

## **Investigating the possible impacts of implementing project management practices on organizational performance: A case study of small and medium construction companies in Hargeisa<sup>1</sup>**

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### **Abstract**

This study aims at examining the possible impacts of implementing project management practices on the organizational performance of small and medium construction companies in Hargeisa. By utilizing a questionnaire survey design that examined 16 possible impacts of project management practices on the organization performance of small and medium construction companies, data were obtained from 30 small and medium construction stakeholders selected based on simple random sampling. The Cronbach's Alpha, mean values and Relative Importance Index (RII) were computed for reliability check and ranking purposes using SPSS Statistics Software and Microsoft Excel Packages. Results show that increases market share (RII = 0.853), reducing risk involved in projects (RII = 0.853), higher degree of project successes (RII = 0.833), producing project quality deliverables (RII = 0.833), properly allocating resource (RII = 0.820) and increases the competitive advantage (RII = 0.820) are the six most significant impacts. This study will provide stakeholders in the small and medium construction industry with an improved understanding on the way project management practices are vital to the success of SMEs. Moreover, the findings from the current study can be useful for the partners of the Somaliland government when developing programs for funding of activities that is targeted at advancing the performance of SMEs in Hargeisa.

**Keywords:** Project Management, Impacts, Small and Medium Construction Companies, Low- and Medium Income Countries, Organizational Performance, Hargeisa

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## 1. Introduction

In recently years, the introduction of new technologies, improved and new management system, and the need for timely delivery of projects have increasingly changed the global construction industry [1]. As such, the demand for project managers has dramatically increased in the last decade, making project management a critical part of any successful project or industry [2], [3]. This is why the significance of the role of the project manager in small and huge projects will continue to be recognized more and more, around the globe [4]. Meaning that Project Management would continue to surge as a result of the needs for a management system to manage and achieve the specifications of a huge project in terms of its schedule, cost, and quality. However, standardization is essential for the continuous advancement of the project management best practices in an effort to improve organizational performance [5]. As result, project management has rapidly changed from a pragmatic practice to a knowledge-based area that is now internationally accredited and extremely recognized as a profession worldwide [6].

So, as organizations continue to hunt for novel and improved ways of attaining competitive advantage, it is important for businesses to examine the size of each of their functional areas in order to advance their organizational performance [7]. Project management thus, plays a central role in the variance competitive benefit of organizations and project management knowledge areas helps these organizations to manage the changes that may occur in the business environment [8]. Moreover, in recent times, modern approaches to management have continually advanced the influence of project management on the successful execution of projects [9]. This is why more organizations and SMEs are now applying different project management knowledge areas in their projects in an effort to improve their organizational performance which can in turn safeguard a lasting capability in the current technology driven business environment, globally [5], [10].

Overtime, project management has become an indispensable part of the management of high technology, a vital component in the globalization movement that has positively changed the global economy in the last two decades [11]–[13]. As a result of the hike in competition and globalization, risks in project are on the increase and managing such risks is becoming a vital part for the success of nearly all the projects carried out in the various industries [14], particularly the construction sector where high-risk projects are often executed [15], [16]. Minimizing risks in construction projects is a positive component of project management practice as it helps to identify possible risks that could hinder project success and initiate change mechanism to curb them [15], [17].

In most low- and medium-income countries, project management practice on one hand is mostly well-thought-out by the use of a few experts on contractual basis and a huge number of temporary workforces who come in at diverse phases of the project [18]. This kind of arrangement helps organizations to save cost. However, on the other hand, project management is still seen to be at its infancy in industries such as telecommunication [19], construction [20] etc. This is due to the fact that project management practices are mostly used when there is a high level of risk in projects particularly, when the timeline and budget of the project are of high priority [15], [21]. Consequently, by implementing project management companies, firms and organizations can minimize unforeseen/costly shocks and more importantly resources could be effectively allocated. This in turn improves communication among stakeholders and provides the top management with

a succinct summary of the threats that could hinder the organization's goals and objectives while facilitating better decision-making in due time [22]–[24]. So, project management involves the application of knowledge, skills, processes and procedures in project environment to efficiently, and appropriately attain the project goals [25].

