THE INFLUENCE OF PUBLIC AWARENESS AND RIGHT LOCATION ON THE PERFORMANCE OF CONSTRUCTION PROJECTS IN LIBYA

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Information of Article	ABSTRACT
	The urgent need by the government to find the reasons for the delay in the implementation of construction projects in Libya and the reasons for its delay began. So this study aimed to study the factors affecting the performance of projects in Libya. Despite its importance, it shows the poor performance of construction projects in Libya and its implementation, which made the research based on the most critical factors influencing the delay of projects, namely the public awareness and the efficient engineers, for performance testing. The study was verified using a research sample of 208 questionnaires. The study sample included civil engineers, architects, company owners, and managers of the management departments of implementing companies supervising the implementation of construction projects in the management of Libyan projects. The study has used the program SPSS in conducting statistical analysis to measure the relationships between the variables. This study has found that public awareness and the right location have a positive and significant impact on the performance of construction projects in Libya. The study recommends preparing an experienced team that will choose the right location for projects considering all risks before concluding the implementation contracts to improve the level of project performance.

1. Introduction

In most countries, the construction industry plays the most significant role in the economy, resulting in the development of employment and prosperity for the region since it is one of the important sectors, accounting for 5.2 per cent of total local output. Measuring the development of industry in any society is crucial for assessing its progress in various areas, including the construction industry, which has seen significant growth in many countries over the last four decades, whether in infrastructure or investment projects. These projects have encountered several issues along the way to achieving their goals, especially in infrastructure projects. (X. Wu, Yuan, Wang, Li, & Wu, 2019). Research has been developed in the last two decades to overcome these difficulties, focusing on specialized technical specialities in project management through coordination, planning, and control to maintain the quality and optimal exploitation of resources. The integration of the three main limitations of the project is time, cost, and quality to make the project a success. Still, the difficult part is reconciling them due to many basic problems suffered by the projects. Thus, it is important to focus research and studies on maintaining these basic objectives (Kassem, Khoiry, Hamzah, & Technology, 2019).

Measuring those objectives in the language of money is the key to their integration; so, cost reduction is essential for any project. One way to reduce costs is to minimize delays in implementing projects, thereby reducing the financial implications of the uncertainty. The responsibility for reducing delays lies with all parties to the project, which will be inevitably reflected positively in its favour. The problem of delays is contributed by several factors, including irregular cash flows, poor management, lack of administrative stability, poor supervision, unskilled labour, poor machinery and inconvenient timing of material arrival (Kassem, Khoiry, Hamzah, et al., 2019). The owner of the project plays a vital role in implementing any project. Since the owner of projects in Libya is often the state in most medium and large construction projects, this role is growing and increasingly necessary to achieve public interests and preserve the community's funds. The tasks of the owner are to choose the project based on studies, clearly determine its objectives, arrange it according to the importance, determine the policy and pattern of contracting. They also select the rest of the parties to the project, give necessary powers to perform the tasks within the firm, and fund the project. They also follow up its implementation, ensure the progress of performance according to the plan and make critical decisions that affect the project with risk reserve. The tasks of the project owner continue to be completed and even extend to the follow-up of the project during the operational phase. The owners of the projects in the country (the state) and their role in the implementation during the performance of the persons involved working in these entities, technicians, administrators, financial and technical for the work assigned to them. So, it is essential that these people have the skills, knowledge and understanding of how the delay can occur and rise. The results and how to avoid and reduce it as any shortcomings in the performance of their tasks may lead to increased project costs resulting from the delay or increase the likelihood of implementing supervisor or advisory parties claiming compensation (Houghton & Castillo-Salgado, 2019). This study

aims to determine the impact of public awareness and the right location on the performance of construction projects in Libya. This research will provide a comprehensive literature review of the research variables. The following sections will show the methodology used in this research and the tests and examinations used in the study. This paper will also discuss the findings of this research and include a conclusion for this research.

