European Journal of Business and Management
ISSN 2222-1905 (Paper) ISSN 2222-2839 (Online)
Vol 4, No.8, 2012

Empirical Analysis of Competitive Advantage of Muslim Contractors in the East Coast of Malaysia

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Abstract

With a vast development business growth in the country, forces local contractors to promote their competitive advantage in order to continue surviving. In doing so, a number of variables such as human resource management, financial, government, supplier, technology and new market entrance with competitive advantage are used. This paper intends to explore as well as examining the ability of each class of local Muslim contractors in East Coast of Malaysia in maintaining their own competitive advantages. A total population of 3,331 contractors was generated from the Contractor Services Centre (PKK). Stratified sampling techniques was used for data collection managed to get 349 samples for the analysis and answered the designed questionnaire. The results tell us the significant and important role of human capital, technology and suppliers in construction industry. In promoting business competitive advantage technology plays an important dimension and not serving as a mediator to all other factors.

Keywords: Muslim contractors, Terengganu, Malaysia, competitive advantage

1. Introduction

In the Islamic *tasawwur* fix entrepreneurship is one of the best forms of livelihood or occupation. Muslim scholars like Yusuf al-Qardawi (1972, p.132) states that Muslim are called to pursue and persevere in entrepreneurship activities. Rafiq Yunus al-Misri (2007) explains that the *Hadith* place the highest recognition on businessmen with the prophets, *siddiqin* and *al-shuhada'* during judgement day. Ibrahim al-Nakha'i, an imam during the era of tabi'in was once asked of his preference between an honest businessman and pious devotee who spend his life on He chose the honest businessman for he is in constant *jihad*. That evidence is truly an encouragement for Muslims to become an entrepreneur. One of the business stream chosen by many is to become a contractor. Two different things are apparent here. One, is the encouragement to be involved in business. Second, is to maintain the business. One of the ways to continue surviving in this area is by promoting and maintaining its competitive advantage. Reality may not be as easy as it may sound, especially when we are referring to the construction industry. The industry is changing constantly due to the developments of new business methods and technologies. Thus, construction companies have to adopt various applications and develop appropriate strategies to be more competitive in this industry and becoming successful in their businesses. Competitive pressures, both in domestic and global markets, shifted the desired outcomes in management of the relationship away from compliance and quiescence in employee behavior toward a more positive commitment towards customers and business requirements. Construction organization has tended to shed labour as part of a survival strategy, retaining and retraining the more skilled employees or those whose skilled employees could less easily be replaced (Mullins, 1999).

1.1 Industry Background

Contractors can be defined as a body or independent business people who are hired to perform specific tasks (Gunawan & Kleiner, 2005). They are involved in labor-intensive industry and considered as an agent or principal party responsible for implementing ideas that are translated in the form of drawings and specifications to the actual shape of a building. All construction works shall be the responsibility of the contractor and the contractor will get a reward or benefit in the form of payment from employers, or virtuous. In a normal practice, most contracts are awarded to a general contractor who awards subcontracts to specialty contractors as practice in traditional design-bid-build procurement system method. Within the construction industry, various organization groups put together their effort in forming teams in running the project by combining intellectual effort in devoting individual capability in completing the project within the specified period. As for the traditional design-bid-build procurement system, the project players may involve the professional in the industry such as owners/clients, as well as the constructors group

(that include main contractor, subcontractors, suppliers and etc.) and consultants groups (example Architects, Civil and Structural Engineers, Quantity Surveyor, Land surveyors, and etc) (Clifford & Richard, 2004).

