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The Relationship between Project Quality and Stakeholder's Satisfaction through Project Management Office (PMO) in UAE Construction Industry

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Abstract

This study examines the impact of project quality and project management on the satisfaction of stakeholders in the construction sector in the UAE. Using the Partial least square structural equation modelling approach to evaluate the data collected from 278 respondents, the results suggest that the quality of the project has a substantial impact on the satisfaction of stakeholders. In addition, both the quality of the project and the project management office are associated with the satisfaction of the stakeholders. The findings of the research contribute to the theoretical literature in the project management office of the construction industry and provide recommendations with managerial implications.

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

1. Introduction

In the UAE, over a decade ago, the idea of project management office (PMO) was introduced. While not many studies on this subject are found, different papers and reports indicate that in the UAE organisations PMO patterns are acknowledged. The public companies in Abu Dhabi and Dubai highlighted and linked their current positions in the UAE in their study carried out newly in 19 ventures. The study shows that some of the PMO models implemented by public agencies in the USA lack versatility (Ameri & Awad, 2016). Despite the Advantages the PMO offers to the UAE public sector, Soliman (2015) demonstrated some of the major obstacles in the adoption of PMOs in the UAE. They are politics, stakeholder opposition, poor preparation, insufficient funding and transparency. They are They are politics. Soliman's analysis found that most PMOs are not autonomous and also politically motivated and hence their performance is diminished. A related research by El-Sayegh (2015) established that more project risk management activities as the main problem confronting most public sector organisations within the United Arab Emirates revealed that risk management was a major challenge for numerous public organisations, and that effective project management was largely undermined. Furthermore, a report in the UAE found that teamwork and team management activities are core problems in the public sector. This would encourage greater vigilance in the planning, coordination and supervision of projects (Ajmal et al., 2017). Articles on PMO and adoption in different countries are often referred to as part of the reference to the literature. Most researchers have demonstrated that project administration is central to the performance of many public sector organisations and that even after the introduction of the PMO fault organisation could concentrate on developing the capital and human resources capabilities of the PMO unit. (Khoori & Hamid, 2018).

The satisfaction of stakeholder has attracted tremendous attention in all fields of development in recent decades (Shayan et al., 2019). Customer interactions and happy consumers are constantly paying attention to in an increasingly competitive and complex setting (Darzi & Bhat, 2018). Essentially, a project management office (PMO) is central to ensuring the effective execution of organisation standards, processes and activities. The PMO

also promotes "the sharing of resources, methodologies, tools and techniques" according to the Project Management Institute (PMI). Stakeholder satisfaction is a successful way of differentiating itself from rival firms and gaining comparative advantages, but it is also a core obstacle in their attempts to increase efficiency (Pasha and Razashah, 2018). In order to maintain and improve customer relations, businesses use different types of stakeholder satisfaction methods to create and track their product/service deals. Moreover, the happiness of stakeholders has multiple advantages for companies such as enhancing cooperation which encourages shared agreement, identifying the need for development in the process, improving the perception of issue areas, assessing success against the target, and tracking and communicating on outcomes and improvements that have been made. Growing interest was also seen in the building industry by increasing efficiency of construction projects from the consumer viewpoint. A number of scholars have stressed the role of services in the building industry (Pan, 2018; Shayan et al., 2019). The assessment of a project system appears to be too straightforward to quantify conventional success measurement instruments like timeline, budget and product consistency. A customer focus and stakeholder loyalty strategy have been highlighted for the success assessment criteria. The fulfilment of Stakeholder is the idea that a project can be successful only if it addresses the needs of its expected users (Ameri & Awad, 2016). A circle that suits and complements the iron three-point can be defined as a customer focus (quality, schedule and costs). It ties the service approach to the building process and stresses practical efficiency. In the building sector, knowledge about the performance indicators of the project from the customer's viewpoint is in reality important. Due to its sophistication and unique characteristics in project development, building has had many customer-oriented difficulties in the production of quality.

Although several studies have been carried out with respect to project quality, a unified project quality approach has not been developed in the building industry. In order to properly handle and fulfil the needs of the players we need to explain the satisfaction of stakeholders. In this research, the Project Management Information Body (PMBOK) and PMI (2013) principles are employed to define related components to enhance project management in project efficiency and stakeholder satisfaction Project Management Office.

