

The Role of Project Management Office (PMO) Toward Property's Stakeholder's Satisfaction in UAE's Property Development: A Review

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Abstract

Project management office (PMO) is considered a growing concept that establishes and retains an organization's project management standards. In the last few decades, very much attention was given to stakeholder's satisfaction in all areas of production. In developing countries, such as UAE, construction projects suffer from the same obstacles as the satisfaction of stakeholders in projects of construction is neglected or not properly accomplished. Most of the organizations in the UAE are still implementing the traditional practices although the majority the public sectors employ this strategy in the management of projects. Hence, developing a conceptual framework for the role of (PMO) toward property's stakeholder's satisfaction in UAE's property development forms the main objective of this paper, hoping to identify areas that require more focus or would have greater contributions to achieving satisfaction from construction projects. This work is completely devoted to enhancing t infrastructural development projects in developing countries, utilizing residential property in construction in Abu Dhabi, UAE as a case study. The results of this study would be beneficial for construction contractors to Government establishments beside organisations intending to guarantee the integration the of needs of customers into their processes of production. Furthermore, this research aims to define the specific quality characteristics that have effects on stakeholder's satisfaction in operating residential property in construction in what is known as the developing economies.

Keywords: Project management office, Stakeholder's satisfaction, Property development, UAE.

1. Introduction

The United Arab Emirates (UAE) has recently been ranked as one of the fastest developing economies around the world - (Ameri & Awad, 2016) in the Middle East, Gulf zone, and North Africa aiming at ranking among the highest economies in terms of service. With more than 180 nationalities, the UAE economy is highly diversified and includes tourism, logistics, development , diverse communities, banking and finance , faiths and ethnic backgrounds (Ajmal et al., 2017). Thus, the majority of governments are applying measures attempting to enhance the practices of management and implement innovative techniques. Organizations are working hard to improve their job accomplishment and client satisfaction

efficiency in this competitive world. PMO is an administrative body that is specialized in projects management supported by management by achieving all stakeholders' satisfaction (Khoori & Hamid, 2018).

A project, as the Project Management Institute (PMI) stated, is described as an activity that is temporary and planned at the applicable time, quality and costs to accomplish particular goals. Project management was defined by PMI as an application which combines planning, thinking, knowledge, expertise, and techniques to achieve a specific goal of a project by fulfilling the specified requirements. Such definitions form the foundations of projects and their management and have been updated many times (Monteiro et al., 2016). This notion in project management was established in the 1950s, primarily in the

sectors of space and construction. Construction, manufacturing and computer-related technologies were associated with later projects (Khoori & Hamid, 2018). Project management refers to an association of planning, coordinating, monitoring and controlling the projects related tasks and resources (Khoori & Hamid, 2018). The organization, the operations, the manpower, and the support and tools employed are the key factors that influence projects' proper management (Kuster et al., 2017). Project management office (PMO) is a recent established managerial framework where experts manage, monitor and control the projects. The PMO has many frameworks and models and is used in organizations on the basis of requirements (Soliman, 2016).

In the last few decades, stakeholder's satisfaction has received a great deal of interest in all production areas (Shayan et al., 2019). In a highly dynamic and competitive environment, customer relationships and satisfied customers are constantly given greater attention (Darzi & Bhat, 2018). A project management office (PMO) is basically a central place to ensure that company standards, practices and procedures are being implemented to ensure the success of projects. For companies, stakeholder's satisfaction is an efficient method to get distinguished from their competitors and obtain competitive benefits. However, it is considered as one of the main problems in their work for quality improvement (Pasha & Razashah, 2018). For managing and improving the relationships with customers, companies utilize diverse approaches of stakeholder's satisfaction to develop and monitor product/service offerings. In addition, measuring stakeholder's satisfaction has many advantages for organisations such as enhancing communication among parties and facilitating reciprocal agreement; better problems understanding; progress assessment in achieving the goal; and reached results and changes monitoring and reporting. Enhancing the construction projects quality from the perspective of customers has gained growing attention in construction business. A number of authors have emphasized on the importance of services in the construction industry (Pan, 2018; Shayan et al., 2019). Traditional tools for measuring performance like budget, schedule and product quality appear to be insufficient for measuring the environment of a construction project. An approach that focuses on the

