

An investigation on different factors influencing on competitive advantage

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ABSTRACT

This paper presents an empirical investigation to determine important factors influencing on getting competitive advantage on two construction firms, namely Keyson and Sazeh consultants in Iran. In this study, four variables of internal resources, personal characteristics of decision makers, demand conditions and market strategies/services are investigated. The study prepares a questionnaire consists of 19 questions in Likert scale and distributes it among 145 regular employees who work for these two firms. Cronbach alpha was calculated as 0.93, which was well above the minimum acceptable limit. The results of the survey have confirmed that while four issues influence on the success of the firms on getting competitive advantage, there were some meaningful difference between the effects of the factors.

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1. Introduction

During the past few years, there has been growing interest in firms with competitive advantage and many researchers are interested in learning on how to improve the quality of products and services through applying various techniques (Song et al., 2013; Perren, 2013). Ram et al. (2014) built a conceptual model, which draws upon information systems implementation theory, to study the relationship between critical success factors associated with the implementation of enterprise resource planning (ERP) software and the aim of competitive advantage. They examined the model with data from a survey of 217 Australian firms, using structural equation modelling (SEM) and reported that they could best reach competitive advantage by carefully managing training and education as well as system integration activities. Hinterhuber and Liozu (2014) reported that innovation in pricing could be a firm's most powerful and, in several cases, least explored source of competitive advantage. Innovation in pricing brings new-to-the-industry methods to pricing strategies, to pricing tactics, and to the organization of pricing with the objective of increasing customer satisfaction and firm profits;

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too many firms today observe pricing as a win/lose proposition between themselves and their customers. Innovation in pricing breaks this deadlock and demonstrated how to increase profits and customer satisfaction conjointly. Wang (2014) developed and examined a theoretical model to study how relational capital mediates the effect of corporate reputation on competitive advantage. The hypotheses were examined using a sample of Taiwanese high-tech firms over the period 2002–2011 and supported the contention that corporate reputation positively influences relational capital, which then positively influences competitive advantage. Li and Liu (2014) reported that dynamic capabilities would significantly positively influence competitive advantage, and environmental dynamism was a driver rather than a moderator. Ghapanchi et al. (2014) reported that open source software projects that were more popular and had a higher level of organizational communication than others were more likely to gain competitive advantage through effective defect-fixing.

2. The proposed study

This paper presents an empirical investigation to determine important factors influencing on getting competitive advantage on two construction firms, namely Keyson and Sazeh in Iran. Over the past two decades, Kayson has handled various projects in different sizes and complexities. They have managed to gain a wealth of experiences and project management skills. Nevertheless, the firms understands that building a lasting, technologically advanced organization capable of providing world-class service to its customers does not necessarily proceed along a smooth path, but needs a long and complicated process requiring tremendous technical know-how and managerial expertise. Keyson concentrates on bigger intensity on fully integrating strategy and process to deliver better values to its customers and reinforce Kayson's position as one of Iran's leading engineering and construction companies. Therefore, they need to find out important factors influencing on the success of getting competitive advantages.

Sazeh, the second construction firm, is another privately owned independent engineering, contracting joint stock firm founded in 1970. Sazeh together with its subsidiary corporations are active in a wide range of industrial and urban projects. Sazeh is responsible to execute EPC projects and has the capability to integrate engineering, procurement and construction to deliver an overall plant. This firm also needs to have competitive advantage to compete with other existing firms. In our study, there were 232 people working for these two construction firms with 139 people working for Keyson and 93 people serving Sazeh. The sample size for this study is calculated as follows,

$$n = \frac{N \times z_{\alpha/2}^2 \times p \times q}{\varepsilon^2 \times (N - 1) + z_{\alpha/2}^2 \times p \times q}, \quad (1)$$

where N is the population size, $p = 1 - q$ represents the yes/no categories, $z_{\alpha/2}$ is CDF of normal distribution and finally ε is the error term. Since we have $p = 0.5$, $z_{\alpha/2} = 1.96$ and $N = 232$, the number of sample size is calculated as $n = 145$. In our study, we have considered the sample size for Keyson (n_k) and Sazeh (n_s) as follows,

$$n_k = \frac{139}{232} \times 145 = 87 \qquad n_s = \frac{93}{232} \times 145 = 58$$