2. Literature Review

2.1. Quality Project

In management, the standard of leadership in management at the top level is a vital way of allowing others to embrace proposals, take part in all the projects and quality management levels (Madyaningarum et al, 2019). In addition to the elimination of rework costs and disciplinary steps, all workers in all areas of quality control systems implementation must contribute at all levels of the project (Madyaningarum et al, 2019). A project with low quality has a greater risk of damage, which means that the visual protection of the project and visible building quality are linked (Nguyen et al., 2020). Basu said project quality is determined by the design quality, implementation quality and coordination quality between stakeholders (Yang et al., 2015). The aim is to enhance the efficiency of all organisations continuously.

2.2. Project management office (PMO)

According to the project management institute (PMI), a project may be defined as a provisional project to accomplish specific objectives at the particular time, cost and quality. In order to achieve the project objective in the sense of specified criteria, PMI has defined the project management as an application integrating thought, experience, planning, techniques and knowledge. These concepts are the fundamentals of project and project management and were updated many times accordingly (Monteiro et al., 2016). In the 1950's, the idea of project management was implemented, particularly in space and building. Later ventures related to construction, processing and development of computers (hardware or software development) (Khoori & Hamid, 2018). Project management shall be seen as collective planning, control, organisation and management of all project tools and activities (Khoori & Hamid, 2018). The organisation, workplace, procedures, equipment and support used are the primary

factors shaping proper project management (Kuster et al., 2017). The Project Management Bureau (PMO) has recently been founded as a management agency that oversees, supervises and monitors projects from experts. The PMO has many different systems and models that is focused on the needs of organisations (Soliman, 2016).

2.3. Stakeholders' satisfaction

Project stakeholders include individuals and organizations involved in a project, the interests of which affect the project's results either positively or negatively. Shayan et al. (2019) state that; the stakeholders best evaluate a successful project. In addition, stakeholders' satisfaction is required for the success of project components such as project management and project success (Nguyen et al., 2020). Simply assessing a project's success based on cost, schedule, and technical objectives is no longer adequate. Needs, concerns, and issues also need to be addressed by a diversity of project stakeholders (Nguyen et al., 2020). To accomplish a mission, it is also important to recognise, control and impact the stakeholders, their aspirations and desires. In other words, it is important to explain the role of stakeholder satisfaction in the field of project management.

2.4. Project quality, Stakeholders satisfaction and Project management office

Construction programmes worldwide are typically facing obstacles that include the preparation and final completion of the project (Kerzner, 2017). These issues include execution on schedule, quality control, efficient leadership and the management of funding available. Moreover, Okoye *et al*. (2015) recognize an evolving construction trend which construction activities not only achieve wanted project, nevertheless also satisfy the customers. Ameri & Awad (2016) Add that these problems impact the stakeholders involved Najib *et al*. (2017) Categorized as actual or indirect actors who have a vested interest that may contribute to the project's progress. These stakeholders typically include project planners, architects, government regulatory authorities, structural engineers and clients (Derakhshan et al., 2019).

According to Kuwaiti et al, (2018), Different means of influencing stakeholders in the building projects exist, the consumer being a key stakeholder community market. The provision of capital, commodity and supply movements, labour unions and services play an important role in helping the different stakeholders to achieve fulfilment (Okoye *et al*., 2015; Kuwaiti et al, 2018; Derakhshan et al., 2019). Identifying a consensus fulfilment criterion is quite a challenge process for the different players, as every person has his or her satisfaction requirements. These difficulties underline the importance of reacting to the diverse requests of the players and, in particular, the client in the project management. Depending on the form of project, clients are interchangeably named end users or customers with respect to the building environment (Ameri & Awad, (2016). In the process of these inquiries, however, the defining of clients, a core aspect of the stakeholder community, would be restricted to end consumers and people who latently pay taxes and internal revenue for infrastructure construction projects. Okoye *et al*., (2015) Furthermore, consumer satisfaction for construction projects was highly critical and customer preferences described the project's quality characteristics.