orientation of customers and the satisfaction of stakeholders for the measurement criteria of performance has been broadly stressed. Stakeholder's satisfaction is related to the concept that a project can be considered fruitful if it satisfies the targeted users' needs (Ameri & Awad, 2016). The orientation of the customer can be defined as a circle that matches and complements the points of the iron triangle (quality, costs and schedule). Construction has had many difficulties in quality production in a customer-oriented manner due to the complex construction nature and the special features of the production of projects. This study explains the factors leading to success from the stakeholder's satisfaction viewpoint. We conclude that the gains of high-stakeholder's satisfaction are not as obvious as described in other production areas. The primary reason behind this is the unique and temporary construction nature. The literature review entails critical examination of the research pertaining this topic. The researcher's focal challenge is to collect the appropriate and related literature from a wide data pool. The goal of this work is to examine and explore the PMO related literature and how it affects the success rate of a project and, as a consequence, on stakeholders' productivity and satisfaction.

2. Literature review

2.1. Project management office (PMO) in UAE

About a decade ago, the PMO concept has started adoption in UAE. Although only few studies focusing on this topic can be found, many others indicate accepting PMO trend in the UAE organizations. Nevertheless, in spite of the advantages that the UAE public sector gained from implementing the PMO, a study carried out by Soliman (2015) showed some of the main obstacles faced in implementing PMO in the UAE. There are lack of alignment, change resistance by stakeholders, insufficient resources and training, politics, and low accountability. His study showed that the majority of the PMOs are affected by politics rather than being independent and thus impeding their performance. Furthermore, a study carried out in UAE concluded that the practices of leadership and team management were the public sector's key challenges, and thus there is an urgent need for efficient PMO (Ajmal et al., 2017). Studies related to the

implementation of PMO in various countries are also included as part of literature reference. The majority of the researches revealed that project management office is a significant strategy for many public-sector organizations' success, and the organizations experiencing failures even after implementing the PMO need to concentrate on establishing the PMO unit capacity in terms of capital and human resources (Khoori & Hamid, 2018).

2.2. Stakeholder's satisfaction; a construction perspective

The term stakeholder's satisfaction, according to Nguyen et al., (2020), is also referred to as "expectancy disconfirmation", a mechanism by which it cannot be rejected that a service or product satisfies or exceeds the customer's expectations. To put it differently, the customer generally compares the performance quality to what he or she expects and this reflects satisfaction or dissatisfaction. (Yang et al., 2015).

Nguyen et al., (2020) on the contrary, considers stakeholder's satisfaction as a feature of disconfirmation. This disconfirmation means the degree to which perceived quality does not really meet, match and exceed the expectations of repurchase. Generally, clients compare a product's perceived performance with specific performance standard described as the expectation of customers. The disconfirmation that is considered positive appears after having a higher perceived performance compared to performance standard, thus indicating the satisfaction of stakeholders. Nevertheless, the dissatisfaction of customers arises when the perceived performance falls below the performance standard. This type of disconfirmation is referred to as negative (Amarah, 2015). Further, Amarah (2015) highlighted the firms and organizations need to regularly measure stakeholder's satisfaction and discover how satisfied their customers were for the purpose of developing potential forms of improvement. Stakeholder's satisfaction is thus defined as a quality function, whereby the expectations of customers are either achieved or exceeded.

2.3. Stakeholders in residential property in construction

The stakeholder theory was primarily established from an academic research stream undertaken in the 1960s in the US It described

stakeholders as groups having high adequate effects in an organization that would lead that organization to stop its operations without their support (Kerzner, 2015). This definition was adopted by the Project Management Institute (PMI) which stated that a stakeholder is an individual, organization, or group who may influence, be affected by, or realize itself to be influenced by an activity, decision, or result of a project (Nguyen et al. 2020). The Project Management Body of Knowledge (PMBOK) states that there are many stakeholders in a project who have related or in conflict interests (Nguyen et al., 2020). . The significance of community and external independent concerned groups, and a detection of unseen team members form the most important aspects of the 'mapping'. It is advocated that the success of a project can be significantly influenced by these two recognized groups activities (Amarah, 2015). The stakeholders importance could be identified by exploring a business needs and to what extent an organization needs a specific stakeholder (Nguyen et al., 2020). In some situations, some stakeholders could be more noteworthy than others, and their requirements should be sensibly analyzed by the leader of a project beside the characteristics at different times during the life cycle of the project. Komolafe et al, (2016) went to say that this theory needs to concentrate on the groups who can input into the process of decision-making and who are affected by these decisions' outputs.

