Motivation of Quantity Surveyors in Competitive Environments in the Malaysian Construction Industry  
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\textbf{Abstract:} The construction industry plays a substantial role in many economies. However, the attainment of acceptable levels of quality in the construction industry has long been a problem. The major feature of construction processes is that they are notorious for their complexity and changes during the construction process. In the same vein, it has been argued that the motivation of construction workers plays a role in construction performance. Over the years, the concept of motivation has been defined in different ways. It can be observed from several definitions that, motivation in general, is concerned with factors or events that moves, leads, and drives certain human action or inaction over a given period of time, given the prevailing conditions. There is, however, no one theory of motivation that can be claimed to embrace the entire range of organisational and personal circumstances that exist. Arguably, motivation affects how and to what extent we utilize our skills and abilities. Unmotivated employees are arguably less willing to be co-operative and supportive. Whilst there is much research work done in the area of motivation, and some in the construction industry, there still remains ample scope to consider the motivation of Quantity Surveyors in the Malaysian industry, especially with regards to the extent to which the motivation of Quantity Surveyors can be seen to impact on project and organizational performance. Literature was gathered on motivation theories in relation to the construction industry followed by focus on the construction industry in Malaysia before proceeding further to professional quantity surveyors, and only papers in English language and published between 1974 to 2014 were examined. This paper, therefore, offers a critique on a number of issues pertaining to the motivation of Quantity Surveyors in a competitive environment. This paper is based on on-going PhD study which is expected to complete in 2017. Conclusions and recommendations are offered for the benefit of academics, researchers, professional institutions and the construction industry in Malaysia.

\textbf{Keywords:} Competitive Environments; Malaysian Construction Industry; Motivation; Quantity Surveyors

\section*{INTRODUCTION}

The construction industry plays a substantial role in many economies. However, the attainment of acceptable levels of quality in the construction industry has long been a problem. The major feature of construction processes is that they are notorious for their complexity and changes during the construction process. In today’s business environment, the construction industry is subject to a multiplicity of forces that apply major impacts on performance objectives and targets (CIMP, 2005).

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The success of a construction project depends on amongst other factors, the construction professionals (Abdul-Rahman et al., 2011). This also applicable to the Malaysian construction industry since Malaysia is a developing country with the construction industry being one of the main contributors of the country's economy. Ibrahim et al. (2010) supports the notion that the construction industry is considered to be a major productive sector in Malaysia. This sector is essential for development of the nation and in addition, it is among the top three major economic sectors.

Motivation is the main factor that influences people to work better in order to gain higher productivity and more profit, as that is the ultimate goal of the construction industry (Halepota, 2005). Over the years, the concept of motivation has been defined in different ways. It can be observed from several definitions that, motivation in general, is more or less concerning factors or events that moves, leads, and drives certain human action or inaction over a given period of time given the prevailing conditions. There is, however, no one theory of motivation that can be claimed to embrace the entire range of organisational and personal circumstances that exist. Motivation affects how and to what extent people utilise their skills and abilities.

The construction industry consists of various people, including quantity surveyors. A quantity surveyor is a professional, who is involved from a very early stage of a project until even after the project has been completed. Quantity surveyors have multiple responsibilities towards a project, including: contractual matters; financial issues; and sometimes even project management. Ensom (1998) supports the idea that the role of quantity surveyors involves a great deal of important work within construction. The Royal Institution of Chartered Surveyors (RICS, 2013) defines a quantity surveyor as an expert in the art of costing a building at all its stages and a highly trained professional who offers expert advice on construction costs. A quantity surveyor is also essential for: life cycle costing; cost planning; procurement; tendering; contract administration; and commercial management (RISM, 2011). Meanwhile, the Board of Quantity Surveyors Malaysia (BQSM, 2012) highlighted that a quantity surveyor is a professional working within the construction industry involved with building costs and providing a general set of skills that are then applied to a diverse variety of problems which predominantly relate to costs and contracts on construction projects. With the noted importance of the quantity surveyors functions in achieving effective project deliver, it is therefore, important to motivate, or at least maintain the level of motivation of the quantity surveyor in this competitive environment.

This paper offers a critique on a number of issues pertaining to the motivation of quantity surveyors in a competitive environment. Some conclusions and recommendations are offered for the benefit of academics, researchers, professional institutions and the construction industry in Malaysia.

