Key Factors Contributing to Growth of Construction Companies: A Malaysian Experience

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Abstract: The growth of firms is an important indicator of a thriving economy. Most firms, in general, have multiple objectives relating to sustaining and succeeding in their business endeavors. For short term, firms pay more attention to profit maximization. For long term, however, profit is no longer the prime focus because one of the objectives which may dominate the management of a firm is its growth. The objectives of this research are to identify the factors that play key roles in determining growth and to analyze the impact of the factors on growth performance of the companies. Data collection for this study was based on a survey questionnaire through large construction companies from grade G7, as classified under the Construction Industry Development Board of Malaysia (CIDB). A total number of 600 questionnaires was sent by mail and handed out to the group of respondents. Accordingly, 102 of the questionnaires were returned and useable. Data was then analyzed by using the relative importance index (RII), confirmatory factor analysis and regression analysis to establish findings. The findings have shown that the customer orientation factors are the utmost important parameters in determining the growth of Malaysian construction companies. It has also been revealed that the management and product quality factors as well as human factors have had a positive significant influence in growth performance both in terms of employment and turnover.

Key words: Construction Companies · Firms' Growth · Construction Industry · Growth Performance · Malaysia

INTRODUCTION

Malaysia is one of the most rapidly developing countries among developing nations. The construction industry has a major contribution to Malaysia's rapid economic growth. The industry represents nearly 3-5% of the country's Gross Domestic Product (GDP) and provides employment for about 10% of the total labor force [1]. In Malaysia, the construction sector is divided into four broad categories: office; retail; residential and infrastructure. The industry is dynamic in nature and the environment due to the increasing uncertainties in technology, budgets and developmental processes [2].

As a complex industry comprising of a wide array of firms, disciplines and practices, changes to the organization and activities of the sector might be beneficial to some, but disadvantageous to others [3]. Change is an unceasing process and as such, the firm must be in a position to respond continuously to the changing environmental conditions [4]. Not all firms are equally able to change [5]. In the face of these changes, managing a construction business in today's environment is increasingly difficult [6].

Churchill [7] accentuates that businesses must understand the pressure to grow so that they can plan and prepare. They must also be able to choose the right timing for expected major changes in size and control for the speed of growth. Recklies [8] notes that growth has to be a part of the corporate development practice. Furthermore, growth has to take into account internal resources and external forces and ideally, is a planned part of a corporate strategy.

The assumption of the traditional economic theory is that firms will pursue an objective of profit maximization. However, according to Weinzimmer [9], organizations can benefit from growth in many ways, such as, greater efficiencies through the economies of scale, increase power, ability to withstand environmental changes, increase the profits and bring prestige for organizational members. As noted by Bonaccorsi and Giannangeli [10],

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growth does not come at zero costs for firms. A firm's decision to grow is essentially the result of an assessment regarding the profitability of a new market opportunity. Hisatomi [11] emphasizes that efficiency, effectiveness, reputation as well as increasing market share is important for the survival of a firm.

On the other hand, contracting seems to be a very complex business, yet registering as a contractor in Malaysia is relatively easy due to the low barriers to entry into the industry [12]. Currently, there are approximately 64,000 contractors registered with CIDB, out of which nearly 57% are contractors of grade G1 (the smallest company's grade) [13]. However, some studies have shown that the failure rate and bankruptcies in Malaysian construction companies are high [14; 15]. Abu Bakar [16] reports that most of the construction companies in Malaysia started as small, local market companies during the 1970-1980s period of the construction boom. They expanded at different rates and levels of success and growth. Approximately a quarter failed to progress beyond the local level and one-third made the local-regional-national transition in 3 to 5 years. In recent years, with the completion of mega-projects and subsequent economic prudence, local projects were inadequate to sustain the 70,000 odd contractors. Thus, many of the lower ranking contractors went out of business [12]. This leads to the question of why there is inconsistent growth among construction companies within the Malaysian construction industry.

In view of the above statements, the objectives of this paper are to identify the factors which play more important roles in determining growth and to analyze the impacts of these factors on growth performance of the construction companies.

Firms' Growth: In business, a firm may have several objectives, but most importantly is growth or expansion of the firm over time. Firms often seek to grow in order to dominate a large share of the market in which they operate or to reduce costs by benefiting from the economies of scale [17]. Penrose's original contribution in 1959 shaped the direction of growth. From a totally 'inside-out' perspective, a firms' growth is now conceived as the endogenous outcome of perennial intra-firm knowledge creation [18]. Moreover, firms' growth demands the ability to master technologies, engender labor skill, organize the production process as well as efficiently serve a market. A firm will exploit a growth opportunity as long as the benefits outweigh the costs, given the level of ability with which the firm was endowed at start-up [10].