2. Litrature Review

Ideally, decisions should be made in conditions where all the influencing factors and decision-making methods lead to predictable results (Saeed, Bekhet and Dhar 2017), (Saeed, and Bekhet 2018). However, decision making often occurs under conditions of risk and uncertainty. Construction projects never proceed under ideal conditions of certainty. A decision is made in risky situations if the decision-maker can rationally or intuitively assess, with some degree of confidence, the probability of a given event occurring, using its basis its information on past events of similar or personal experience (Zidane & Andersen, 2018). One of the first theories of risky decision making was the expected value. The predicted value model ignored the fact that the value of a given reward held for a person was not directly related to their precise monetary value. Bernoulli introduced the concept of systematic bias in decision making. Bernoulli assumed that people seek to maximize their usefulness, not their expected value. In Von Neumann and Morgenstern's subjective utility model, one person cannot share the same utility curve as another. Still, each follows the same normative axiom to achieve the maximum personal utility defined individually (Marin & Roelofs, 2018).

The theory of prospect is a theory of decision-making under risky conditions. Decisions involve internal conflicts over value compromises. This theory is designed to describe better, explain, and predict the typical person's choices in a world of uncertainty. The theory deals with how these choices are framed and evaluated in the decision-making process. The perspective theory argues that utility curves differ in profit sectors from those in loss fields (Lu et al., 2018). The Prospect theory is designed to explain a model of common choice. It is descriptive and empirical in nature. The Prospect theory examines two parts of the decision-making process: the writing or framing phase and the evaluation phase. The frame refers to how a choice or option can be influenced by the order or how it is presented to a decision-maker. The evaluation phase of a prospect theory has two parts, the value function and the weighting function. The value function is defined in terms of gains and losses relative to the benchmark, not in terms of absolute wealth. In prospect theory, value is a function of change by emphasizing the starting point so that the change is negative or positive (Lu et al., 2018). Prospect theory predicts that dominance influences risk propensity. Losses have a greater emotional impact than an equivalent number of gains and, therefore, greater weight in our decision-making process. In making a decision, a decision-maker multiplies the value of each outcome by its decision weight. Decision weights are used to measure the perceived eventuality of a product and represent an empirical assessment of how people arrive at their sense of probability. An essential function of the weighting function is that the low possibilities are overweight while the high probabilities are the average chances are subjectively underweight (Lu et al., 2018). (Dharani 2016) identified factors that affect work productivity in construction and examined the causes and problems of work on the site and its effects on construction projects. He found some important factors affecting the productivity of the work, namely the quality of site management, experience of work, and misunderstanding between workers and supervisors. This study dealt with workers' problems at Indian construction sites, such as lack of adequate accommodation, basic amenities, wages and safety problems. It dominates almost all Indian construction sites. Since small businesses in India could not meet workers' requirements, employment failed to raise their productivity. Besides, it was clear that the actual labour production rate was falling daily, hurting the organization's profitability. Thus, the study attempted to link the adverse effects of declining labour productivity to the productivity of other resources such as materials, equipment and capital.

This study of (Odesola & Idoro, 2014) targeted and compared the relative effects of employment-related factors on the productivity of construction workers across Nigeria's six geographical states that include Nigeria's southern region from the point of view of the construction of artisans and project engineers. A field survey was conducted involving a random stratified sample of 1,138 construction artisans and 56 engineers supervising projects. The data were collected through structured questionnaires and analyzed. The study summarised that there were13 requirements for improving the management of work to improve the productivity of construction workers in construction sites. Areas of improving labour productivity instilled pride in building artisans by increasing workers' participation in decision-making and improving artisans. Skills through on-the-job training, reducing work reformulation through improved supervision to project planning as well as the recruitment and involvement of competent supervisors in decisions of construction sites, addressing the personal problems of workers and the employing experienced workers, improving health and safety policies, promoting a good working relationship between workers, ensuring worker satisfaction by adequately motivating construction workers, operating satisfactory conditions for service and avoiding the use of artisans who have exceeded the right age of work. The study recommended that improving labour management practices can improve the productivity of productive workers.