Often presenting the necessary resources and showing the capacity to control the network's interaction, stakeholders eventually have an effective impact on the survival of an organizations. Such stakeholders' management and identification, thus, become a significant part for any company in crisis. It is also believed that the advantages of an organizations depend greatly on its ability to satisfactorily manage stakeholders (Nguyen et al., 2020). Based on the connection between the organization and the stakeholders, it is possible to divide them into two main types, 'internal' and 'external' (Kumaraswamy, & Wong, 2017). Stakeholders, contractor, consultant, subcontractor, designer, supplier and employees are examples of internal stakeholders who are dynamically involved and properly connected to the project. In several cases, these groups are involved in a direct way in the project and cooperate regularly and

contractually with the company (Komolafe et al., 2016). These are known as primary stakeholders in some cases.

On the contrary, external stakeholders may not become concerned directly in the process of decision-making in a project, but can influence or be affected by the project (Nguyen et al., 2020). As a term, the secondary stakeholder is regularly utilized as a descriptor for groups indirectly connected to the

organization and may not be engaged in any financial decision making directly. However, there is still a possibility that secondary stakeholders still have a noteworthy effect on the outcomes of a project; hence their expectations and interests need to be suitably studied. Figure 1 adapted from Cleland (1999) shows the potential internal and external stakeholders.

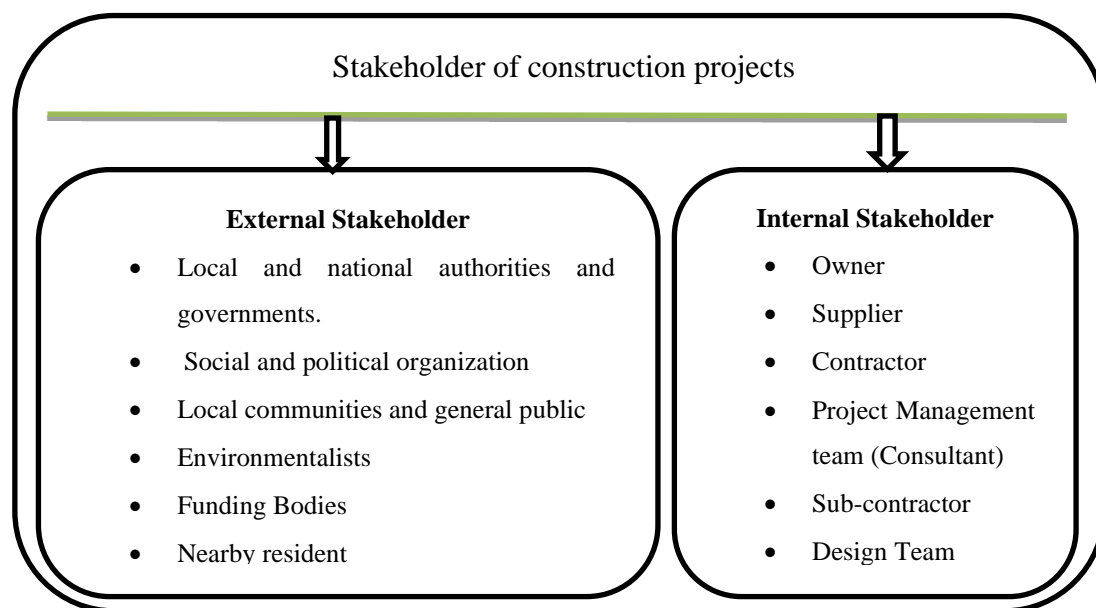


Figure 1: Potential Stakeholder for Projects (Adapted from Cleland, 1999)