According to Skrt and Antoncic [19], for the firm to grow, the entrepreneur needs to formulate an exact, clear mission and vision for his or her firm. Strategic planning can be considered important for driving firms' growth. Strategies such as precisely formulating visions and strategy, incorporating the elements of internationalization and networking within the vision of the firm, focusing on growth, profit and market, performing analyses of the market and competition, accurately formulating generic business strategies and achieving company wide support for strategies can all be beneficial for the growth of smaller firms.

Weinzimmer [9] concludes that many researchers have examined the influence of strategy factors on organizational growth; the relationship between characteristics of top management and organizational growth; strategy and industry characteristics on organizational growth; and industry and top management characteristics on organizational growth. In his conclusion, three sets of determinants have been identified, namely, industry attributes, organization strategies and top management characteristics. Schneider *et al.* [20] stated that the literature suggests that employee development is especially important for start-up companies to achieve organizational performance, in particular, high growth environments. Bonaccorsi and Giannangeli [10] conclude that the relationship between initial size and company's growth is more complex. By specifically considering very small firms in the sample, several show a positive relationship where a minimum size below which no growth whatsoever occurs. Entrepreneurs' competencies may be a triggering factor only if they are associated with larger initial size. True growth is more than adding something to the company-people, office space and sales forces [8].

Firm growth is a multidimensional construct that can be included with the increase of asset and employment size. They must also take into account sales volume and profitability, as well as construct varieties of business functions, products and services. Factually, firms use different forms of growth namely, domestic and international geographical expansion, the launch of new related and unrelated products, product improvement, client retention and the acquisition of new clients [21].

Factors Contributing to Firms' Growth: Several factors contribute to the growth of firms. Those factors may differ between small and large firms and may also vary from one country to another, based on their economical, geographical and cultural differences.

In the study on small business growth, Morrison *et al.* [22] note that the human factor was considered to be the overwhelming force that determined whether a business would prosper. In this context, Hillebrant and Cannon [23] identify management as the most important determinant for the capacity as well as capability of construction firms. They suggest that construction is particularly management-intensive because of the large number of decisions. These decisions are required to be taken from a day to day basis on the site as well as within the organization. Based on the study of small firms in the island nations of the South Pacific, Yusuf [24] finds that good management, access to finance, personal qualities of the entrepreneur and satisfactory government support are the most important factors to success.

Furthermore, Abu Bakar [16] examines the factors affecting the growth of construction companies in Malaysia. It was found that good financial backing, effective cash flow management, technical expertise and profitable company management as some of the key factors that contribute to the success of the companies. In the manufacturing industry, Wjewardena and De Zoysa [25] identify six principal factors as major contributors to the success or growth of manufacturing firms in Sri Lanka as another Asian country. Those factors, in order of their importance, are customer orientation, product quality, efficient management, supportive environment, capital accessibility and marketing strategy. Meanwhile the CIDB of Malaysia in 2006 listed eight critical "success factors" that are pertinent for a successful business in the construction industry. These include productivity, quality, human resources, innovation, environment friendly practices, knowledge, industry sustainability and, of course, professionalism. Besides that, the appropriate use of information technology also is the best factor that enables the firm to improve firm performance [26].

Based on related literature on the firm's growth practices, twenty-seven growth factors, which have been listed by several researchers, have been selected throughout this study [27; 16; 28; 29; 30; 25; 12; 31; 32]. To facilitate a more impactful and applicable research construct, the factors can be divided into five main categories as follows:

- *The Human Factor* consists of six sub-factors, namely sufficient knowledge and experience, market specialization, diversified expertise, skilled workers, technical expertise and good team members.

- *The Management Factor* consists of eight sub-factors, namely, good company management, good cash flow management, internal efficiency, effective organization structure, good site management, on the job safety and security, upgrading and educating members and availability of capital.

- *The Product Quality Factor* includes of five sub-factors, namely, active research and development, innovation, a technological edge, use of new technology and automation, maintaining a high quality of product.

- *Customer Orientation* consists of three sub-factors, namely, commitment to customer satisfaction, competitive prices of products and good relations with clients.

- *The Environmental Factor* contains of five sub-factors, namely, forming joint ventures, availability of bank loans and other credit, open economic policy of government, government assistance / tax incentives, political stability and a peaceful environment.

