment management, production management, etc)

Outsourcing costs= transaction cost + out-of-pocket cost + transition cost + management and supervision cost + to sign the contract costs + conversion cost.

2.2 Internal factors of Outsourcing Service Providers

The reason of outsourcing non-core business for most enterprises are to reduce costs, thus, outsourcing service price is one of the key factors that requires the consideration, service price also reflects the competitive ability of the outsourcing service providers^[3]. Today, the shadow of the financial crisis has not completely abreaction, effective cost control is an effective way to enhance the competitiveness of shipbuilding enterprises. If one IT project are subcontracted with multiple software companies, the software testing costs, integration costs and management costs would be increased, therefore the shipbuilding enterprises would like to choose some scaled service providers, the purpose of this demands is to insure that the projects are subcontracted as few as possible^[4].

At present, software company in China can not get proper offshore outsourcing project due to the limited scale, instead, the projects they often get are from some other outsourcing service providers, which we call it second-handed outsourcing. The cost of future door-to-door services is up to Offshore distance. It is import to shipbuilding enterprises to choose IT outsourcing provider that on-site service can reduce the transaction costs^[5]. Management ability is about the project management ability of outsourcing service provider, because the standardization of the development process can reduce the uncertainty of software development, thus, consideration of service management ability is usually based on whether this enterprise passed the corresponding authentication. At present, capability maturity model authentication(CMM) developed by Carnegie Mellon university has become the general standard in IT outsourcing industry^[6]. Due to the large shipbuilding enterprise IT projects need treatment of large quantities of data, data updated quickly and especially needs of concurrent characteristics, good project management ability and coordination ability is needed, CMM certification is undoubtedly effective reference standard in this situation^[7]. In addition, passing the certification such as ISO9001、6SIGMA can also effectively prove enterprise management level, and provide a reference for the shipbuilding enterprises to choose outsourcing service provider. Service quality refers to satisfy level how does the outsourcing service provider meets the demand of shipbuilding enterprise^[8]. The quality of IT outsourcing includes: software error probability, error arecovery time, system maintenance and upgrade frequency, etc. Because IT outsourcing often involved in business secrets, if unable to provide effective protection of commercial secrets, the business secrets may got by the competitors, information security is one of the core ability that attractive

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shipbuilding enterprises^[9]. The business secrets of shipbuilding enterprises include: the new ship design, strategic planning, equipment selection, etc. Technical ability refers to unique way of knowledge production ability which includes: theory and practice knowledge, unique methods, procedures, experience and lessons, etc. The enterprise culture is the enterprise knowledge and values accumulation similar enterprise culture can reduce possibility of conflict, and reduce the cost for resolving conflicts.

2.3 The external environment factors of outsourcing service providers

Traffic facilities are not that important in choosing outsourcing service provider, because IT outsourcing does not need a lot of goods transport. Communication facilities are important especially in offshore outsourcing because shipbuilding enterprises are normally far away from the outsourcing service providers. In recent years, success of Indian software outsourcing industry is benefited from giving full play to the talent advantage, so human resource is an important factor in IT outsourcing providers choosing. China is still short for software talent, this directly lead our software enterprises to small scale, and then limit the ability to get large project from big shipbuilding enterprise. Policy environment is also an important factor for outsourcing service providers choosing, stable policy can supply a safe environment for the investors ,also, the development of outsourcing service providers need the supplyment of government. At the mean time, developed outsourcing service provider is more likely to attract shipbuilding enterprises. Because large project of IT outsourcing always take ages, a stable policy environment is demanded by most of the decision makers^[10]. At last, law environment is also a factor considered by the shipbuilding enterprises, which always includes: Intellectual property law, contract law, trade law, etc.

Table 1. Influence Factors of Choosing IT Outsourcing Providers

factors of decision making	Cost contribution	
	Internal factors	scale (SC)
		offshore distance (OD)
		management ability (MA)
		information security (IS)
		service quality (SQ)
		technology ability (TA)
		Corporate Culture (CC)
		Response speed (RS)
	External factors	traffic facilities (TF)
		communication facilities (CF)
		human resources environment (HR)
		policy environment (PE)
		law environment (LE)
language environment (LA)		

3 Conclusion

In this paper, outsourcing service provider selection decision making model is studied through some key factors, such as: cost contribution, internal factors and external factors. This analysis is useful to make better decision for the shipbuilding enterprise when they choose IT outsourcing service provider.

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