The scenarios of contractors in Terengganu demonstrated that they are in the state of "cautious" about the lack of development projects in Terengganu. With such development, the chance or probability of the contractors to participate bidding for tenders or projects will be much lower. As a result, of such imbalance growth, further adds to fierce competition in the industry. Even though, the state government has stepped in to take actions to freeze the license for some classes of contractors, still the number of registered contractors has currently outnumbered the total existing project in Terengganu. Due to stiff competition in the industry, to survive in this business is considered very challenging. The nature of competition within the industry arises not only among the registered contractor but also those who are not registered within Contractor Services Centre (PKK). The combined numbers will threaten and affect the career and sources of income of the contractors. Of the total number, only 10% of them will be awarded with the contracts, earning high capital capacity, and possessing efficient management. Another 40% of contractors could only survive and maintain the business as well as are able to meet the current needs, while the remaining 50% are not capable of sustaining their ability to remain competitive in the industry. In order to continue surviving and remain strategically relevant in the industry, contractors need to equip themselves with the right competitive advantage over their competitors. This paper is trying to investigate major competitive advantage of the contractors in Terengganu and their relationships with competitive advantage. The next step is to identify the strongest amongst all variables. Finally, this paper intends to further analyze the role of technology – whether it works better as a dimension to achieve competitive advantage or as a mediating variable.

2. Literature Review

Competitive advantage means providing advantage over competitors by offering consumer greater value either through lower price or by providing more benefits that justify higher price (Armstrong et al., 2004). D'Cruz and Ruzman (1992) defines competitiveness as "the ability of a firm to design, produce and or market products superior to those offered by competitors, considering the price and non-price qualities". Christensen (2010) defines competitive advantage as possessing whatever value a business can provide that motivates its customers to purchase its products or services rather than those of its competitors and that poses impediments to imitation by actual or potential direct competitors. From the definition, it is learnt that competitive advantage requires effective integration of several different types of information, gathered and processed indifferent organizations departments and at different organizations. The key is to winning and keeping target customer is to understand their needs better than competitors do and to deliver more value. When a firm can do something that rival firms cannot do, or own something that rival firm's desire, that can represent a competitive advantage. Getting and keeping competitive advantage is essential for long term success in an organization (David, 2005). Competitiveness is a multi-dimensional concept which has many definitions at different levels of analysis. Market share, profitability, growth rate, and the ability to supply low-cost/ high quality products or services are among the common measures of competitiveness at the firm level (Man et al., 2002). The dynamics of the businesses today have become more dependent on knowledge investments and learning ability than on physical capital European Commission (2000). It is often assumed by the advocates of this 'new economy' that only the firms with the ability to transform individual and organizational knowledge resources into strategic skills will achieve competitive advantage and survive (Van Gils ve Zwart, 2004). The purpose of competitive advantage is not to retreat from competition, but to compete selectively from an advantageous strategic position. Porter (1980) defined three generic, competitive strategies—overall cost leadership, differentiation and focus. Differentiation is possible only until selection has taken place; thereafter competition is on price alone. For a contracting firm to be differentiated from its competitors, it can adopt one or more forms of competitive advantage—strategic management in construction , bidding strategy, technological and organizational innovation, technology strategy, strategic planning, and strategic alliances.
Competitive advantage strategy is a way to find competitive positions in industry, as basic compete to form benefits position and continuously (Porter, 2004). Competitive advantage is the essence for success or fail of the company. The competition is determines the proper activity for company to give contribution for the effort such as innovation, cohesive culture and good realization.

2.1 Factors Affecting Competitive Advantage

To list down factors affecting competitive advantage will be exhaustive. For the purpose of this paper those factors will be divided into two different areas; namely internal and external factors. Internal factors to be discussed include

human resource, finance and technological factors. While the external factors include government, influence, supplier and new market entrant.

2.1.1 Human Resources

Human capital is the knowledge, skills, and abilities of employees (Hayton, 2005), while human resource management (HRM) includes all activities related to the management of employment relationships in the firm (Lin *et al.,2008).* According to Kidwell and Fish (2007) strategic HRM provides firms with the internal capacity to adapt and adjust to their competitive environments by aligning HRM policies and practices. That is further confirmed by Andonova and Zuleta (2007) by stating that the firm's ability to develop HRM practices aligned with business strategy is in fact a source of sustainable competitive advantage. For Cheah and Garvin (2004), construction companies cover 'the soft' issues and not the operational aspects such as manpower deployment among different work. By recognizing the contribution of people to getting and keeping customers, the company's performance its will be enhanced (Christopher, 1993). With the current trend emphasizing towards knowledge-intensive industries means that competitiveness continues to increasingly depending on the management of the organizations.
That contributes to the following hypothesis:
H^1 – There is a relationship between human resources and competitive advantage