Management of stakeholders as a function is specifically to context and for that the methods and

strategies implemented should reflect this context (Komolafe et al., 2016). Kumaraswamy and Wong, (2017) noted that to successfully implement a project and complete it on time depends largely on dealing with the needs and expectations of those who are involved and failing to properly meet their requirements may lead to several project challenges (Nguyen et al., 2020). Kumaraswamy and Wong, (2017) reinforced this idea where they expressed that it is insufficient to only recognize managers and stakeholders need to know the benefit of each stakeholder to demonstrate their expectations on the decisions of a project. Ameri and Awad, (2016) argued that it is the main duty of the leaders of projects to address the needs and requirements of stakeholders and to be able to conduct, manage and control the process of

decision making in a project. Insufficient stakeholder supervision and management could create obstacles in the management and technical mechanism of a project. Besides, Komolafe et al, (2016) emphasised that in case of ill-management of conflicting and unseen stakeholder agenda can cause several failures in any project. Such issues shed lights on the necessity of finding a systematic way to identify key project participants, examine and estimate their impact and potential difficulties that they may impose on the project.

2.4 . PMO and Stakeholder's satisfaction to construction perspective

Construction projects around the world typically face obstacles, spanning through project planning, to its final execution (Kerzner, 2017). These issues beside others

involve on-time delivery, efficient leadership, quality management and offered funding management. Moreover, Okoye *et al.*, (2015) recognize a growing construction trend where the activities not only provide the needed project but also aimed at pleasing its users who are also known as the customers. Ameri and Awad, (2016) further discuss that such issues have numerous impacts on the related stakeholders. Najib *et al.*, (2017) classified stakeholders as direct or indirect participants having a strongly interested and can contribute to the proposed project success. Usually, such stakeholders involve Project Managers, Architects, Customers, Government regulatory bodies beside many others (Derakhshan *et al.*, 2019).

According to Kuwaiti *et al.*, (2018), there are numerous ways for affecting projects of construction by stakeholders, having the customer as a main part of the stakeholder group. (Okoye *et al.*, 2015; Kuwaiti *et al.*, 2018; Derakhshan *et al.*, 2019). It is quite a tasking process to Identify a consensus satisfaction criterion for the different stakeholders as each one has his / her satisfaction requirements. Such issues and challenges buttress the significance of dealing with the stakeholders' different demands, particularly the customer in construction projects management. Depending on the type of project with regard to the environment of a construction, the customer can be synonymously referred to as the client or the end user (Ameri & Awad, 2016). Okoye *et al.*, (2015) further argue that it was of uttermost importance to satisfy the needs of customers to construction projects and these customers' expectations formed the quality features of the project.

In many developing countries, like UAE, construction projects suffer from the same problems as stakeholder's satisfaction in projects of construction are lacks attention or not properly accomplished. Mishmish and El-Sayegh (2018) and Abdelhadi *et al.* (2019) suggest in their surveys that in the construction industry in UAE, the clients satisfaction expectations were not met. The main reason was for questions on the projects' sustainability and durability, its construction to fit purpose, and the available funding for maintenance. Furthermore, with constructed roads struggling to satisfy the delivery time and durability expectations, construction practitioners seemed to be ignorant of the key areas knowledge to

invest greater resources (Mishmish & El-Sayegh, 2018). These were a proof of low quality or the lack of efficient management of quality (Okoye *et al.*, 2015; Gunduz & Yahya, 2018) and as a result, the necessity for producing a framework that deals with such problems became inevitable. However, quality is explained in this research context as the positive value of a service or product in terms of meeting the requirements, its possibility for ensuring satisfaction and suitability for use (Ameri & Awad, 2016; Ajmal *et al.*, 2017; Gunduz & Yahya, 2018). Indeed, projects of road construction are largely centered on Civil Engineering operations. Nevertheless, Kuwaiti *et al.* (2018) acknowledges that there are possibilities to optimize the success of a project and thus improve satisfaction by changes in the construction projects management. Therefore, it is necessary to look into the quality management in the executions of construction projects in UAE, hoping to identify areas that require more focus or are more likely to contribute to the satisfaction achievement from construction projects.