Today, several SMEs including small and medium construction companies have indicated that the management of projects in a tactically manner via project management processes increases the efficiency of such SMEs [26], [27]. This eventually advances the organizational performances of these SMEs [26], [27]. However, the complexity of PM practices progression assessment is a major barrier that often hinders the application of PM in cases where the top executives are yet to completely embrace the worth or benefit that adequate investment in PM maturity can generate for their firms [28]–[31]. It is on this note that this research study attempts to explore the possible impacts of project management practices on the organizational performance of small and medium construction companies in Hargeisa, Somaliland. The outcome of this research study will thus assist future researchers and graduate students that might want to carry out related studies in other parts of Somaliland or elsewhere. Moreover, the current study provides new insights that could guide key stakeholders in the small and medium construction companies, government agencies and partners in the development and formulation of fresh strategies that are essential for the application of project management in advancing the operation of SMEs in the nearest future, particularly in the construction industry.

The first part of this paper presents the background introduction to the application of project management in SMEs. The second part discusses the major concepts of the project management in terms of project processes, project life cycle and project management system. Besides, the research methodology adopted in this study is presented in the third part before expounding on the findings and implications of the current study in the fourth part. The last part of this paper presents the concluding remarks and recommendations on how project management can effectively influence the organization performance of small and medium construction companies in Hargeisa and elsewhere.

## **2. Theory**

### **2.1 Project management concept**

Project management can be seen as an effectively way to coordinate and manage people to work both individually and collaboratively to achieve a common goal or objective to complete a task [32]. Typically, project management requires the application of personal knowledge, skills, tools, and techniques when carrying out an activity in order to attain the set of goal of any project [8], [10]. However, this is mostly time-constrained, and often constrained by financial resources or deliverables [33], [34]. Project management also have to do with planning, scheduling, and controlling of all the collective activities in an effort to ensure that a project successful reach its objectives [35], [36]. In practice, there exist three vital project management concepts that are part of any project irrespective of the type of activities involved [33]. These concepts include project processes, project life cycles, and project management systems [35], [36].

### **2.1.1 Project Processes**

Project processes are basically organizing the instrument of project management. The understanding the project process thus implies having the knowledge of who is responsible for the execution a specific process and the suitable stage of the project process activities should be done [33], [34]. Generally, there are five project processes that include the initiative, planning, executing, controlling and the closing processes, respectively [37]. During the initiative process, the project to be carried out is determined and approved by the owner/donor, and the best possible way to complete such project is devised [38]. The planning process involves the definition of the overall project objectives and goals, in some cases, the set goals are refined to ensure that they are achievable and realistic [38]–[40]. Furthermore, the executing process is the most vital part of the project process. This is because it is the process where the main activities required to complete the project is primarily carried out [39]. The fourth project process is controlling process and it is very important for project manager when tracking the progress of a project to ensure that activities are carried out according to plans, schedules and deadlines [40]. It is essentially performed throughout the duration of the entire management process. The concluding project is the closing process. During this process, the project manager ensures that the entire process is successfully wrapped up [38]–[40].

### **2.1.2 Project Life Cycle**

Every project has a project life cycle irrespective of the size, location, or type of the [41]–[43]. That is why the deep understanding and transition from one phase of the project life cycles to another is vital to the project manager in ensuring a successful project completion [41], [42]. Accordingly, every project life cycle involves four phases that include the concept or intention, planning, execution and closure phases [41]. The concept phase is the phase where the firm proofs like graphs, charts, statistics, and so on are analyzed in an effort to successfully complete the [42], [43]. In this phase, visibility study is required in order to investigate if each decision addresses the project objectives before a final recommended solution is determined [42]. The second project life cycle phase is referred to as the planning phase. In this phase, the project manager as well as his team cooperatively decides on how to best complete the project and consequently develops a plan for the completion. This implies that the tasks and resources required for the completion of the project are identified, alongside the strategy to perform them. The next phase is known as the implementation phase and its stage where the project plans are set into motion and the various project activities are performed [42], [43]. Sustainable control and communicate system are thus significant during this phase, since the progress of this project need to be continuously monitored and appropriate adjustment are made and recorded if there is any deviation from the original plan [44]. Completion phase is the phase where the project comes to an end and handling over of the final deliverable to customer/owner takes place [41]–[43].

### **2.1.3 Project Management System**

The third key concept of the project management is the understanding of project management system. Project management systems involves the significant understanding of all components of the project management such as information components, the control/management component, the cultural component, the human component, the methodological component, the planning component and organizational component [13], [45]–[47].

Furthermore, in an effort to successfully manage a project, the project manager alongside the project team are required to thoroughly understand the human components [13], [45]–[47]. This implies that understanding of how to deal with people and recognition of the “people issue” is essential for project manager and his team.” In addition, they require adequate skills in the art of negotiation, communication, team-building, interpersonal motivating, and work place politics to succeed in a project [13], [45]. Like with the human component, the project manager must possess the capacity to understand the cultural components that may exist on his or her project team if he is to successfully manage a project [46], [47]. Consequently, the project manager must have a vast knowledge and acceptance of diverse cultural beliefs, values, attitudes, behaviors, and traditions that may be exist within the project environment [46], [48].