Design projects, such as the UAE, expression the similar obstacles as satisfaction from partners in construction ventures, are either inattentive or typically non accomplished. Mishmish and El-Sayegh (2018) and Abdelhadi et al. (2019) Surveys have found that the UAE building industry customer loyalty requirements have not been met. This was primarily attributed to concerns about feasibility and longevity of projects, their fitness to build and large-scale financial participation in running the project. Moreover, with developed roads not achieving the target completion time and reliability requirements, building professionals did not know the knowledge of key areas to spend more money (Mishmish and El-Sayegh, 2018). These showed low quality or lack of reliable quality control (Okoye et al., 2015; Gunduz and Yahya, 2018) And, thus, there was an imminent need to establish a system to answer these concerns. However, quality in the sense of this explore is well-defined in relation to its conformity and usability and its capacity for satisfaction as the positive value of a service or product (Ameri & Awad, 2016; Ajmal et al., 2017; Gunduz and Yahya, 2018). Admittedly, the primary subject of road building programmes is civil engineering. However, Kuwaiti et al. (2018) Identifies ways to maximise project

performance and thus increase satisfaction by improving project management. Therefore, it is important to research quality control in carrying out construction projects in the United African States in order to recognise areas which need more care or will lead to the satisfaction of construction projects. Therefore, we posit Hypotheses H1 to H6.

H1. Performance has significant effect on stakeholders' satisfaction.
H2. Reliability has significant effect on stakeholders' satisfaction.
H3. Aesthetic has significant effect on stakeholders' satisfaction.
H4. Assurance has significant effect on stakeholders' satisfaction
H5. Tangibility has significant effect on stakeholders' satisfaction
H6.PMO significantly mediate the relationship between the identified factors and stakeholders' satisfaction.

3. The Related theory of the research

According to Nguyen et al., (2020), Satisfaction of the stakeholder is one of the term synonyms of the 'disconfirmation of expectation,' whereby a good or service is not rejected meeting or exceeding the customer's standards. In order to be able to utter the word, the customer typically compares the quality of his results against his or her goal. In definition, Consumer preferences could be seen as the possibility of negative and positive outcomes. identified by the customer whether the customer has been engaged in a specific task. This contribution could involve investment, purchase, payment and/or use of a product or service (Yang et al., 2015; El-Sayegh, 2015; Hazel & Jacobson, 2015).

Nguyen et al., (2020) The stakeholder's happiness, in contrast, is seen the result of disconfirmation and perceived quality. Disconfirmation here applies to the degree to which assumed quality is not matching repurchase standards, meeting them and exceeding them. Customers typically equate the perceived product (or project) value with any consumer expectation performance level. The perceived result is better than the performance level and thus means happiness of stakeholders. However, consumer disappointment arises once the perceived result falls short the level of performance (Amarah, 2015). Amarah, (2015) Furthermore, businesses and companies had to assess annually the happiness of stakeholders and discover how happy their customers are in order to establish potential improvement options. The satisfaction of stakeholders is thus characterised as a quality attribute, which either meets or exceeds the expectations of customers. Literature on the happiness of stakeholders (Kerzner, 2015; Yang et al., 2015; Nguyen et al., 2020), suggest that quality and service efficiency and consumer demands for this achievement are the key precursors to fulfilment.

4. The Research framework

Based on the literature review above, the following research framework is proposed as shown in Figure 2. 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

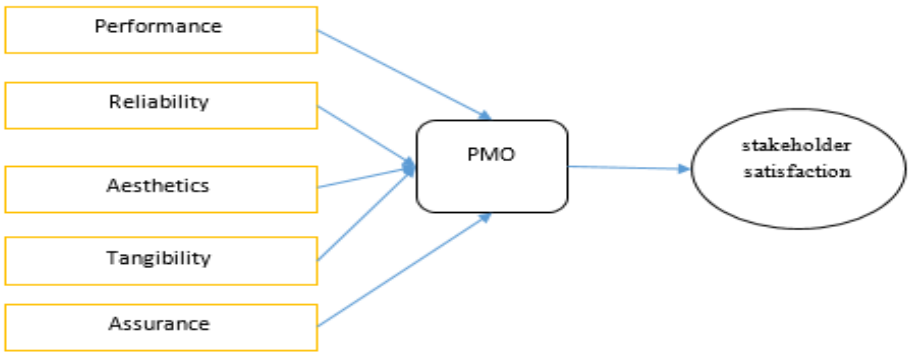

Figure 1. Research framework

5. Methodology

5. 1. Instrument development

The method of survey is selected for data collection in this study. According to Hair et al. (2019), the amount of participants could be equivalent to or 10 times more than 'the greatest number of formative measures used to evaluate a single construction' or 'the maximum number of systemic pathways for a specific latent configuration of the structural model. "In addition, Some adjustments have been made to conform to the context of the UAE to render the questionnaire simpler to interpret. The calculation of the research variables can be found in the table below.