In our survey, 46% of the people who participated in our survey in Keyson hold bachelor degree of science and 60% of the people who took part in the survey in Sazeh firm hold bachelor degree of science. The people who were working for Keyson seemed to be young since 62% of them had less than 5 years of job experiences. The main hypothesis of the survey is as follows,

Main hypothesis: There is a difference between important factors on gaining competitive advantage between these two firms.

The proposed study considers the effects of four factors including internal resources, personal characteristics of decision makers, demand conditions and market strategies/services on gaining competitive advantage in two firms of Keyson and Sazeh. The study designs a questionnaire consists of 19 questions and distributes it among selected people. Table 1 shows some basic statistics on the data gathered.

Table 1

The summary of some basic statistics

Firm	Number of observations	Mean rank	Sum of ranks
Keyson	77	79.94	6155.00
Sazeh	58	52.16	3025.00

As we can observe from the results of Table 1, there is a difference between the distribution of two samples and this can be verified using Mann-Whitney and Wilcoxon tests where the results are summarized in Table 2 as follows,

Table 2

The summary of the results of Mann-Whitney and Wilcoxon tests

	Mann-Whitney	Wilcoxon	Z	Sig.
Factors on getting competitive advantage	1314.00	3025.00	-4.223	0.000

The results of Table 2 clearly indicate that there were meaningful differences between two groups. Next, we have examined whether the data were normally distributed or not and it has been performed using Kolmogorov–Smirnov test that the data were not normally distributed. Therefore, we use Spearman test to examine various hypotheses of the survey.

3. The results

In this section, we present details of our findings on testing various hypotheses of the survey. Table 3 shows details of our survey.

Table 3

The results of Spearman test

Components	Firm	Spearman correlation	Sig.	Number
Internal resources	Keyson	0.794	0.000	77
	Sazeh	0.747	0.000	58
Personal characteristics of decision makers	Keyson	-0.152	0.188	77
	Sazeh	0.763	0.000	58
Demand conditions	Keyson	0.779	0.000	77
	Sazeh	0.72	0.000	58
Market strategies/services	Keyson	0.833	0.000	77
	Sazeh	0.764	0.000	58

The results of Table 3 show that there were positive and meaningful relationship between all four components and building competitive advantage. In order to rank these factors we need to use Freedman test. Table 4 shows the results of Freedman test for Keyson firm.

Table 4

The summary of ranking factors based on Freedman test for Keyson

Factor	Mean rank	Rank
Market strategies/services	3.42	First
Demand conditions	3.01	Second
Internal resources	2.45	Third
Personal characteristics of decision makers	1.12	Fourth

As we can observe from the results of Table 4, market strategies/services is number one priority followed by demand conditions, Internal resources and personal characteristics of decision makers. Table 5 shows details of our findings on ranking four factors for Sazeh firm.

Table 5

The summary of ranking factors based on Freedman test for Sazeh

Factor	Mean rank	Rank
Personal characteristics of decision makers	3.18	First
Demand conditions	2.98	Second
Market strategies/services	2.48	Third
Internal resources	2.22	Fourth

According to the results of Table 5, personal characteristics of decision makers is number one priority followed by demand conditions, market strategies/services and internal resources.

4. Conclusion

In this paper, we have presented an empirical investigation to study the effects of four factors on gaining competitive advantage on two construction firms in Iran. The study has determined that while four factors almost had positive impacts on development of these two construction firms, there were differences between the effects of the factors in two firms. In other words, market strategies/services is number one priority for Keyson but personal characteristics of decision makers has gain the highest priority for Sazeh. Nevertheless, the surveyed people both have agreed that demand plays an essential role for the success of firms.

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