### **3. Brief Review of the Literature**

Over the years, the need to advance project management practices have continued to be a focus of discussion in the global construction industry [33], [49]. Professionals continuously shared the opinion regarding numerous challenges faced when executing building and construction projects and how they could be mitigated or eliminated through the incorporation of effective cost control, risk assessment and project management [50]–[52]. Until recently most construction company still loses revenues as a result of the incompetency of services provided despite the practice of project management [53], [54].

The relationship between innovation and projects has long been studied in the 1980s by Japanese companies that were vastly successful on the European and American markets [55], [56]. This had a robust impact on project management practices of companies in Europe and America that swiftly became a project management best practices model [55]. Conventionally, project management skills were developed from the necessities of construction industry to plan, manage and control huge and multifaceted projects [57]–[59]. It was from these projects that the purported “hard” concepts of project success criteria in the form of the management and control of the project scope, schedule and scope were established [58]–[60]. Project management can also be perceived as the management of change in project [61], [62] and this is the reason project managers are also considered as change agents when it comes to relationship management.

Past researches in low- and medium-income countries also indicate that numerous building and construction projects often experience delay due to a number of reasons that may include but not limited to delay in honoring payment progressively, change orders during construction by owner, fluctuation in the prices of materials, errors in design, underestimation of the project cost and scheduling contractors in advance, delays in sub-contractor’s work etc. [63], [64]. Examining the impact of Project Management Offices is thus an applied way of perusing project management as it is practiced in different industries, particularly in the construction industry [65]–[68]. Basically, Project Management Offices are minor units that are frequently located separately from the main organizational units [67], [68]. Consequently, they are positioned in a way that stakeholders can easily appraise them and thus increasing the possibility of generating good outcomes [65], [66]. It is thus clear that most organizations practice project management completely while other do as part of other units in their firms/organizations.

Quite a lot of research studies have acknowledged some practices and attributes within an organization, precisely project management within companies and teams [65]–[67]. These practices were implemented purposely to successfully manage projects. In a study carried out by Kotnour [69] on the organizational learning practices in project management setting, the author in his closing remarks suggested that project organizations would need to avoid the repetition of the challenges by making efforts to increase knowledge base with the organization and thus the project performance [69]. In an empirical study carried out by Gowan and Mathieu [70] where 449 system managers participated in the survey, the authors indicated that the project performance of an adequate Information Systems (IS) is highly dependent on the involvement of detailed project management practices [70]. The project performance in this regard was perceived in the context of attaining the project timeline only.

As described by Ramabadron et al. [71], project management best practices are an ideal way to execute a project in an effort to attain higher performance [71]. Although, project managers undertake certain project management practices in order to attain a reasonable level of performance, many organizations often embrace project management despite the non-recognition of its influence on organizations' performance outside the collection of professionals who accepts it [72]. However, it is important to note that in order to determine if certain project management practices are best or not, there is a need to carry out a performance measure of the projects executed under this kind of practices.

Following Bryde's [73] claims that performance makes practices ideal, measuring the performance of a project is essential when determining optimum practices within a given industry. In another work by Kerzner [33], the author suggested that as far back in the 1900s, organizations began to embrace the implementation of project management, not a choice by as a necessity [33]. So, as project management grew, its best practices became imperative and by 2010, the widespread of project management and its best practices to had spread to almost every industry were being noticed [74]. As such, lessons were learnt from the failures and successes of projects in different industries became a pathway for project management best practices. For instances, private organizations paid more attention on lessons from project successes to learn best practices in project management [74], [75]. This is depicted in the work by Jawahamesan and price [76] where the authors conducted a study on project management best practices in UK construction industry and observed that "preparation and organization" and "development of project definition" are some of the most ranked activities that facilitate project success [76]. This thus signifies the importance of the function of project definition. The regularity and degree to which construction professionals and contractors are generally involved in the project development phase, often give rise to further examination on how the major parties perceive the impact project definition function place in project performance [64]. This is also evidence in the work by Whelton [77] that emphasized on the need to establish safety measures during the project definition phase. Meaning that the capability of a project manager to broadly conduct the project definition function will indisputably leads in best practices [77], [78]. However, this is one function that is still often overlooked in the construction industry.