3. The Related theory of the research

Three factor theory of satisfaction used in this study. According to Wilton (1988) cited in Yang *et al.* (2016), satisfaction is described as a "psychological phenomenon describing the emotional state resulting from an evaluation of the perceived discrepancy between prior expectations and the actual performance of the product". Many researchers like Cardozo (1965), Yang *et al.* (2006), and Fuller and Matzler (2008) have shed lights on theories followed in explaining this psychological phenomenon and achieving satisfaction antecedents. These theories, however, are customer-centred rather than directed at the construction industry exclusively.

4. The Research framework

This section describes the methodology of framing this paper. As PMO is a trending practice of project management, many studies published concerning this research area can be found. A protocol of search is identified to select the related studies from the topic pool. It is a list of guidelines followed to investigate the relevant studies and helps filtering the unrelated

literature. In research, search protocol is adopted to minimize the bias of literature and to obtain valid and authentic data about the topic of research. In collecting data, many online search engines like Google and academic databases like RePEc, Science Direct, and Google Scholar, and online libraries are searched. The primary aim is to reach in-depth research materials.

As this study concentrates on PMO, the keyword search involves Property development, Stakeholder's satisfaction, Project management office. An inclusion criterion is followed by the search protocol with specific guidelines. Only works published in English are collected. For review, peer-reviewed journals, articles, published books, and reports are collected. The development of the concept is also taken into account since PMO is a trending phenomenon. Most of the published articles between 2015 and 2020 are

selected as references except for some reports and books to find basic ideas. The central concepts are extracted from the related articles content. An article's content is investigated by going through the abstract or introduction. Some articles, although recognized as relevant to PMO, are found to have irrelevant information based on the PMO. That led to ignoring such articles. In addition, to understand the distinctions or the scope of PMO implementation, some papers illustrating the traditional techniques in the management of projects are explored.

As highlighted from the literature, the dependent variable is stakeholder's satisfaction, while project quality is the independent variable. However, the aspects of project performance, reliability and aesthetics will be considered to entirely capture aspects of the independent variable (project quality) influencing the dependent one



Figure 2: Constituents of the variables of project quality.

Based on the literature review above, Figure 2 presents the proposed conceptual framework. These practices were briefly explained in the following previous section. The research model constituents of the variables of project quality

as independent variables, project management office (PMO) as mediating variables and stakeholder's satisfaction as dependent variable.

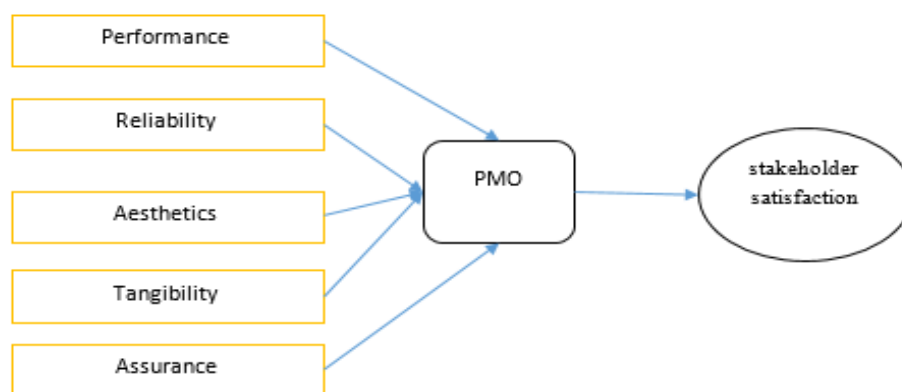


Figure 3. Research Framework

On the other hand, contractor referral and re-patronage are introduced as indicators of stakeholder's satisfaction within residential property in construction. According to Jakpar et al., (2012), literature reveals that sufficiently achieving a construction project's needs and requirements stimulates the use of the contractors which managed such a project. The requirements mentioned rely essentially on on-time delivery, agreed expenses and the quality of the completed project. Furthermore, the involvement of the factors of excitement, the comfort of vehicular and pedestrian movement through and after construction beside the incorporation of the host communities labour and resources are aspects of both contractor referral and re-patronage and in turn stakeholder's satisfaction. The conceptual framework presented is introduced with the presumption that stakeholder's satisfaction depends on the project quality nature.