2.1.2.Technology

Technology is the knowledge of how to do or make something which yields benefits to users, that ability is an asset (Stern & Eovaldi, 1984). The possession of technology is the price of entry in all business sectors. Its development important to the maintenance of competitive position in most and in fact for some it is the key to competitive advantage (Frahman,1982). Technology has contributed to the improvement of manufacturing for many years. The introduction of computer in business have dramatically improved the quality and speed of the production and reduced cost (Everald & Burrow, 1984) Apart from that, the introduction of IT as tools to improve communication between project team and suppliers as a medium for quality control of overall project deliveries (Verweij & Voorbij, 2007). The tool will radically improve collaboration and integration between design, manufacturing and assembly process (Jaeger, 2007). In fact the function of technology strategy for a construction company is wide (Tatum, 1988). He further suggests three strategic choices for technology development can be adopted by construction companies; namely pioneer versus follower, outsourcing versus internalizing, and technical/ basic research versus advanced / application research (Tatum, 1988).
The importance of technology in a construction company has led to the next hypothesis
H^2 – There is a relationship between technology and competitive advantage

2.1.3. Financial Management

Possessing a sound knowledge in financial management is considered to be an important aspect to run a business. Studies show that lack of financial training was one of the biggest problems during the start-up stage, and even after the business has been established (Amatucci & Crawley, 2011). The statement supports the earlier findings by Neuberger and Rathke (2009) who mentions that financial capital is one of the key input for the start-up success and growth of business. Successful business often requires additional capital. Besides net profit from the operation and the sale of assets, the basic sources of capital for a firm are loan, that offered by the financial institutions in the country. Usually the financial institution already determine the amount that the entrepreneur to apply the loan. However, sometimes also have entrepreneur that not applying the loan because the interest rate that is charge is higher and it can burden the entrepreneur. Financial strategy involves how to make investment decision and financing decisions (Nguyen et al., 2004). Kangari et al. (1992) believes that inadequate knowledge of financial management is the main reason behind the high level of business failure in construction. On the other hand a sound knowledge of financial management is a plus to the organization.
With that, leads to the next hypothesis:
H^3– There is a relationship between financial management and competitive advantage

2.1.4. Government

Government intervention has always been important in creating economic growth and in fostering diffusion of technological innovations. Reinert (1999) highlights the role of the state as promoter of economic growth by getting the nation into the "right business", and creates a competitive advantage, setting standards and creates demand. In an analysis, Madon, (2000) mentions about the relationship between Internet diffusion and socio-economic development in developing countries and identifies three major areas of government intervention. Those areas

include creating knowledge, disseminating knowledge and human resources development. According to Rothwell (1994), government intervention is especially important at sustaining technological development in SMEs. Recently, many governments and international organizations are taking initiatives to foster the adoption of electronic commerce in small and medium size enterprises (OECD,1999*)*. These initiatives are considered important to avoid a digital divide between small and large companies and important for the growth of local companies in the future to come.
Such initiatives lead us to the next hypothesis
H^4– There is a relationship between government and competitive advantage

2.1.5. New Market Entrance
One of the important issues in managing a new construction venture is the transition from informal, low-control style of management (characteristic of early phases of new ventures) to formal, high-control management present in well-established companies. Two factors determine what this force might be. One, is the existing barrier to entry and second, the likelihood of a strong competitive reaction from established competitors (Christopher, 1993). New ventures were identified with respect to their role in an organizational development of technological innovations or in terms of strategic initiatives of a company. Some seminal contributions have been produced by the person who inquired into the corporate new venture strategies and suggested a typology of possible strategies (Roberts,1980).
That leads to the next hypothesis
H^5– There is a relationship between new market entrance and competitive advantage