These factors have been used for the purpose of establishing the main factors contributing to the growth of construction companies in Malaysia.

Research Framework: The primary variable of interest of this study is the dependent variable of growth performance, which is measured by the annual turnover and the number of permanent employees (23; 16; 33). The independent variables that may influence the dependent variable are the main factors that contribute to the firms' growth, namely, Human Factor, Management Factor, Product Quality Factor, Customer Orientation and Environmental Factor. The relationships between the dependents and independent variables are as shown in Figure 1.

Research Method: For the purpose of data collection, a survey questionnaire was conducted among the large sized construction companies registered as grade G7 contractors under the CIDB classification of Malaysia. The research questionnaire was divided into four main sections, which evaluated the respondents' background, background of the firms, the firms' performance and the growth factors of the companies. The questionnaire was designed mainly based on a Likert's Scale of five ordinal
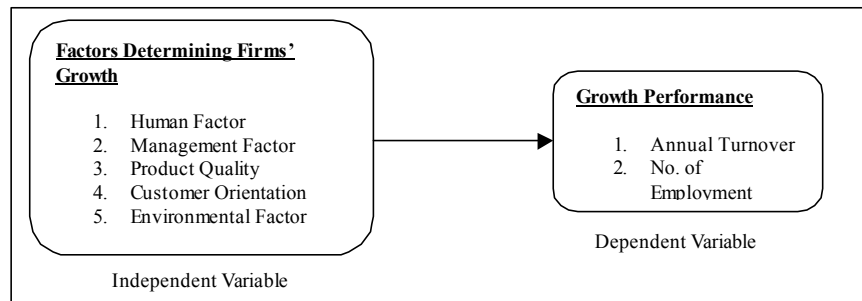
Fig. 1: Research model of firm's growth

measures from one (1) to five (5) according to the level of importance. To test the content validity, the questionnaire was initially distributed to expert panels of 10, comprises of 5 professors in the field of construction and 5 general managers of construction companies for comment. This was followed by a pilot survey to get an initial feedback on the content of the questionnaire. During the pilot survey, about 15 respondents from local G7 contractors were successfully collected and the questionnaire was then amended according to their comments before the actual fieldwork began. In the main survey, a total number of 600 questionnaires were sent out by mail to a random group of 4,000 G7 contractors. After a 6 month period, 102 (17% response rate) of the questionnaires were returned and deemed useable. The data was analyzed by using relevance statistical methods such as the confirmatory factor analysis and standards regression analysis to establish the findings. The collected data was also analyzed using the relative importance index (RII), Equation 1, of the various factors that contribute to the firm's growth factors [34].

$$RII = \frac{\sum w}{An} \qquad (1)$$

Where w is the weight given to each factors by the respondent.

A is the highest weight, in this study $A=5$

n is the total number of sample.

RII is relative important index, $0<RII<1$.

As noted, the dependent variable in this study encompasses the firms' growth. The firms' growth can be measured by several attributes such as turnover/sales, employment, assets, market shares and profits [35]. However, in the context of this study, growth performance is defined in terms of increase in companies' turn over and number of permanent employees over time. These two indicators were selected as growth performance because the number of employees is one of the most often used indicator along with turnover [45]. In construction, these two indicators are also highly used by researchers to measure growth of firms due to their clarity in definition in term of the size of firms and also due to their highly accessible by researchers [28; 35]. In order to carry out regression analysis, the dependent variable was split into high growth (increase of more than 50%), low growth (increase below than 50%) and unchanged growth.

Data Analysis

Respondent's Background: The respondent's position in the firm is important in acquiring the desired feedback. From the analysis of the data, the job designations of the respondents were mainly managing directors representing 27.2%; engineers/quantity surveyors contributed the second highest percentage of 25.5%. Other positions of the respondents were project managers (15.7%), general managers (10.8%) and miscellaneous others contributed 6.9%. In terms of the status of the respondents' firms, 80.4% were from private limited companies, 16.7% came from partnership companies and only 2% were from cooperation/consortium based companies. In terms of value of the firms' annual work, 26.5% of the respondents were involved in projects' worth between RM11-RM20 million (Malaysian Ringgit), 24.5% dealt with projects worth more than RM41 million, 16.7% were involved with projects valued between RM 5-RM 10 million and 15.7% of the respondents were handling projects valued between RM 31-RM 40 million. In terms of firms' age, 52.4% of the respondents were from firms that were set up more than 10 years ago. Firms founded between 5-10 years age constituted 38.1% followed by 7.1% for firms established between 3-5 years ago. Firms that have been in operation for less than three years contributed to only 2.4%. This clearly shows that most of the firms involved in this study are well experienced in the construction industry.