**MOTIVATION GENERALLY**

The general concepts of motivation theory consists of intrinsic and extrinsic elements, where intrinsic motivation refers to motivation that is determined by an interest or enjoyment in the task itself and exists within the individual rather than relying on any external force, while extrinsic motivation comes from outside of the individual and it is usually associated with rewards such as money, appreciation, intimidation and threat of punishment (Ankli and Palliam, 2012). The concepts of motivation are applied in motivation theories, and according to Ellis and Dick (2003), there are two types of person theories, namely: content theories; and process theories.

Content theories which include: Maslow’s hierarchy of needs theory; Herzberg’s two-factor theory; McClelland’s need for achievement theory; and Alderfer’s ERG theory; are those that describe the components necessary for human behaviour to occur. Meanwhile, process theories are theories that describe the processes whereby these components energise behaviour (Oyedele, 2009). Content theories are also concerned with what energises, directs and shapes behaviour (Hellriegel et al., 1995) and also identifies people’s needs, their relative strengths and goals that they pursue in order to assure these needs (Timothy and Manley, 2011). The process theories, on the other hand, are concerned with analysis and description of how personal factors such as cognitive processes determine people’s motivation. Vroom’s expectancy theory; Adam’s equity theory; Porter and Lawler’s expectancy theory; and Locke and Latham’s goal-setting theory; are among the process theories (Bowen et al, 2008). These theories place emphasis on the actual process of motivation.
MOTIVATION IN CONSTRUCTION INDUSTRY

Kennedy and Daim (2010) stated that the ideas of Maslow (1908 – 1970) on human motivation has been and is still quite influential, in particular for the training of management students and practitioners. Apart from previously mentioned areas, Maslow’s theory is also well-known in the construction field. Construction motivation studies based on this theory include: Wilson (1979) who identified ten variables that could be grouped under the five needs; Mackenzie and Harris (1984) who argued that money was the only motivator for construction workers; and Olomolaiye and Ogunlana (1988) who found that earnings related factors (physiological needs) were predominant for motivating Nigerian construction workers. Although there were numerous earlier studies based on Maslow’s motivation theory for construction workers, there were no studies found later than 2000.

Herzberg’s theory is also noted to be popular in construction industry. Some of this research is by: Borcherding and Oglesby (1975) who investigated the relationship of job satisfaction and construction productivity; Olomolaiye (1988) who explored the most influential variables of motivator and hygiene factors affecting bricklayers in the United Kingdom (UK); and the more recent study by Ruthankoon and Ogunlana (2003), who tested Herzberg’s two-factor theory on professional engineers and foremen from Thailand’s construction industry.

McClelland’s theory has been used in researches related to the software engineering industry: software engineering industrial practice (França et al., 2014); career orientation of software engineers in Iran (Alavi et al., 2012). With the limitation of search from the local university library and database, none were found that related to the construction industry.

As for Alderfer’s ERG theory, although it is an important need theory and used worldwide (Song et al., 2007), like McClelland’s need for achievement theory, this theory is not widely applicable to the construction industry since there are no sources found relating this theory within the construction industry. Similar to McClelland’s and Alderfer’s motivation theories, there is a lack of research based on Adam’s equity theory regarding the construction industry.

A study (Arvey and Neel, 1974) on testing expectancy theory predictions using a sample of engineers has been done and this study was used the behaviourally based rating scales. Another study (McFillen and Maloney, 1988) tested expectancy theory in a survey asking to provide self-report measures of their efforts and performance. Besides these two studies, there was no literature that shows later studies on expectancy theory (by Vroom as well as by Porter and Lawler). There are also few studies (Leung et al., 2011; Cameron and Duff, 2007; Lingard and Rowlinson, 1997) found related to goal-setting theory in the construction industry, but these studies all focus on safety and health on construction sites.

From the review of motivation theories, it can be summarised that, there are many motivation theories that exist but there is no single universally applied theory of motivation that can be claimed to embrace the entire range of firm and personal circumstances that exist. For example, something that motivates an individual today may not work tomorrow. As there is no accepted theory of how to motivate people (Ellemers et al., 2004), it can be summarised that humans all over the world and in any industry are unique and complex. Although there are many studies of motivation of construction industry workers, there are limitations of the studies on professional workers. Smithers and Walker (2010), and Oyedele (2009), Bowen et al (2008), and Ruthankoon and Ogunlana (2003) are among the researchers whose studies are focused on the motivation of construction professionals. No study was found relating to the motivation of professional quantity surveyors other than Bowen et al., (2008) and Bowen and Cattell (2008) on job satisfaction of quantity surveyors in South Africa.