2.1.6. Supplier
The involvement of the right supplier is important to determine the completion of certain construction project. Involving suppliers in product development has namely been argued to contribute to reduced development time, reduced development and product costs and improved product quality. However, the results of supplier involvement seem to be mixed (Hartley et al., 1997**)**. According to Dyer et al.(1998), long-term relations and partnerships should be established with strategic partners and suppliers which will provide high value inputs and play an important role in differentiating the buyers' final product. However, Kraljic (1983) argued that long-term relations should be exclusive for specific range of suppliers especially those who supplied scarce resources or high-value products.
The arguments lead to the next hypothesis:
H^6– There is a relationship between supplier and competitive advantage

3. Methodology

The population for study was taken based on sampling frame generated by Contractor Services Centre (PKK) for the February 2011. The total number of population gathered was 3,331. Based on Krejcie and Morgan (1970) for that number of population, the total number of sample should be selected is 349 samples. In selecting the samples, the researcher used stratified sampling technique. Stratified sampling technique is best method to use in order get the best representation of the population.From the total number of 349 to be obtained, we have decided to divide according to all the districts in Terengganu. As a result, the division number of respondents is as such; 32 respondents from Marang, 32 respondents from Setiu, 36 respondents from Kemaman, 136 respondents from Kuala Terengganu, 30 respondents from Hulu Terengganu, 32 respondents from Dungun, and 51 respondents from Besut. We further divided the sample according to various class (for contractors) and their specialty area . All respondents names were placed into bowl that already been mark according to the area and class. Thus every sample was given the equal chance to be selected as a respondent for this study. Structured questionnaire was used as a mean for data collection and was collected via personally administered questionnaire. The questionnaire was distributed to the respondents based on different classes A to F of contractors registered under Contractor Services Centre (PKK).

The instrument was made up of 9 sections of questions in prearranged order. All items were measured on a five-point Likert Scale ranging from 1 "Strongly Disagree" to 5 "Strongly Agree". The questionnaire covers questions on demographic profile, internal factors (HRM, finance, and technology), external factor (government, supplier and newmarket entrants) and competitive advantage strategy among contractors covering different segments of A to H respectively. Factor analysis was performed on all questionnaire items to establish their suitability for performing the subsequent multivariate analysis. The results obtained are based on parsimonious sets of variables, guided by conceptual and practical considerations with loadings of 0.50 and above (Hair et al., 1998) and cross-loadings below 0.20. Maximum likelihood rotation was employed for the analysis. High communality values were recorded for all

the variables, indicating that the total amount of variance. After a few rounds of analysis, finally, the remaining 38 items loaded well on six (excluding demographics) dimensions with scores over 0.50. It is noted that the dimension of new market entrance was abolished during factor analysis due to high cross-loadings. Overall the results show that the remaining construct measures the same construct and thus are highly inter-correlated (Nunnally, 1978). The Kaiser-Meyer-Olkin measure of adequacy gives a high total of 0.896 and the Bartlett's test of sphericity value is significant (p = 0.000). After dropping "New Market Entrance" the new framework of the study is as shown in Figure All together, there are six independent variables to be important to the researcher for this research which are HRM, Finance, Government, Suppliers and Technologies. These variables have relationship with dependent variables which is the competitive advantage variable.

4. Findings

Data were analyzed using SPSS. The results of the analysis are as shown on Table 4.1.

4.1 Demographic Profile

Frequency analysis is used to analyze the overall profile of the respondent. Obviously, majority of the respondents are male (93.7%) with 281 of them aged more than 40 years old (80.5%). Most of them have been involved in the business for more than 10 years (81.4%). It seems that most of them are SPM holders (high school leavers) earning from RM2000 – RM5000 per month (78.5%).

4.2 Reliability Analysis

The internal consistency of the instrument was tested via reliability analysis. The Cronbach's Alpha for the construct is as follows; human resources (0.714), finance (0.833), technology (0.853), government (0.772), supplier (0.846), competitive advantage (0.897). All results exceed 0.60, the lower limit of acceptability recommended by Hair et al.(1998) suggesting a high degree of reliability. Items for new market entrant were totally dropped.