Table 1. Measurement of study variables

Construct	No. of Items	Authors
Performance	10	Derakhshan et al., 2019
Reliability	6	Najib et al., (2017)
Aesthetic	7	Kerzner, 2015
Tangibility	6	Kerzner, 2017
Assurance	6	Ameri & Awad, (2016)
PMO	7	Najib et al., (2017)
stakeholders satisfaction	9	Nguyen et al., (2020)

5.2. Sampling Design

The study's population is comprised of worker's construction organizations of different sizes in UAE, the questionnaire will be distributed to the owner, contractors and consulting communities included in this report. The population has approximately 1000 people on the company profile and is listed in the Ministry of Work website (2016). So the minimum number of respondents will be 278 respondents according to Krejcie & Morgan (1970). The respondents were randomly picked from each group. Random sampling techniques was used while structural equation modelling (SEM) was used.The survey has 278 statements to which participants responded. The questionnaire was used to measure their level of agreement using Likert scale questions ranging from 1 to 5, with 1 being strongly agreed and 5 being strongly disagree. The survey includes demographic questions that enabled respondents in the sample to be described.

6. Data Collection and Results

6.1. Demographic profile of the Respondents

Based on the analysis The gender composition of the respondents indicates that significantly more than three quarters of the respondents are male (76.4 percent) whereas exactly 23.6 percent are female. The age distribution of the participants' shows that around 50 percent aged between 40 to 49 years. Slightly above one-quarter of the respondents are aged 50 years and above while 14 percent are aged between 30 to 39 years. Only 2 of the respondents are aged between 18 to 29 years. Analysis of the educational level of the respondents shows that about 41 percent are Degree holders while about 36 percent have Master degree. About 18 percent indicated that they hold Diploma while only 6.1 percent have PhD. In terms of position of the respondents, 40.1 percent show that they are strategic planning managers. About a quarter of the respondents are quality assurance managers while exactly 23.3 percent indicated that they are project coordinators. Approximately 22 percent are either portfolio managers or program managers. Analysis of the work experience of the respondents shows that 33.3 percent have more than 9-year experience. Slightly above a quarter have between 2 to 5-year experience while exactly 22.3 percent indicated that they possess 6 to 8-year experience. Only 17.5 percent indicated that they have experience below 2 years.

6.2 Analysis for Structural Equation Modeling

Upon establishing the validity and reliability of the individual constructs and the overall measurement model of the study. The next stage in the confirmatory factor analysis is to evaluate the structural model of the research framework. This is accomplished via the Analysis of Moment Structure (AMOS) graphic interface. The purpose of the structural model evaluation is to test the causal effects of the exogenous constructs on the endogenous

constructs as hypothesized in the chapter one of the thesis. Figure 2 shows the output of the initial analysis of the structural model. The fitness indexes reported indicated that the model is not good-fitted. With the exception of CFI and RMSEA, the remaining fitness indexes are sub-optimal. This implies that some modifications and re-specification are required to improve the model.