Table 1: Frequency distribution on employment and turnover growth from the start off to current operation

Growth Levels	Number of Firm (%)	
	Number of Employees	Turn Over
High Growth (> 50%)	55	48
Low Growth (<50%)	4	29.5
Unchanged (0%)	41	22.5
Total	100	100

Table 2: Ranking of main factors of firm growth

Firms' Growth Factors	Σw	RII	Average RII	Rank
Human Factor			0.8473	3
Sufficient knowledge and experience	456	0.8941		
Market specialization	418	0.8196		
Diversify expertise	370	0.7254		
Availability of skilled workers	444	0.8705		
Technical expertise	452	0.8862		
Good team members	453	0.8882		
Management Factor			0.8546	2
Good management of company	479	0.9392		
Internal efficiency	439	0.8607		
Good cash flow management	459	0.9000		
Effective organization structure	430	0.8431		
Good site management	449	0.8803		
Focus on job safety and security	389	0.7627		
Upgrading and educating members	396	0.7764		
Availability of capital	446	0.8745		
Product Quality			0.78112	5
Active in research and development	374	0.7333		
Active in innovation	382	0.7490		
Technological edge	403	0.7901		
Use of new technology and automation	394	0.7725		
Maintaining high quality of products	439	0.8607		
Customer Orientation			0.8601	1
Commitment to customer satisfaction	447	0.8764		
Competitive prices of products/services	428	0.8392		
Good relations with clients	441	0.8647		
Environmental Factor			0.7976	4
Forming Joint venture	349	0.6843		
Availability of bank loans and other credit	432	0.8471		
Open economic policy of government	416	0.8156		
Government assistance / tax incentives	406	0.7960		
Political stability and peaceful environment	431	0.8450		

Frequency Distribution on Employment and Turnover Growth (Fromstart up to Current Operation): Table 1 shows the frequency distribution on employment growth and the rate of turnover growth of the respondents' companies from start up to current operation. The firm's growth level was split into high growth (increase of more than 50%), low growth (increase below than 50%) and unchanged growth. According to Table 1, 55% of the respondents can be considered as having undergone high growth in terms of employment. In terms of turnover, 48% of the respondents can be considered as having a high rate of growth. The analysis shows that most of the respondents have an expansion for both variables.

Ranking of the Main Factors of Firms' Growth: The main factors of the firms' growth and their overall ranking are shown in Table 2. The importance of these factors, as perceived by the respondents, has been ranked based on their RII values. The closer the RII tends to 1, the higher the importance of the factor [34]. According to Table 2, customer orientation presents the most important factors, which influenced the growth of construction companies, with an average of RII = 0.8601. This was followed by the management factor, human factors, environmental factors and product quality factors with an average RII of 0.8546, 0.8473, 0.7976 and 0.78112, respectively.

Table 3: KMO and Bartlett's test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.69
Bartlett's Test of Sphericity	Approx.Chi-Square	1668.14
	df	276
	Sig.	.00

Table 4: Summary of factor analysis

Factor and Variables	Factor Loading
Factor 1 (Management and Product Quality Factor)	
Effective Organization Structure	.57
Upgrading and Educating Members	.72
Active in Innovation	.83
Active in Research and Development	.84
Use of New Technology and Automation	.83
Factor 2 (Environmental Factor)	
Availability of Bank Loans and other Credit	.89
Open Economic Policy of Government	.56
Government Assistance / tax incentives	.70
Political Stability and peaceful Environment	.60
Factor 3 (Customer Orientation)	
Commitment to Customer Satisfaction	.66
Competitive Price of Products / Services	.70
Good Relationships with Clients	.63
Factor 4 (Human Factor)	
Sufficient Knowledge and Experience	.60
Availability of Skilled Workers	.64

Factor Analysis: Factor analysis was carried out on 27 variables for the firms' growth factors. Prior to performing a factor analysis, the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and the Bartlett's test of Sphericity were used to determine the suitability of the data for factor analysis. According to Tabachnick and Fidell [36], the Bartlett's test of Sphericity should be significant ($p < .05$) in order for the factor analysis to be considered appropriate. This is in conjunction with

the Kaiser-Meyer-Olkin (KMO) index that should reveal a minimum value of 0.6 for a good factor analysis. In this study, the KMO value is 0.689 and the Bartlett's test of Sphericity is significant (p=.00), therefore, conducting a factor analysis is deemed appropriate (Table 3).