4.3 Correlation among variables

Pearson correlation was used to test for association. The result for Pearson correlation (as shown in Table 4.2) supports the notion that there are significant relationships between competitive advantage and the three variables, human resource, finance, technology and supplier (r = 0.529, 0.379, 0.650 and 0.407) at 0.01 level of significance respectively. There are significant relationship between competitive advantage and government factor (r= 0.122) at 0.05 significant level.

4.4 Regression Analysis among Variables

We further investigate the scenario by using multiple regression analysis (as shown in Table 4.3 below). The results show that all the five dimensions (human resource, finance, technology, government and supplier) contribute significantly to competitive advantage with (F= 93.866; p= 0.000). The combination of all factors predicts about 58 per cent of variations in company's competitive advantage. Looking at the variables individually, we will realized that the relationship between finance (p = 0.598) and government (p = 0.20) and competitive advantage are not significant. On the other hand, technology seems to give the highest impact on competitive advantage with Beta = 0.445. Now, from the analysis, the variable with the largest impact is technology. Another question rises – is technology an important factor by itself, or is it as an important mediator for all other variables?

4.5 Further analysis on the role of technology

In order to further learn about the role of technology - (whether it is a variable / dimension by itself or is it a strong mediating variable that enhance the role of other variables. In doing so, two further stages of regression are run. In the first stage, the variable used was only technology. The result is as shown in Table 4.4. We want to know how big is the contribution by technology (represented by Beta) in determining the relationship with competitive advantage. In the second stage, technology is included as a mediating variable in the relationship between human, finance, technology, government and supplier. The results tell us how technology is an important factor in the relationship. From r^2 we learned that technology contributes about 42 per cent variation in competitive advantage. That is quite a high contribution, considering we are judging technology as one single variable. The analysis is continued with the second hierarchical regression analysis on technology. This time technology is treated as mediating variables for all the variables (human resource, finance, government and supplier). The result is as shown in Figure 4.5 From the result, It is clear how important technology is in promoting competitive advantage in construction companies. As a single factor, Beta (β) for technology predicts is 0.650 percent and r^2 predicts about 42 per cent variation of

competitive advantage. If technology is treated as a mediating variable for all other variables (namely human resource, finance, government and supplier), r^2 gives a slightly higher reading (54 percent as compared to 42 percent). Bear in mind, in the first stage, the figure represent technology as a single dimension while in the second stage is a combination of four other dimensions. Therefore, technology should exist as a strong dimension or variable in its own not as a mediating variable.

5. Conclusions and discussions

The result has proven that the most competitive advantage for contractors is technology. According Everard and Burrow, (2004) technology has dramatically improved the quality and speed of the production and has reduced costs. As a contractor, if they used the advance in telecommunications infrastructure, internet, and machinery in order to complete daily business operation will contribute in reducing their cost, increased the productivity and produce higher quality of the products and services (Verweij & Voorbij, 2007). However, the competitive nature of the construction industry in the current global market environment is very dynamic .Rapid technological advances is one of factors contributing to it. Therefore, companies must continue to keep up with those challenges and changes in order to continue surviving in the business. Another aspect that we learn from this study is the irrelevance of new market entrant to the business. For those construction companies, it does not matter if they are new, as long as they are ready and 'fully equipped' to face challenges, they will survive. The weakness of this paper lies in the majority of the respondents are Muslims. Perhaps if the respondents comprise of an equal mix of those from other religions will give a more interesting results to be discussed.