5. Findings from a literature review

It can be clearly noticed from the previous literature that the PMO is presented with different definitions by many authors, but the Project Management Office is the most popular term used to describe it. Thus, in a survey carried out on 236 public organizations managers, PMO was found very valuable. Projects guided by PMO methodology and standards have been stated as successful concerning completion based on cost, time and identified specifications (Khoori & Hamid, 2018). In the absence of a capacity building center and project monitoring and control system, the success rates of a project are not influenced by PMO.(Kiani et al., 2016).

The success of the public sectors organizational projects is affected by the PMO and faces various obstacles. One of the major challenges that take place in the public sector in the UAE is risk management. Thus, PMO need to deal with such practices to produce an impact on satisfaction of all stakeholders and project success (El-Sayegh, 2015). Similarly, PMO contributes to projects success and helps determining their feasibility. It decreases the rate of project failure beside identifying a project's completion requirements (Khoori & Hamid, 2018). PMO has been accepted as a managerial reform by the UAE and several organizations have adopted the concept. However, the nation faces some political challenges, awareness absence, inadequate training, and low accountability (Soliman, 2016). Such factors, among many others, indicate that the main obstacles faced by the public sectors are the practices of leadership and team management (Ajmal et al., 2017).

6. Conclusion and future study

Since PMO is a broad topic, it is difficult to concentrate on the related facts from a large literature pool. As an emerging practice of project management in the UAE, PMO requires careful planning prior to implementation. From the review of literature, it can be acknowledged that an appropriately framed PMO model can significantly contribute to the success rate of any project and is thus reflected in property's stakeholder's satisfaction in property development in the UAE.

The previously proposed factors contributing to the quality of service and stakeholder's satisfaction in residential construction project

were recurrently detected in public projects. The exact magnitude and frequency of such factors are not clear, which have been considered a huge obstacle for the industry of residential construction. Initial directing concerning to the of detecting the most recurring causes and effects of service quality in global residential property in construction have been critically discussed in the present literature and particularly explored in relation to the Middle East. Residential property measures in construction customer control have been established from a comprehensive literature, and the theoretical gaps in the stakeholder's satisfaction in the process of the residential construction project development have been identified. This has been shown as the most important process within the whole process of control management, but limited studies have been conducted in this area which required more studies to investigate the factors affecting residential construction project customer's satisfaction especially in UAE.

References

- Abdelhadi, Y., Dulaimi, M. F., & Bajracharya, A. (2019). Factors influencing the selection of delay analysis methods in construction projects in UAE. *International Journal of Construction Management, 19*(4), pp.329-340.
- Ajmal, M., Malik, M., & Saber, H. (2017). Factor analyzing project management practices in the United Arab Emirates. *International Journal of Managing Projects in Business, 10*(4), pp.749-769.
- Amarah, B. (2015). Development of a triple bottom line stakeholder satisfaction model. PhD thesis, Bond University, Gold Coast, available at: <https://research.bond.edu.au> (accessed 12 November 2019).
- Ameri, A., & Awad, T. Z., (2016). The roles of the project management office in the execution of the organization's strategic plan, Abu Dhabi: United Arabs University, College of Business and Economics.
- Cleland, D. I. & Ireland, L. R. (1999). Project management: strategic design and implementation (Vol. 4). Singapore: McGraw-Hill.
- Clifton, D., (2015). Establishing a PMO culture. Available at: <https://www.fgould.com/middleeast/articles/establishing-pmo-culture>.
- Darzi, M. A., & Bhat, S. A. (2018). Personnel capability and customer satisfaction stakeholder's satisfaction as predictors of customer retention in the banking sector: A mediated-moderation study. *International Journal of Bank Marketing, 36*(4), pp.663-679.
- Derakhshan, R., Turner, R., & Mancini, M. (2019). Project governance and stakeholders: a literature review. *International Journal of Project Management, 37*(1), pp.98-116.
- El-Sayegh, S. M. (2015). Project risk management practices in the UAE construction industry. *International Journal of Project Organization and Management, 6*(1-2), pp.121-137.
- Heravi, A., Coffey, V. & Trigunarysah, B. (2015). Evaluating the level of stakeholder involvement during the project planning processes of building projects. *International Journal of Project Management, 33*(5), pp. 985-997.
- Gunduz, M., & Yahya, A. M. A. (2018). Analysis of project success factors in construction industry. *Technological and Economic Development of Economy, 24*(1), pp.67-80.
- Hazel, S. & Jacobson, W., (2015). Project management principles for use in the public sector: Tools for the everyday project manager. *Public Management Bulletin*, pp. 1-11.
- Hubbard, D., & Bolles, D. (2015). PMOs of Today and Tomorrow. *PM World Journal, 4*(12), 1-16.
- Jakpar, S., Sze Na, A.G., Johari, A. and Myint, K.T., (2012). Examining the product quality attributes that influences customer satisfaction stakeholder's satisfaction most when the price was discounted: a case study in kuching Sarawak. *International Journal of Business and Social Science, 3*(23), pp.221-236.
- Kerzner, H. R. (2015). Project management: a systems approach to planning, scheduling, and controlling. USA: John Wiley & Sons.
- Khoori, A., & Hamid, S.R. (2018). Project Management Office and its Impact on U.A.E.