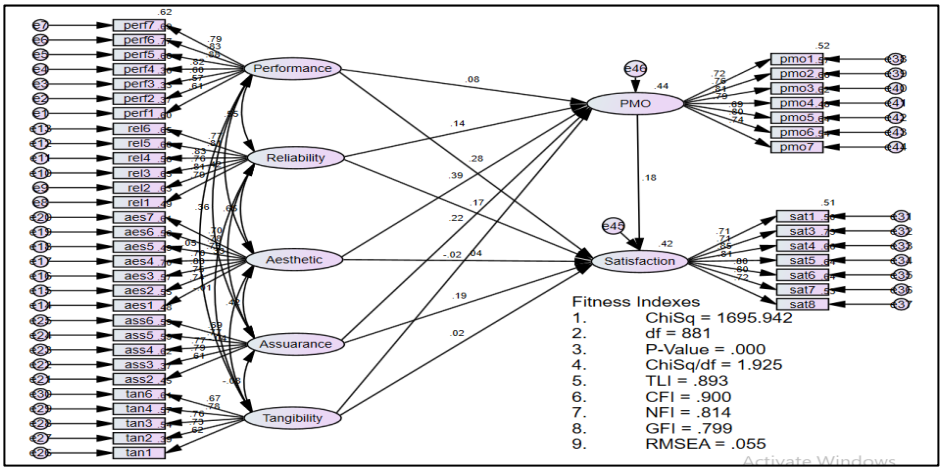

Figure 2: Initial structural model of the research framework

After running the analysis repetitively with reference to the modification index, a final structural model was achieved as revealed in Figure 3 As shown in the figure, all the goodness-of-fit statistics are in the suitable threshold. Specifically, ChiSq = 740.364, df = 724; significant, $p < .05$; CFI = .998; and RMSEA = .009. Similarly, the factor loadings of indicators, SMCs and the path coefficients are all sufficient enough to justify model acceptance.

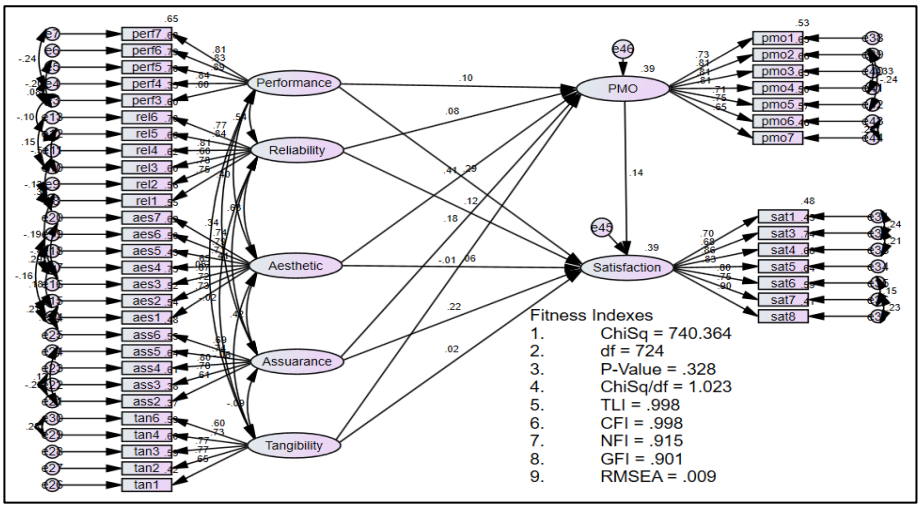

Figure 3: Final structural model of the research framework

Table 2 demonstration the summary statistics for the goodness-of-fit indexes for both the final and initial structural models of the research framework. As shown in the table both GFI and NFI which are incremental fit indexes in the initial structural model are below the recommended threshold of .90. This suggests that the model need to be modified until all fitness statistics are within acceptable threshold. Subsequently an iterative process of model re-specification, which is guided through the examination of the modification index, a final model is arrived at. In the final model all the goodness-of-fit indexes satisfy the requirement for model acceptance.

Table 2: Goodness-of-fit statistics for the initial and final structural models

Category	Parsimonious	Absolute	Incremental	Incremental	Absolute	Comment
Fitness Indexes	Chisq/df	GFI	CFI	NFI	RMSEA	
Acceptance Threshold	Chisq/df ≤ 5.0	GFI ≥ .90	CFI ≥ .90	NFI ≥ .90	RMSEA ≤ .08	
Initial Structural Model	1.925	.799	.900	.814	.055	Fitness level not achieved, model not accepted
Final Structural Model	1.023	.901	.998	.915	.009	Fitness level achieved, model accepted

6.3 Convergent validity

Table 3 shows the NFI index and the minimum and maximum factor loadings for the respective final model of the individual constructs. As shown in the table NFI value range from the lowest value of .972 to the highest value of .991 while the lowest factor loading is .562 and the highest is .932. This implies that convergent validity is achieved across the individual constructs.

