

Research Proposal

Title

Exploring the critical components and elements that affect the performance and management of performance in the construction industry of UAE.

Introduction

The construction industry of an economy is a vital part of a country's economy that helps achieves economic growth and development in the long term (Sev, 2009). However, mismanagement of resources and performance in the industry are critical issues that are attracting a large stream of research (Toor and Ogunlana, 2008; Assaf and Al-Hejji, 2006). Despite large research, there is still lacking research that can aid the efficient practice of project management (Davis, 2014). A survey conducted on the project management research revealed that only 3% of the 3,000 projects that were studied were published in leading research publications which constitutes a very small percentage.

Therefore, despites its few numbers in the research, there is nonetheless an important gap in the research of project management that calls for the need to study the factors of project failures to improve practices within the industry (Kloppenborg and Opfer, 2002). With specific relation to Arab Gulf region, only a handful of studies focus on the construction risks and performance issues associated with the regional local firms (Al-Sabah et al., 2014).

In order to contribute to the gap, the research will focus on the key performance factors of the UAE's promising construction industry. MarketLine (2016) reports indicate that the UAE construction industry comprised of \$32.4bn in value in 2015, with the future performance of the industry expected to positively increase at the rate of 8.6% estimated for the year 2015 to 2020. The reports (MarketLine, 2016) further estimates an increase in the value of the industry of up to \$ 48.9bn by 2020. The expected increase in performance and scale of construction in the UAE makes it ideal to conduct research on performance management of construction projects.

The construction industry is operated on a project basis which is fragmented in its very nature. The process of construction site management consists of various processes that are both dynamic and uncertain and is flexible with the changing process with the aim to achieve the set safety measures, quality and environmental goals (Laufer, 1985). However, obstacles occur

in the management of the aforementioned process such as poor communication, conflict of interest, lack of cooperation and project stakeholder conflicts (Keung and Shen, 2013).

Established literature on the subject suggests that stakeholder perception towards the feasibility and success of the undertaken project is an important element in the success or failure of a project (Dalcher and Drevin, 2003). Therefore, the proposed research will study the parameters affecting performance management in the construction industry of UAE. In addition, the research will explore six critical performance parameters in the Comprehensive Performance Measurement Model (CPMM): interfirm networks, planning reliability at the operational level, leadership, and competency of project manager, Jointly Risk Management (JMR), strategies for improving codes of ethics and enhance the innovation. The research will contribute to the practice of enhancing performance and promote a better understanding of the parameters in the construction industry.

Aims and Objectives

The aim of the proposed research is to study how performance can be measured and improved in the field of construction specifically in the UAE. In addition, the research will also explore the stakeholder perspective to identify the factors that make a construction project successful and how productivity and performance can be improved in the field of construction. To undertake the aforementioned research, the study outlines the following objectives:

1. Identify the critical factors affecting and influencing performance in the construction projects.
2. Analyze the relationships between the difference factors that affect performance in the construction projects
3. Identify methods to enhance performance management in the construction industry.

Literature Review

Published literature within the field of project management indicates that there are six parameters in the Comprehensive Performance Measurement Model that indicates the management of performance in the construction industry. The six parameters of the performance model are discussed in detail as follows:

Parameter 1: Interfirm Networks

According to Keung and Shen (2013), the performance parameters consists of five sub parameters: information exchange between project members, project communication system,

knowledge-sharing for collaboration, corporate culture for promoting networking and learning capability in intra- and inter-organizational settings. The aim of the parameter in the model is to measure how the networking takes place in between key project stakeholders which can affect the overall fate of the project.

Parameter 2: Planning reliability at the operational level

The parameter highlights the difference or variance between management plan of the project and the actual project progress. The measurement is carried out by comparing the Earned Value Management System (EVMS) and the Last Planner System (LPS) to provide information based on the performance of the construction manager and the level of productivity that is achieved in the construction phase. In addition, the Percentage Plan Complete (PPC) is also analyzed to provide information on how reliably the planning of the project has been undertaken (Kim et al., 2015).

Parameter 3: Leadership and competency of project managers

The parameters analyze the leadership skills of the leader and its contribution towards the completion of the project. The parameter analyzes the leader's relationship with its followers and how it impacts the execution of the project. Moreover, it analyzes the leader's ability to provide sound direction and instruction to the subordinates in light of the resources that has been allocated for the project execution. A leader's leadership skill can provide the followers the necessary motivation in order to materialize productivity and efficiency in the construction sites (Jha and Iyer, 2006).