COMPETITIVE ENVIRONMENT

The competitive environment for a business can be interpreted as that part of a firm's external environment that consists of other firms trying to win clients in the same market, and it is also the segment of the industry that includes all immediate rivals (Porter, 1980). Globalisation is one of the external environments which contribute to such competitive environments. Globalisation has broadly been described as the reflection of economic occurrences of countries that create downstream effects towards: technology; knowledge; culture; and information; across borders enhancements (Goldberg and Pavcnik, 2007).
Construction industries are also been significantly influenced by this competitive environment. Due to this, economy and quality of life have been affected, and inevitably, the way people work has also changed. Some researchers noted that competing on: products or services; and process innovation; the quality of the product or services; cost; and time are the most important modes of competition in construction industry (Ngowi et al., 2005).

Another external environment which will affect the performance of employees is economic downturn. During this period, many companies have been closed or downsizing took place. Downsizing is normally an initial step taken by the management of firms when experiencing difficult times. The intention being is to improve the firms’ financial efficiency and cost containment (Norman et al., 2013). This situation of economic downturn engulfed the Malaysian economy in 1998. Between January and August 1998, the government of Malaysia reversed many fiscal and monetary deflation measures as a trial to reduce the great negative effects of the recession, but the economy fell into a deep recession with serious consequences for employment and household incomes (Athukorala, 2001). The construction industry has also been affected by this. In fact, the construction industry experienced the deepest impact since the construction sector gives downstream effects towards other sectors. Statistics show that the economic crisis affected the growth of the quantity surveying firms in Malaysia (RISM, 2011).

There are numerous studies done related to competitive advantage and competitive environments in business industries universally and research on the above issues can also be found in the construction industries. Therefore, it can be concluded that almost all business entities cannot avoid the effects of the external environment. This is confirmed by Lettice et al., (2013), citing Grewal and Tansuhaj (2001) who describe, due to globalisation and interconnected markets: “sooner or later economic crises are going to have a direct or indirect effect on almost every firm.” The firms include those in the construction field which includes quantity surveying firm.

There is ample literature discussing competitive environments in industries generally (Goldberg and Pavcnik, 2007; Lettice et al, 2013; Ngowi et al, 2005) as well as competitive environment in firms (Adros et al., 2011). However, little is found on the competitive environment for individual workers such as the effect of the situation, how they do work during the tight times, and the motivation of the individual during challenging situations.

THE CHANGING ROLE OF QUANTITY SURVEYORS IN MALAYSIA

The establishment of the quantity surveying profession (Pheng and Ming, 1997) began with the construction of the Great Wall of China where someone was assigned to calculate the amount of materials and man-power needed. It then continued during the construction of the Pyramids where someone was appointed to act as a planner and estimator (the same practice as current quantity surveyors). Meanwhile, in Great Britain, the initial founding of quantity surveying history was during the 17th to 18th Century era, where a few prominent architect-builders were in charge of organising materials and hiring local craftsmen, as well as preparing final account statements for payment purposes (Pheng and Ming, 1997). The evolution of quantity surveyors in Malaysia started as being a measurer of quantities of building works in 1872 and received recognition in 1956, when a quantity surveyor section was formed in the Public Works Department (PWD) (RISM, 2011).

The quantity surveyors’ involvement in construction project development is very important. The quantity surveyor is an expert in contractual matters, financial and costing of construction project issues, as well as other related issues, such as life cycle-costing, and feasibility studies (BQSM, 2012; Ramus et al., 2006). For the past fifty years, the roles of quantity surveyors have changed quite dramatically from being a cost consultant to a project solution provider (RISM, 2011). In the future, quantity surveyors will not only be required to understand the economical, legal and technical aspects of project development but also management techniques in order to deliver a project successfully. It is therefore important for quantity surveyors to equip themselves to survive in this competitive environment.