Table 3: Convergent validity of individual constructs

S/N	Construct	Retained items	Factor loading		NFI Index
			Lowest FL	Highest FL	
1	Performance	7	.562	.880	.986
2	Reliability	6	.734	.864	.991
3	Aesthetic	7	.616	.859	.978
4	Tangibility	5	.619	.814	.979
5	Assurance	5	.671	.778	.990
6	Project management success	4	.763	.932	.991
7	PMO	7	.691	.831	.972
8	Satisfaction	7	.661	.868	.983

6.4 Discriminant validity

Discriminat validity is a test of the degree of uniqueness of a construction in contrast to other research-mode constructions. In order to maintain discriminatory validity, the square root of the average variance extracted (AVE) of the construct should be greater than the correlations between the remaining constructs of the study model. Hair, et al. (2017) defined AVE as the sum of squared correlations of indicators of a construct. A recommended value of .50 and above is considered acceptable for AVE. Table 4. displays the correlation coefficients between the constructs in the research model. The diagonal values in the correlation matrix are the square roots of the AVEs while the off-diagonal values are the correlations among the research constructs. Examining the result suggests that discriminant validity is achieved as the diagonal values (square roots of AVE values) are greater than correlations among the constructs.

Table 4: Discriminant validity result

	CR	AVE	MSV	MaxR(H)	SAT	PERF	REL	AES	ASS	TAN	PMO
SAT	0.918	0.616	0.261	0.926	**0.785**						
PERF	0.898	0.641	0.261	0.959	0.511	**0.800**					
REL	0.905	0.613	0.446	0.971	0.485	.543	**0.783**				

AES	0.898	0.560	0.446	0.977	0.404	.408	0.668	**0.748**			
ASS	0.855	0.543	0.202	0.980	0.449	0.353	0.341	0.368	**0.737**		
TAN	0.832	0.500	0.010	0.982	0.006	0.048	-0.020	-0.033	-0.098	**0.707**	
PMO	0.903	0.572	0.336	0.985	0.440	0.379	0.494	0.580	0.439	-0.033	**0.756**

SAT=Satisfaction, REL=Reliability, AES=Aesthetic, ASS=Assurance, TAN=Tangibility, PMO=Project management office

6.5 Hypotheses testing

As shown in Table 5 performance has significant impact on satisfaction (*β = .349; CR = 4.501; p < .05*), hence the hypothesis is supported. On other hand, the hypotheses that postulated that reliability (*β = .100; CR = 1.831; p = .067*) and aesthetic (*β = .066; CR = .990; p = .322*) have significant effect on satisfaction are not supported. On the other hand, the hypothesis that stated that assurance has significant effect on satisfaction is supported (*β = .242; CR = 3.580; p < .05*), while tangibility is found to have no significant impact on satisfaction (*β = .028; CR = .474; p = .635*).

Table 5: Hypotheses testing for direct relationship

Hypotheses	Path			Estimate	S.E.	C.R.	P	Remark
H1	Satisfaction	<---	Performance	.349	.078	4.501	***	Supported
H2	Satisfaction	<---	Reliability	.100	.055	1.831	.067	Not supported
H3	Satisfaction	<---	Aesthetic	.066	.066	.990	.322	Not supported
H4	Satisfaction	<---	Assurance	.242	.068	3.580	***	Supported
H5	Satisfaction	<---	Tangibility	.028	.059	.474	.635	Not supported

Hypothesis six postulated that PMO mediates the relationship between performance, reliability, aesthetic, assurance and tangibility with satisfaction. The bootstrapping method of testing mediation effect is adopted to test the hypothesised mediation effects. The choice of the bootstrapping method over other methods such as the Sobel Test is based on the recommendation of Hubbard & Bolles, (2015) where the bootstrapping method is adjudged the best method for mediation analysis. The procedure involves resampling of the data to 1000 samples where the total effect, direct effect and indirect effect are estimated. The corresponding 95 percent Confidence Interval values, lower and upper limits together with the two-tailed significance test are also generated (Khoori & Hamid, 2018).

Table 6 shows the result of the mediation analysis using the bootstrapping procedure. As shown in the table, PMO significantly mediates the relationship between satisfaction and aesthetic (β = .057; 95% CI: .018 ~ .106; p = .027) and assurance (β = .026; 95% CI: .009 ~ .063; p = .010), thus hypotheses H6c and H6d are supported. However, hypotheses H6a, H6b, and H6e are not supported. Thus, the result implies that PMO mediates the relationship between aesthetic and assurance mediate and satisfaction while it does not mediate the relationship between performance, reliability and tangibility and satisfaction.