- Public Sectors: A Literature Review. *SAR Journal*, 1(4), pp.155-162.
- Kiani, S., Yousefi, V., Nouri, S., Khadivi, A. M., & Mehrabanfar, E. (2015). Determining the Role of Project Management Office in the Success of ProjectBased Organizations. *Mediterranean Journal of Social Sciences*, 6(6 S2), pp.325-339.
- Komolafe, M.O., Oyewole, M.O. and Kolawole, J.T. (2016), "Extent of incorporation of green features in office properties in Lagos, Nigeria", *Smart and Sustainable Built Environment*, 5(3), pp. 232-260.
- Kumaraswamy, M.M. and Wong, K.K.W. (2017). Recognizing stakeholders in construction projects as co-creators of value in sustainable urban development: A Hong Kong perspective. *The Sustainable City IX*, 1(1), pp. 165-175.
- Kuster, J., Huber, E., Lippmann, R., Schmid, A., Schneider, E., Witschi, U., & Wüst, R. (2015). Project Management Trends. In *Project Management Handbook* (pp. 39-41). Springer, Berlin, Heidelberg.
- Kuwaiti, E. A., Ajmal, M. M., & Hussain, M. (2018). Determining success factors in Abu Dhabi health care construction projects: customer and contractor perspectives. *International Journal of Construction Management*, 18(5), pp.430-445.
- Mishmish, M., & El-Sayegh, S. M. (2018). Causes of claims in road construction projects in the UAE. *International Journal of Construction Management*, 18(1), pp.26-33.
- Monteiro, A., Santos, V. & Varajão, J., (2016). Project Management Office Models. A Review. *Procedia Computer Science*, pp. 1085-1094.
- Nguyen, V., Bui, T., & Do, H. (2020). The Relationship between Project Management Performance and Stakeholder Satisfaction in Vietnam: Perspectives from the Construction Industry. *International Journal of Innovation, Creativity and Change*, 11(12), pp.331–356.
- Okoye, P.U., Ngwu, C. and Ugochukwu, S.C. (2015) Evaluation of Management Challenges Facing Construction Practice in Nigeria. *International Journal of Application or Innovation in Engineering and Management*, 4(1), pp. 19- 28.
- Pan, Y. (2018). Connotation and Significance of Intelligent City Construction. In *Strategic Research on Construction and Promotion of China's Intelligent Cities* (pp. 29-39). Springer, Singapore.
- Pasha, M. A., & Razashah, D. M. (2018). Impact of service quality on customer satisfaction stakeholder's satisfaction: an empirical study in selected public and private sector banks. *Researchers World*, 9(1), 64.
- Shayan, S., Pyung Kim, K., & Tam, V. W. (2019). Critical success factor analysis for effective risk management at the execution stage of a construction project. *International Journal of Construction Management*, pp.1-8.
- Soliman, K., (2015). Assisting national governments in governance, risk, and compliance: Implementation of project management offices. The 26th International Business Information Management Association Conference. Madrid, Spain, *International Business Information Management Association*.
- Yang, L.-R., Wu, K.-S., & Do, C.-F. (2016). Validation of a model measuring the effect of a project manager's leadership style on project performance. *KSCE Journal of Civil Engineering*, 17(2), pp.271–280.