The Malaysian government has announced that from 2012, the services sector will be liberalised (Abdul-Aziz et al., 2011). As a result of this, the roles of the quantity surveyor have undergone significant change in the last decade and the profession now faces challenges that threaten its existence (Frei, 2010). This can be seen from the statement of several major industrial researchers, reviewed by Cheung et al., (2010), who identified that the construction industry needs to improve its efficiency. This also affects the quantity surveyors firm as
Adros et al., (2011) stated that globalisation forces the construction industry to increase the competition amongst firms to secure projects.

Moreover, in today’s construction industry, and this is believed to continue to be the trend in the future, it is beyond dispute that clients have variability in their requirements and this variation cannot be entirely eliminated, but fortunately, it can be managed (Shammas-Toma et al., 1998). Due to complexity and difficulty, the construction team, including the quantity surveyor may have to work harder to overcome this issue. Therefore, a well-motivated quantity surveyor is required to face the challenges of a changing market.

From the discussion above, it can be found that, the role of the quantity surveyor in the Malaysian construction industry has undergone significant changes due to the rapid competitive changes of the construction environment.

**MOTIVATION IN QUANTITY SURVEYOR FIRM IN A COMPETITIVE ENVIRONMENT**

The role of the quantity surveyor has changed dramatically from being a cost consultant to being a project solution provider. Firms will expect the future quantity surveyor to be well equipped with an understanding of economical, legal, and technical aspects of project development as well as management techniques in order to deliver a project successfully. Furthermore, environmentally aware construction and development will become mainstream (RISM, 2011). It is therefore also important for the quantity surveyor to acquire knowledge of environmental technology and requirements that will satisfy the needs of future generations.

Moreover, during the economic downturn period in Malaysia in the 1990s, the quantity surveyor is managing both design and construction in accepting responsibility for the management of the procurement process. Atkin et al., (1987) emphasised that for a quantity surveyor to have an understanding of the methods of designers, and the tools and techniques employed to aid the design process, CAD being one such tool or technique. Therefore, it is necessary to equip the quantity surveyor with at least a basic understanding of CAD to speed up the process of estimating or costing works. The quantity surveyor can utilise automated measurement from the CAD system instead of having to measure manually.

From a significant numbers of studies done on the application of IT in the construction industry, in a few countries including Malaysia, it was found that the data on IT usage among the QS profession was very limited (Shen and Chung, 2007). This indicates that current quantity surveying in Malaysia is not competitive enough; they are still comfortable with the traditional way of doing their work especially in producing bills of quantity and specifications, although there is plenty of software available in the market as the aid to QS work, such as Billsoft, QSPro, WinQS and Digitizer.

Competitive environments, the economy and quality of life have all been affected, and inevitably, the way people conduct work in Malaysia has changed. Some researchers point out that competing on: products or services; and process innovation; the quality of the product or services; cost; and time; are the most important modes of competition in the construction industry (Ngowi et al., 2005). The construction industries are enforced to increase the competition amongst firms to acquire projects due to globalisation effects (Adros et al., 2011), as well as other external pressures. In construction, clients have become more sophisticated in terms of product needs and requirements (Pries and Jenszen, 1995). The number of quantity surveyor firms in the Malaysian market are increasing yearly (RISM, 2011) which contributes to more competition in the market. Due to this, in order to survive in the industry and to ensure the growth of a firm, quantity surveying firms need to secure the project in hand as well as to acquire new ones by providing a competitive advantage to clients and potential clients.

Although there is much literature regarding the competitive environment and the construction industry, no indication could be found in the literature documenting research into the motivation of employees (both operative workers and professional) in competitive environments generally and in Malaysia in particular.

**CONCLUSIONS AND RECOMMENDATIONS**

The focus of this paper has been an examination of research papers on motivation of Quantity Surveyors in the Malaysian construction industry in a competitively changing environment. Concepts of motivation were introduced briefly and previous research on motivation and the construction industry were discussed. The lack of literature relating to motivation of quantity surveyors was noted. In this paper, it is inferred that the role of the
quantity surveyor in the Malaysian construction industry has undergone significant changes due to the rapid competitive change in the construction environment. Due to the changes of roles and requirements to equip individual quantity surveyors with the extra knowledge and skills required by the impact of changing competitive environments, employers of quantity surveying firms need to implement motivational models or guidance to the employee in order to ensure their organisation can still be sustained in the competitive market place.

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