Often, project management practices differ from one industry or organization to another and the performance of the results is what determine if a practice ideal or not [73]. In addition, the source of variation in the practices of project management may not be only as a result of the kind of

industry or organization but likewise the purpose/type of project and desired performance level as established in the work by Sharma and Gadenne [79]. The authors in their survey work on the impact of quality management practices on quality performance, identified through an inter-industry survey that quality management practices varied slightly from organization to organization and industry to industry [79]. The results from these studies indicate that the project management practices carried out for the management of projects often depends on the type of organization or industry. The project management practices presently used within different industries or organizations thus need to be properly identified and further investigated.

#### 4. Research methodology

The current study adopts a questionnaire survey research technique to investigate the possible impacts of implementing project management practices on the organizational performance of small and medium construction companies in Hargeisa, Somaliland. A total of 16 possible impacts of implementing project management practices were considered in this study based on literature review and PMI recommendations. Moreover, these possible impacts were rated in this research study based on the Likert's scale of 5 ordinal measures from 1 to 5 according to the level of contribution [80].

The target respondents comprise of construction stakeholders from three small medium construction companies in Hargeisa, Somaliland that often participate in projects operations and management. From a population of 40, 36 participants were used as the sample size for the current study, based on simple random sampling. This was achieved by considering the Krejcie and Morgan's table as described in [81]. In order to obtain realistic data from the participants directly, structured questionnaires were utilized to acquire primary data used in the current study through self-administration.

In an effort to ascertain that the appropriate level of quality in the research instrument is attained in terms of its consistency and reliability, a pilot survey was carried out using a convenience sample of experts in SMEs. Prior to the distribution of the questionnaires, two soft copies of the questionnaires were provided to two project management consultants to authenticate the contents therein, ensuring that the sentences are precise and clear enough for research purposes. After the successful distribution of the questionnaires, feedbacks from the respondents were received after five days in order to ensure that the questionnaires are correctly filled before collection.

Prior to the data analysis of the feedbacks, the responses received from the respondents were filtered, and entered into spreadsheets (Microsoft Excel 2019 and SPSS work area). The reliability of the feedbacks was then tested using the Cronbach's Alpha method [82]. This was attained by the use of SPSS Statistics Software (version 25) to compute the Cronbach's Alpha, and the reliability coefficient was determined to show the internal consistency of the data using Equation 1 [82]:

$$\text{Cronbach's alpha, } \alpha = \frac{K}{K-1} \left[ 1 - \frac{\sum V_i^2}{V_x^2} \right] \quad (1)$$

where K, represents the number of items;  $V_i$  represents the variance of scores on each item; and  $V_x$ , represents the variance of the observed total test scores.

Relative Importance Index (RII) was selected as a appropriate analytical method [83] utilized to create a mean rating point and analyze the ratings received through the questionnaires. Each calculation was computed using RII formula in Equation 2 [83]:

$$\text{Relative importance index, RII} = \frac{\sum W}{A \times N} \quad (2)$$

where W, represents the rating given to each factor by the respondents. For instance, 5 is for very high contributing factor, 4 is for high contributing factor, 3 is for average contributing factor, 2 is for low contributing factor and 1 is for very low contributing factor. A is the highest weight (5 for this study) and N represents the total number of samples (30 for this study).

Furthermore, the study was conducted based on the standard ethical practices required of a reputable academic research. Respondents were informed both verbally and in writing about the aim of the research work and their consents was confirmed before filling out the questionnaires. The confidentiality of the respondents was also assured before engaging them. Moreover, the current study was based on the assumption that all small and medium construction companies in Hargeisa embraces project management practices and that the feedbacks from the respondents were correct and truthful.

## 5. Results and data analysis

### 5.1 Survey results

**Table 1:** Summary of the total numbers of questionnaires distributed and returned, excluded, and valid questionnaires

S/N	Number of questionnaires distributed	Not returned	Number of returned	Valid	Invalid
1	36	4	32	30	2
2	100 %	11.1 %	88.9 %	93.75 %	6.25 %

Regarding the respondents' education background., Table 2, shows that the respondents with bachelor degrees have the highest percentage (50 %). Furthermore, the respondents with diploma certificates are found to have the second highest percentage (20 %). The respondents with technical school certificates are found to have third highest percentage (13.3 %). The respondents with master degrees are found to have the fourth highest percentage (10 %). However, the respondents with PhD degrees are found to have the least percentage (6.7 %).