The study of (Odesola, 2015) aimed to assess and compare the relative effects of management-related factors on the productivity of construction workers in Cross River State, Nigeria, from the point of view of construction craftsmen and project supervisors/engineers. A survey search design approach was adopted, including a random sample of 115

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construction craftsmen and 60 supervisors/project engineers. The data were collected through structured questionnaires and analyzed using the average test. The result showed a significant correlation between the perceptions of construction craftsmen and supervisors/engineers. Regarding the relative effects of management-related factors on the productivity of construction workers, quality of site and management were caused by lack of financial incentive system. Further, the size of the supervision, the size of the staff, its efficiency and the company's reputation as the first five crucial management factors affecting the productivity of construction workers, respectively. The last two factors were ranked in fifth place. The study stated the need to improve management practices in developing countries worldwide to enhance productivity on construction sites. Thus, it was recommended that building managers formulate policies that include important management factors that affect the productivity of construction workers as part of strategies to improve productivity at construction sites.

3. Methodology

This study is quantitative. It interprets and reaches a more accurate understanding of the relationship between the independent variables mentioned above with the performance in the implementation of construction projects by investigating mutual relations between the study variables. Accordingly, the explanatory research design is situated under the test hypotheses of this study based on relevant theories, while previous studies are more appropriate for this study. Therefore, the researcher has chosen an explanatory research design. It used deductive thinking instead of inductive, involved testing the hypotheses designed based on previous studies and relevant theories, and used a quantitative questionnaire as a tool for data collection. Many researchers believe that the questionnaire is one of the best data collection methods due to the benefits that can be achieved through it. This method allows researchers to evaluate large numbers of variables in a study, besides being the most appropriate approach to describe trends or identify the relationships between variables to disseminate results. Moreover, given the short data collection period, the questionnaire allows the researchers to collect a large number of responses within a relatively short time and without the need to be present at the research location (Sekaran, Uma dan Bougi, 2016). Based on the above, the questionnaire was used in this study as a way to collect data.

The project administration in Libya was surveyed, and it was found that seven central project departments are supervising the implementation of all construction projects in Libya. Given the limited time of this study, seven departments were asked using the questionnaire about the possibility of assistance and participation in this study, and it was found that only five departments out of seven were willing and willing to contribute to this research. Therefore, this study decided to adopt these five departments as a statistical community for this study. The scientific guideline of sample size determination proposed by (Krejcie & Morgan, 1970) was adopted, and 245 samples were obtained. According to (Borenstein, M., Rothstein, H., and Cohen, 1997), the sample size should be determined with the help of an appropriate statistical test, where the test power is a viable option. Such power refers to the probability of rejecting a null hypothesis or a specific effect size of a distinct sample size at a particular alpha level (Cohen, 1988). The test is capable of detecting a difference in the wider population. Additionally, if the used sample size was determined through other alternatives, it is still suitable to employ power analysis to ensure that the probability of effects detection is explicit (Ramalu, 2010).

4. Findings

There were several tests conducted in this study. The first test was the response rate. As this study explores the role of (project value) on the construction project development in the United Arab Emirates, the targeted sample is 245 respondents. As shown in Table 1, 245 questionnaires were distributed to the model. From the distributed questionnaires, 232 were returned and collected, 208 were the net returned and usable questionnaires with a percentage of 84.8%, as 24 questionnaires were neglected due to incomplete information.

Table 1: Response rate

Response Rate	
Questionnaires Distributed	245
Returned	232
Unusable Questionnaires	24
Returned and Usable	208
Not Returned	13
Response Rate	94.6 %
Usable Response Rate	84.8 %

Frequency Analysis was conducted using SPSS on all the terms of this study, and it was found that there was no missing data. For this reason, no questionnaire was deleted or excluded since all participants answered all questionnaire items. In general, a missing value of 5% or less is considered insignificant to affect the analysis result (Tabachnick & Fidell, 2007). It is suggested that if the missing values are less than 5% per item, the missing values can be replaced by using mean replacement (F. Hair Jr et al., 2014). The following table 2 confirms that the total missing values numbers for the variables

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(public awareness, right location, and performance of construction projects) are within the acceptable range from the total observations of the study.