Parameter 4: Jointly Risk Management (JMR)

The parameter has been examined rarely within published studies and is an important element in determining the key risks between the client and the contractor. Where areas of risks are clearly defined it can help enhance cooperation and open communication between the client and the contractor. Therefore, efficient JRM is dependent on collaborative and relationship enhancing strategies (such a co-operative procurement, congruent goals and open communication) (Osipova, 2015).

Parameter 5: Strategies for improving code of ethics

Code of Ethics parameter has been given little importance over published studies and has remained largely unexplored in its details in relation to construction. The factor will be analyzed in its role in detail in the proposed research (Oladinrin and Ho, 2016).

Parameter 6: Enhancing innovation

The parameter analyzes the innovative capability of the companies undertaking projects. The implementation of the parameters can help foster the spirit of creativity and innovation throughout the organization's hierarchy and contribute to the innovative future of the business. The parameter encourages businesses to diversify in terms of the undertaken projects and innovate on the lines to bear and welcome more diverse and unique opportunities in the future (Loosemore, 2015).

The proposed research will explore the six parameters of the CPMM model in detail in relation to the construction industry in the UAE to contribute to the practice and improve performance management practice within the industry.

Research methodology

Research Philosophy

Research philosophy defines the way in which the researcher perceives the body of knowledge that surrounds the researcher (Wilson, 2010). The selection of the appropriate philosophy for the subject of research according to Easterby-Smith et al. (2015) aids in the selection of suitable data collection and analyses method and paves the research pathway for the researcher.

Research philosophy is an intricate combination of both ontology and epistemology (O'Gorman and MacIntosh, 2015). Ontology is defined by Jankowicz (2005, p.106) as "a branch of metaphysics that deals with the nature of existence.". In simple terms, the ontology of the research refers to the underlying assumptions or beliefs that form the basis of the research. Research ontology can be mainly of two types: Objective and Subjective.

An objective ontology perceives that., knowledge can be measured, compared and studied against existing laws and parameters. A subjective ontology dictates that the researcher's perceptions and interpretation of the reality forms the basis of knowledge (O'Gorman and MacIntosh, 2015). The intended research will undertake a mixed method approach where the combination of two paradigms will form the basis of the research undertaking (Creswell, 2008). The method will allow the research to undertake a deeper investigation of the issue using a mixed paradigm and will add depth to the research (Hesse-Biber and Johnson, 2015).

Epistemology, on the other hand, is defined by Jankowicz (2005, p.108) as “deciding what counts as knowledge and what doesn’t and, related to this, what counts as evidence and proof, and what doesn’t.”. Research epistemology can be of four types according to O’Gorman and MacIntosh (2015): positivist, critical realist, action research, and interpretivist. The intended research will be based on a combination of both positivist and interpretivist epistemology.

A positivist paradigm separates the researcher’s judgment from the research process and creates links between the investigating phenomena and the existing theories and laws in relation to the phenomena (Myers, 2009). On the other hand, an interpretivist epistemology derives knowledge from the interpretation of the researcher’s surrounding experience and reality (Myers, 2009).

The combination of both positivist and interpretive paradigm forming the basis of the intended research will allow data triangulation to take place that will as a result lead to an in-depth study and conclusions being made from the research. The use of data triangulation in the mixed method approach will offset the limitations of the respective paradigm providing a more rounded overall view and understanding of the researching phenomena, which makes the mixed method approach ideal for the aforementioned research (Patton, 2002).

Data collection Method

The intended research underpins on the mixed paradigm which will enable the collection of both quantitative and qualitative data. Therefore, the data gathering methodology adopted for the research will be of mixed nature. Quantitative data can be collected in various ways such as surveys and experiments and allows for large magnitude of data to be collected in relation to the phenomena (Balnaves and Caputi, 2001; O’Gorman and MacIntosh, 2015). Qualitative data, on the other hand, entails carrying out data collection via interviews and observation and takes into consideration the situational context or setting of the phenomena being studied (Patton, 2002; O’Gorman and MacIntosh, 2015). Unlike the quantitative method of data collection, qualitative method allows the researcher to research the subject in detail giving a higher understanding of the phenomena (Patton, 2002).