Using the Varimax's Rotated Component Matrix, items within the negative factors were extracted along with items that have dual or triple loadings. According to Hair *et al.* [37], variables with a loading greater than 0.30 are considered to be significant while, loadings higher than 0.40 are considered more important and the loadings of 0.50 or greater are substantial. This study was based on factor loadings greater than or equal to 0.50. Table 4 shows items needed to be regrouped and combined due to cross loadings along with some constructs, which were considered in the study. As such, four main factors were found to be significant enough to be used for further analysis. They were the management and product quality factors, human factors, the customer orientation and environmental factors.

Multiple Regression of Employment Growth on the Full Set of Independent Variables (Firm Growth Factors): Table 5 summarizes the multiple regression results of the dependent variable (employment growth) and progresses with firms' growth factors. The enter method was used to run this analysis where all variables in the block are entered into the equation as a group. As seen in the results, the four variables significantly explained 15.4% of the variance in employment growth (F=4.42, p<0.05, R^2= 0.15), while the remaining 84.6% could not be explained. This is somewhat typical of a behavioral study. Nonetheless, this low figure shows that there are limitations in the model and future research is highly recommended. According to Table 5, only two variables including management of product quality and human factors had significant positive regression weights.

Table 5: The result of multiple regression analysis for employment growth

	Employment Growth R^2=0.15 F=4.42*		
Firms' Growth Factors	β	t	Sig.
Constant		-1.98	.05
Management of Product Quality Factor	.32	2.65**	.00
Human Factor	.20	2.07*	.04
Customer Orientation	.01	.05	.96
Environmental Factor	-.034	-.33	.75

Dependent Variable: Employment Growth

*Significant level at p<0.05 **Significant level at p<0.01

Table 6: Result of multiple regression analysis for turnover growth

Firms' Growth Factors	Turnover Growth $R^2=0.60$ $F=36.03*$		
	β	t	Sig.
Constant		-7.71	.00
Management of Product Quality Factor	.36	4.37**	.00
Customer Orientation	.33	3.75**	.00
Human Factor	.27	4.00**	.00
Environmental Factor	.10	1.40	.16

Dependent Variable: Turnover Growth

*Significant level at $p<0.05$ **Significant level at $p<0.01$

The results revealed that management of product quality factor (β =0.32, $p<0.01$) is the most significant factor influencing the growth of construction companies. This indicates that companies which focus more on management of product quality demonstrate higher employment growth when compared with firms that do not. The human factor is found to be the second significant variable (β =. 20, $p<0.05$) that influences positive growth of construction companies. Customer orientation and the environmental factors were found not to be as significant in influencing employment growth for this study.

Multiple Regressions of Turnover Growth on the Independent Variables (Firms' Growth Factors): Table 6 summarizes the multiple regression results of the dependent variable (turnover growth) and progresses with firms' growth factors. The enter method was also used to run this analysis. As a result, the four combined variables together significantly explained 59.8% of the variance in employment growth (F=36.03, $p<0.01$, $R^2=0.60$), while the remaining 40.2% could not be explained. Accordingly, three variables are significant in influencing turnover growth. The significant variables are the management of product quality factors (β =. 36, $p< 0.01$), human factors (β =. 27, $p< 0.01$) and customer orientation factors (β = 33, $p< 0.01$). Only the environmental factor was found insignificant for influencing the turnover growth in this study.

DISCUSSION

Several findings have been discovered through this study. From the analysis, customer orientation was found to be the utmost important factor that contributes to the growth of the construction companies. In construction, customer orientation has been considered as a dimension of quality [38; 39] and as an important factor indicating a project's success [40; 2]. Customer orientation can also be used as a tool for developing the construction process [41; 42] and a tool for mutual learning [43]. This factor should be aptly given more attention by construction companies that aim to achieve growth in their firms. The other important factors in determining the firm's growth, from most to least significance, are the management factor, the human factor, the environmental factor and the product quality factor.