Table 2: Missing values test

Variable	Number of Missing Values
Public Awareness	3
Right Location	1
Performance of Construction Projects	0
Total	4

In statistics, an outlier is an observation that is numerically distant from the rest of the data. In other words, an outlier deviates markedly from other members of the sample. Outliers arise due to changes in system behaviour, fraudulent behaviour, human error, instrument error, or simply natural deviations in populations (which occur by chance in any distribution or when the population has a heavy tail distribution). The processing of outliers is a large and complex issue. It depends on how much effort a researcher wants to invest in it and the effectiveness of the researcher's means of detecting the outliers. Table 3 reveals that the outliers found in the research model are not a big issue. The outliers were classified as tolerated within the analysis.

Table 3: Outlier Assessment test

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	1.3939	4.6535	2.6646	.61459	208
Std. Predicted Value	-2.067	3.236	.000	1.000	208
Standard Error of Predicted Value	.027	.098	.048	.012	208
Adjusted Predicted Value	1.3925	4.6368	2.6645	.61401	208
Residual	-1.00041	1.31126	.00000	.39436	208
Std. Residual	-2.520	3.303	.000	.993	208
Stud. Residual	-2.546	3.323	.000	1.001	208
Deleted Residual	-1.02104	1.32679	.00007	.40057	208
Stud. Deleted Residual	-2.565	3.368	.001	1.005	208
Mahal. Distance	.706	22.261	4.987	3.256	208
Cook's Distance	.000	.041	.003	.005	208
Centred Leverage Value	.002	.058	.013	.009	208

a. Dependent Variable: Performance of Construction Projects

One of the most important preparatory steps for the measurement model is that the conditions of convergent validity are fulfilled, which requires the value of the variance extracted to be greater than 0.50. It can be observed that all matters of conflict removed for the variables have exceeded the value of 0.50. Thus, it was concluded that all variables had achieved convergent validity (legitimacy). Table 4 displays the values for saturation level, convergent validity for all variables and elements of this study. For the current research, the value used to test the convergent validity is the average variance extracted (AVE). Table 4 shows that the variables (public awareness, right location, and performance of construction projects) have got acceptable AVE values, which were ranged between 0.593 and 0.703.

Table 4: Convergent validity

Constructs	(AVE) (> 0.5)
Public Awareness	0.703
Right Location	0.593
Performance of Construction Projects	0.667

This study extracted the mean related to independent and dependent variables by the SPSS statistical program. The results

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in Table 5 demonstrate the mean for each variable and its standard deviation. Table 5 shows that the mean of public awareness obtained the highest rate of 3.93, followed by right-Location by 3.86. It was seen that all paragraphs received a high rating except performance that has received a low rating. This low rating confirmed the problems despite the respondents' awareness of the importance of understanding and efficiency for the location. However, the issue existed in the low performance of project implementation. Attention and intense awareness, increased efficiency, good right-Location and adequate budget will improve the project implementation performance.

Table 5: Descriptive statistics

Constructs	N	Minimum	Maximum	Mean	Std. Deviation
Public Awareness	208	1.00	5.00	3.93	0.97242
Right Location	208	1.00	5.00	3.86	0.99361
Performance of Construction Projects	208	1.00	5.00	2.20	1.06337

Based on the above tests that were conducted, the data is valid for testing the relationships of the study, and this study has applied the direct effect test to find out the type of relationships between the project value and construction project development in the United Arab Emirates. These results are illustrated in Table 6. This test has revealed the following conclusions:There is a significant and positive impact of public awareness on the performance of construction projects in Libya. All values indicated that they matched the specified criteria (β=0.139, t=2.320, p<0.05), meaning that public awareness increased performance by 13.9%. The direct effects of public awareness on the performance of projects (0.139) and the value of t calculated were equal to 2.044, more significant than the scheduled value of 1.645. They were statistically significant at P< 0.05. The p value= 0.021, which indicates that public-Awareness affected the performance of projects in Libya. In other words, the higher the public-Awareness, the higher the level of projects implementation performance in Libya. Also, there is a significant and positive impact of the right location on the performance of construction projects in Libya. All values indicated that they matched the specified criteria (β= 0.239, t=2.060, p<0.05), meaning that the more accurate and appropriate the site is, the greater the performance by 23.9% in a relationship of high importance and a strong statistical significance level. The direct effects of the right-Location on the performance of projects (0.239) and the value of t calculated were equal to 2.060, more significant than the scheduled value of 1.645. They were statistically significant at P< 0.05. Meanwhile, the P-value = 0.020, which indicates that the change in the choice of right-Location affected the implementation of the projects. The more interest in the selection of right-Location, the higher the level of implementation of the projects.