The intended research will collect quantitative data using survey instruments. The survey will consist of up to 20 questions after being subjected to reliability testing in the statistical SPSS program to test for reliability. The method of data collection can allow data to be collected from many different sources and provide a large magnitude of data to research on the parameters affecting performance management in the construction industry. However, a disadvantage to

gathering quantitative data on the parameters is that it does not allow the parameters to be studied in detail. This deficiency is fulfilled by further undertaking a qualitative data analysis.

Qualitative data for the research will be collected using a semi-structured interview technique. A semi-structured interview involves questions that are structured in advance and follow up questions that will unravel detailed information in relation to the parameters of performance management (Wengraf, 2001). Semi-structured interview questions will be created based on the review of relevant literature. The method of data collection provides flexibility to the researcher to modify or improvise the research question based on the response received from the participant. However, the method of data collection may be arduous and time-consuming, unlike quantitative methods.

Data Analysis technique

Data collected from both quantitative and qualitative analyses will be studied using two different forms of data analysis technique. The research will analyze quantitative data using factor analysis. Factorial analysis is a statistical approach that can compress a large number of variables into a smaller number of variables based on the characteristics of each variable (Hair, 2011). The method helps in compressing large amounts of data and aids in handling large data and is suitable to study a large number of parameters that affect performance management in the construction industry of UAE. In addition, the type of data analysis can aid in understanding the relationship between the variables allowing a meaningful conclusion to be made (O'Gorman and MacIntosh, 2015).

Qualitative data gathered for the research will be analyzed using thematic analysis after the interview data has been transcribed. Thematic analysis refers to deriving themes from the interview transcript based on the researcher's interpretation of the phenomena (Guest et al., 2012). The method of analysis involves extracting relevant themes from the interview transcript by the process of coding. The interview transcript will be analyzed using posteriori coding. Posteriori coding refers to providing codes to relevant themes in the interview transcript to identify any common themes or subjects in the collected data made (O'Gorman and MacIntosh, 2015). Once the themes are identified the themes are studied in relation to the other identified themes. The analysis made from both quantitative and qualitative analysis will then be analyzed as whole to make sense of both forms of data.

Ethical Consideration

Ethical considerations are a critical element to consider in the course of the research as it enables the researcher to conduct the process with a moral compass (Mauthner, 2002). Conducting the research in an ethical manner consequently adds credibility to the findings of the research as it can improve the data gathering process in the course of the research (Hammersley and Traianou, 2012). Some of the ethical consideration relating to the process of the research are discussed below.

Informed Consent

The participants of the research will be provided essential information in relation to the research before participating in the study in order to allow the participant to make an informed decision and provide the necessary consent to participate voluntarily. The researcher will carefully lay out the benefits and harm associated with participating in the study for its participants in the Consent form in order to gain the approval of participants to contribute to the study (Penslar, 1995).

Confidentiality

Participants of the research will be provided complete confidentiality in order to protect the participants from any possible harm from providing information towards the study such as threatening of job security or penalty for providing sensitive information. Moreover, confidential or sensitive information contributed towards the study will be utilized by the permission and consent of the participants in order to minimize the possible risks for the participants (Wiles, 2013).

Avoiding Harm

Refraining from harming the participants (such as harming the participant's reputation or organization reputation, compromising participant's position etc.) in the process of the research is vital to gathering quality data towards the research (O'Gorman and MacIntosh, 2015). Moral and ethical conduct dictate that harming others, in this case, the participants is morally wrong, therefore precaution should be exercised in order to minimize harm to participants in the process (Elliott and Stern, 1997). Informed consent and information confidentiality are therefore in place to minimize the associated risks and harm to participants.

Structure of the Research

The structure of the research allows the audience to follow the logical sequence undertaken by the researcher to conduct the aforementioned study. A clear cut and laid out structure for the research will enable its readers to understand the scope, purpose, and findings of the research in order to aid ease of reference and further research in the subject area. The research will, therefore, follow the following structure:

1. Title Page
2. Abstract
3. Acknowledgement
4. Table of Contents
5. Introduction
6. Literature Review
7. Research Methodology
8. Findings and Analysis
9. Discussion
10. Conclusions and Recommendations
11. References
12. Appendices

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