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Notes

After factor analysis, the items left are as follow:

Figure 3.1 Framework of the Study

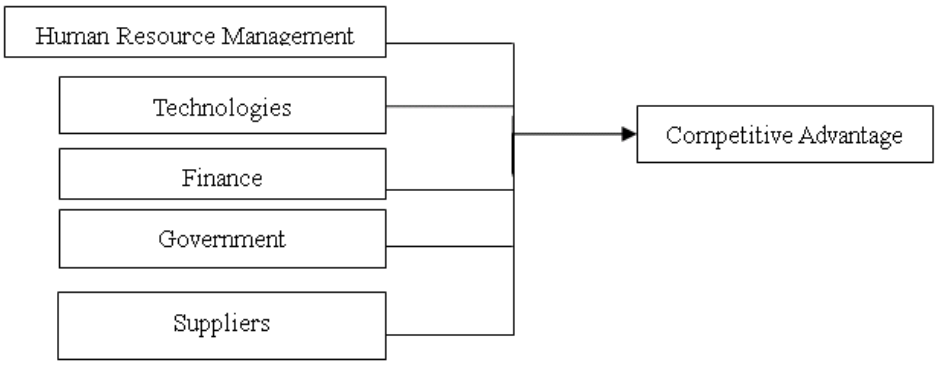

Figure 4.1 Respondent's profiles

	Frequency	Percentage		Frequency	Percentage
Gender			**Marital Status**		
Male	327	93.7%	Married	331	94.8%
Female	22	6.3%	Single	18	5.2%
Age			**Years involved as contractors**		
20 – 24	1	0.3%	Less than 1 yr	2	0.6%
25 – 29	11	3.2%	1 - 5 years	25	7.2%
30 – 34	4	1.1%	6 – 10 years	38	10.9%
35 – 39	52	14.9%	More than 10 yrs	284	81.4%
Monthly income			**Business Area**		
1,000 – 2,000	31	8.9%	Kemaman	36	10.3%
2,001 - 3,000	131	37.5%	K. Terengganu	136	39.0 %
3,001 – 5,000	143	41%	Dungun	32	9.2%
5,001 – 10,000	32	9.2%	Marang	32	9,2%
10,001 – 15,000	8	2.3%	Besut	51	14.6%
15,001 and above	4	1.1%	Hulu Terengganu	30	8.6%
			Setiu	32	9.2%

Figure 4.2 Correlation among variables

	(HR)	(Fin)	(Tech)	(Govt)	(Supp)	(CA)
Human Resource (HR)	1.00					
Financial Management (Fin)	0.485**	1.00				
Technology (Tech)	0.333**	0.392**	1.00			
Government (Govt)	0.295**	0.297**	0.039	1.00		
Supplier (Supp)	0.063	0.116*	0.380**	0.295**	1.00	
Competitive Advantage (CA)	0.529**	0.379**	0.650**	0.122*	0.407**	1.00

Note: ** Correlation is significant at the 0.01 level (2-tailed)
* Correlation is significant at the 0.05 level (2-tailed)

Figure 4.3. Summary of regression analysis

Summary		ANOVA						Collinearity Statistics	
R	**R^2**	**F**	**Sig**	**Dimension**	***B***	***T***	***ρ***	**Tolerance**	**VIF**
0.760[a]	0.578	93.866	0.000	Human	0.352	8.525	0.00	0.722	1.384
				Finance	-0.23	-0.527	0.598	0.665	1.503
				Technology	0.445	10.651	0.000	0.706	1.416
				Government	0.93	2.334	0.020	0.784	1.276
				Supplier	-0.246	-6.082	0.000	0.755	1.324

a. Predictors: (constant): Supplier, Human, Government, Technology, Finance

Figure 4.4 Summary of multiple regressions on technology

Summary		ANOVA					
R	**R^2**	**F**	**Sig**	**Dimension**	***β***	***t***	***ρ***
0.650[a]	0.423	254.245	0.000	Technology	0.650	15.940	0.000

Predictors: (constant), Competitive advantage

Figure 4.5 Comparing the result of technology as a single variable or a mediating

Independent variable regression	**Regression**				Changes
	Stage 1 Technology		**Stage 2** Technology as a mediating factor		
	β	(p value)	β	(p value)	
	0.650	0.000			
HR			0.646	(0.00)	
Finance			0.035	(0.51)	
Government			0.167	(0.02)	
Supplier			-0.199	(0.00)	
	R^2= 0.423		R^2= 0.541