Table 6: Direct effect

Relationship	Std Beta	Std Error	t-value	p-value	Decision
PA -> PCP	0.139	0.068	2.044	0.021	Supported
RL -> PCP	0.239	0.116	2.060	0.020	Supported

Where PA; Public Awareness, RL; Right Location, and PCP; Performance of Construction Projects.

5. Discussion

This study has found a statistically significant relationship between the proposed variables. Thus, this study can accept the proposed hypotheses. These results are in line with what was suggested in previous studies. This study is consistent with the study by (Ametepey et al., 2015), stating that one of the most critical barriers in the construction processes in construction projects is the barriers of knowledge or public awareness among citizens regarding the importance of construction project institutions. The study stressed that the results of this study would allow the construction industry to succeed in achieving sustainable construction. As shown in Table 4.13, bootstrapping techniques demonstrated a positive relationship between the initial budget and project implementation performance. All values indicated that they matched the specified criteria (β= 0.155, t=2.060, p<0.05), meaning that the more accurate and appropriate the initial budget, the greater the performance by 15.5%. The direct impact of the initial allocation on project implementation performance was 0.155and the calculated value of T was equal to 3.163, more significant than the tabular value of 1.645, and was statistically significant at a level of P < 0.05. The P-value that reached 0.020 indicates that the improvement in the initial budget numbers affected project implementation performance. The more attention is paid to the initial budget, the higher the level of project implementation performance. From the above, the fifth hypothesis was accepted.

This result demonstrated the strong impact of the initial budget on the performance of Libyan projects, which can be explained by the development of the state of relative administrative stability experienced by the Libyan Project

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Management after the recent economic and political changes in Libya. This situation has resulted from administrative stability in selecting the initial budget through the ability of the Libyan project management to direct the efforts of all employees in the organization toward achieving the strategic objectives of the management of Libyan projects. The majority of the sample of study involving civil engineers and architects in the implementation of construction projects in the management of Libyan projects believed that the initial budget in the management of Libyan projects has a major role in the implementation of construction projects, which thus contributed to the development of the performance of these institutions. The finding is also consistent with the study by (Mustafa, 2009). The study results showed that one of the essential factors of delay in projects is the poor management of location and supervision. This is one of the most important factors of delay in construction projects, which is in line with the study by (M. Abeer, 2017) showing that there are risks related to right-Location, which had an impact on the delay of projects by 42%. (Gitau, 2015) confirmed that through his study, most of the projects were affected by the lack of involvement of construction specialists in the right-Location of the project, which showed differences in the worksite to more than 10% of the estimated cost. The study recommended that it is necessary to ensure that the civil engineers, architects, or project managers are qualified to choose the right-Location of construction projects and identify the buildings and their needs. This study is also consistent with the study of (Odesola, 2015) where it was shown that there were relative effects on the management and quality of right-Location in construction projects. It has a significant impact on the performance of construction projects.

6.   Conclusion

Our current era is facing competition and development in various fields. One of the most important areas is industry, whose measurement is an essential criterion for measuring the development of any society and the diversity of industries, including the construction industry. During the last four decades, this has witnessed clear growth throughout Libya, both in infrastructure projects or investment projects (Elsonoki & Yunus, 2020). Despite the important role of construction projects in our country, they are exposed to several problems to achieve their objectives during the various stages, which lead to the failure to complete those stages with different forms and types of stumbles. However, the most important of which is the delay in achieving one of the stages of the project or the completion of the project as a whole. The main objectives of the current study are to find out the impact of public awareness and the right location on the performance of construction projects in Libya This study has found that public awareness and the right location have a positive and significant impact on the performance of construction projects in Libya. The study recommends preparing an experienced team that will choose the right location for projects considering all risks before concluding the implementation contracts to improve project performance. Educational courses awareness and television advertisements can raise awareness of the importance of construction projects. The jobs and wealth they provide to the country and one of the most important industries that contribute to the national economy.

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