From the analysis, the management and product quality and the human factors had a substantial relation with growth in employment. The factor of management and product quality can be considered to be the 2 higher significant factors that determine growth in employment. When turnover growth is examined, management and product quality factor was found to be the most significant factor towards turnover growth. The second highest significant factor with turnover growth is the human factor, followed by the customer orientation factor. These findings have shown that the factors of management and product quality, human factor and customer orientation are the most significant factors that have a positive relationship with growth performance for Malaysian construction companies. A study done by Wjewardena and De Zoysa [25] confirmed findings, where a positive relationship among product quality, customer orientation and efficient management was found to be crucial to a company's performance. Findings of this study also in line with CIDB [12] that indicates the quality factor and human factor are key elements for the companies to enhance their performance. As a regulator for construction companies, CIDB strongly encourage Malaysian construction companies to focus on continuously improving quality to ensure that minimum standards are maintained in the industry due to an increasing consumer demand in the global environment
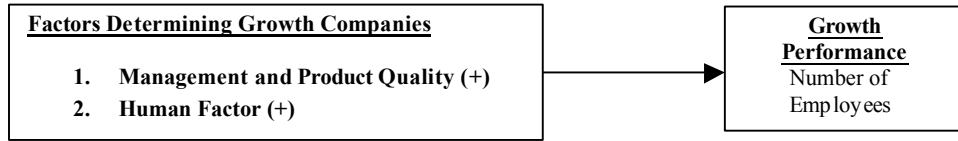
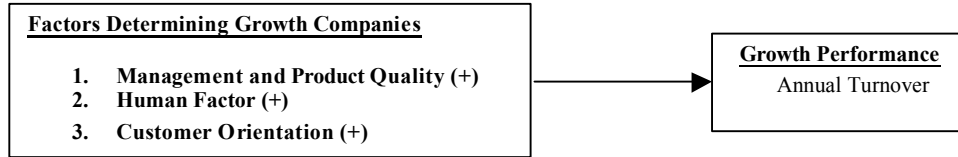| **Factors Determining Growth Companies**		**Growth Performance**
1. **Management and Product Quality (+)** 2. **Human Factor (+)**	→	Number of Employees

Fig. 2: Factors determining growth with number of employees

Factors Determining Growth Companies		**Growth Performance**
1. **Management and Product Quality (+)** 2. **Human Factor (+)** 3. **Customer Orientation (+)**	→	Annual Turnover

Fig. 3: Factors determining growth with annual turnover

for higher quality construction [12]. Product quality seems to be the important factor in this age as Ibrahim *et al.* [46] stated that in order to face the challenges of the twenty-first century the Malaysian construction industry must compete through continuous productivity improvement, more value-added operations and enhanced product quality.

The summary of the findings is shown as in Figures 2 and 3.

Based on these findings, the objectives of this study can be stated as successfully achieved. The objectives of the research, which were identifying the factors that play more important roles on determining the growth as well as analyzing the impact of the factors on growth performance of the construction companies, have been explained and adduced.

CONCLUSION AND RECOMMENDATION

Firm's growth is an important indicator of a thriving economy. This study was conducted to identify the main factors in determining the growth of the construction companies. Customer orientation was found to be the utmost important factor that contributes to the growth of construction companies. The study has also successfully revealed the significant factors that influence positive growth of construction companies. This is in terms of both employment growth and turnover growth. These factors can be acted upon as a basic guideline for construction companies of Malaysia with aims to further development and growth. Construction companies that achieve growth will subsequently go on to contribute more actively towards the development of the Malaysian economy and social elements. According to Autio [44], growing firms have long past attracted the attention of policy makers worldwide. High growth enterprises are seen as important contributors to employment, innovation

and competitiveness. However, the study is not suggested that a firm will automatically succeed or grow by addressing all these issues, but rather, it is almost certain that a firm will have a more possible tendency to decline if these factors are ignored.

Findings of this research provide important implications for construction companies and literature. Companies with growth ambitions should not only rely on a competitive strategy; they should also rationally evaluate the overall capabilities of their companies. This study provides a basis for the top management to make strategic choices in enabling the company to grow. Correct and appropriate decisions are crucial for construction companies to remain active and grow in today's challenging business environment. In terms of contribution to literature, this study has added a new knowledge on growth of firm in construction to the existing body of knowledge in the strategic management domain in the construction industry. This addition is not exhaustive, it is however, set as a concrete foundation for further research in this knowledge domain, particularly in construction.

One limitation of the study was its sample size as the main focus concerning only large sized construction companies under the G7 category. In order to further test these conclusions, the scope of the study would need to be broadened to other categories of contractors as well where more conclusive findings would be established. Future research should also focus on area such as the barriers or challenges to growth of firm. These areas are important since, as companies grow, there are a number of barriers and challenges that must be faced and ultimately overcome by the firm. By using the findings from this and future studies, construction companies, especially in Malaysia, would be able to progressively grow and emerge as key players within the industry, either locally, regionally or even globally.

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