Table 6: Two-tailed significance of bootstrap confidence interval for mediation effect

Hypotheses	Path relationship	Estimate	Lower Bounds	Upper Bounds	P-value	Remark
H6a	SAT ←PMO←PERF	.015	.001	.053	.064	Not Supported
H6b	SAT ←PMO←REL	.011	-.006	.028	.344	Not supported
H6c	SAT ←PMO←AES	.057	.018	.106	.027	Supported

H6d	SAT ←PMO←ASS	.026	.009	.063	.010	supported
H6e	SAT ←PMO←TAN	-.001	-.022	.018	.886	Not supported

SAT=Satisfaction, REL=Reliability, AES=Aesthetic, ASS=Assurance, TAN=Tangibility, PMO=Project management office

7. Discussion of the study

This study seeks to broadly examine the stakeholder's satisfaction in residential property in construction in Abu Dhabi. Engineering Management will discuss the variables of project quality and stakeholder satisfaction principles. The research shelters the level of the correlation among the quality of the project and the satisfaction of residential buildings in UAE. The study develops conceptual model founded from the underpinning theories of previous literature work which indicated the relationship between determine the significant effects of influencing factors affecting stakeholder's satisfaction in residential property in construction in the UAE. This study incorporated PMO as a mediating factor in this relationship. Moreover, there are various benefits for evaluating stakeholder satisfaction in organisations, such as improving cooperation between stakeholders and promoting mutual consensus, identifying the need for improved processes; improving understandings of the issues; assessing progress towards the target; and tracking and reporting of results and improvements achieved..

Increased participation in the building sector has also been the enhancement of the quality of the project from the customer viewpoint. A number of writers have stressed the importance of services in the construction industry (Soliman, 2016; Ajmal et al., 2017; Khoori & Hamid, 2018, Khoori & Hamid, 2018; Kiani et al., 2016). The assessment of a project environment seems to be too straightforward to quantify conventional performance measurement instruments like schedule, budget and product quality. A customer focus and stakeholder satisfaction strategy have been highlighted for the success assessment criteria. The satisfaction of Stakeholder is the idea that a project will be successful only if it satisfies the needs of its intended users. Customer orientation can be defined as a circle that suits and complements the points of the iron triangle (quality, schedule and costs). It ties the service approach to the building process and emphasises functional efficiency. In the construction industry, knowledge about the success factors of the project from the customer's viewpoint is in fact important. Because of the dynamic nature of building and the unique nature of project development, design in a customer-oriented manner has faced many problems in quality production. This research explains the performance factors from the perspective of satisfaction of stakeholders.

8. Conclusion and recommendations

This study sheds new light on project management and engineering trials that examine the relationship between project quality and the satisfaction of stakeholders with their indicators. Firstly, the quality of the project is a significant indicator of project management and of the satisfaction of stakeholders. Secondly, the relationship is positive between project quality and the satisfaction of the stakeholders. As well as project quality, the project management office is also an indicator to the satisfaction of stakeholders. As a new theme in project management in the UAE, PMO needs good preparation before implementation. According to the literature review, A correctly framed PMO model can make a major contribution to the progress of the project and thus reflect satisfaction of owners of the property with the creation of the UAE property.

The previously proposed factors contributing to service quality and stakeholder's satisfaction in residential construction project were commonly identified in public projects. The real frequency and magnitude of these variables remain unrecognized, with which the housing industry has shown a significant issue. Initial guidance in what way to classify the common reasons and effects of quality of service in the global residential projects that has been critically studied in the current literature. This has been investigated, especially in the Middle East. A detailed review of the literature has established

measures of residential property under construction customer control and the theoretical gaps in stakeholder satisfaction have been determined during development of a residential project. It was revealed that this is the major process for the overall control process, nevertheless slight studies is carried out in this field, requiring more investigation into factors affecting the satisfaction of customers in the UAE for residential projects.

9. limitations of the study

In this study some limitations on the scope of the research and the collection of data are inevitable. First, in the project management performance this study does not include government policies that are to be investigated further. Next, this study conducted an autonomous survey, which may have impacted the responses in the data. Furthermore, the survey was only distributed within the UAE territory in the construction sector. In order to achieve more complete results and broaden project literature quality and project management office, replication of the model is advisable in other sector or countries.

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