**Table 2:** The frequency and percentage distribution of respondents' level of education

S/N	Description	Frequency	Percentage
1	Technical school	4	13.3%
2	Diploma	6	20.0%
3	Degree	15	50.0%
4	Master	3	10.0%
5	PhD	2	6.7%
	Total	30	100 %

Table 3 presents the frequency and percentage distribution of the number of SME projects that the respondents have been involved in. It can be seen from Table 3 that the respondents' experience in SME projects are closely distributed. This is due to the fact that over 80 % of the respondents have been involved in more than four SME projects i.e. 10 respondents have been involved in 4 to 6 projects, 9 of them have been involved in 7-10 projects while 7 of the respondents have participated in over 10 projects (23.4%). Besides, the remaining 4 (13.3 %) respondents have participated in 1-3 projects.

**Table 3:** Frequency and percentage distribution of the projects that respondents have participated in

S/N	Description	Frequency	Percentage
1	1-3 projects	4	13.3%
2	4-6 project	10	33.3%
3	7-10 project	9	30%
4	> 10 projects	7	23.4%
5	Total	30	100%

## 5.2 Cronbach's alpha data reliability test

By means of Table 4, the internal consistency of feedbacks from the respondents was measured based on range of the Cronbach coefficient obtained [84]. Besides, the results of the Cronbach's Alpha reliability test carried out for the answers provided by the respondents with regard to the 16 possible impacts of implementing project management practices explored in the current study show that the Cronbach's Alpha values is 0.896. This indicates that the internal consistency of the feedbacks received in the research study has an excellent reliability of 89.6 %.

**Table 4:** Internal consistency of Cronbach’s Alpha

S/N	Cronbach’s alpha, $\alpha$	Internal consistency
1	$\alpha \geq 0.8$	Excellent
2	$0.8 > \alpha \geq 0.7$	Good
3	$0.7 > \alpha \geq 0.5$	Satisfactory
4	$\alpha < 0.5$	Poor

### 5.3 Analysis of the possible impacts of project management practices on the organization performance

The 16 possible impacts of project management practices on the organization performance of small and medium construction companies have been ranked based on Relative Importance Index (RII) and Mean Value. To establish the level of contribution of the impacts, the RII and mean value rankings are organized according to the RII classification table presented in Table 5.

**Table 5:** Classification of RII

Scale	Level of Contribution	RII
1	Very low	$0.0 \leq \text{RII} \leq 0.2$
2	Low	$0.2 < \text{RII} \leq 0.4$
3	Average	$0.4 < \text{RII} \leq 0.6$
4	High	$0.6 < \text{RII} \leq 0.8$
5	Very high	$0.8 < \text{RII} \leq 1.0$

Table 6 presents the results of the survey analysis of impacts of implementing project management practices on organizational performance of small and medium construction companies. Concerning the most significant impacts of project management practices on organizational performance of small and medium construction companies, Table 6 shows that increases market share (RII = 0.853) and reducing risk involved in projects (RII = 0.853) combined are the most preferred impacts in terms of the level of preference, as perceived by the respondents. Followed by, higher degree of project successes (RII = 0.833) and producing project quality deliverables (RII = 0.833) combined in the second rank position, increases the competitive advantage (RII = 0.820) and properly allocation resource (RII = 0.820) are ranked in the third position, improving customer satisfaction (RII = 0.807) is ranked in the fourth position, motivates staff by providing improved understanding of project requirements (RII = 0.800) is ranked fifth in the rank position. Besides, managing workload (RII = 0.787), meeting customer expectations (RII = 0.767), improving service quality (RII = 0.760), improving customer retention (RII = 0.753), and guarantees increased profits (RII = 0.727) are ranked as the sixth, seventh, eighth, ninth and tenth positions, respectively. Nevertheless, achieving project duration/timeline (RII = 0.613), reduction in project delivery costs (RII = 0.667) and improving customer acquisition (RII = 0.713), are the three least significant impacts of project management practices on organizational performance, respectively.

**Table 6:** The mean score value and RII ranking for possible impact of project management on organizational performance of small and medium construction companies

S/N	Possible Impacts of Project Management Practices on the Organization Performance	RII	Mean Value	RII & Mean Value Ranking	Level of Contribution
1	Reduction in project delivery costs	0.667	3.333	12	High
2	Guarantees increased profits	0.727	3.633	10	High
3	Higher degree of project successes	0.833	4.167	2	Very High
4	Increases the competitive advantage	0.820	4.100	3	Very High
5	Increases market share	0.853	4.267	1	Very High
6	Improving customer retention	0.753	3.767	9	High
7	Properly allocating resource	0.820	4.100	3	Very High
8	Motivates staff by providing improved understanding of project requirements	0.800	4.000	5	Very High
9	Producing project quality deliverables	0.833	4.167	2	Very High
10	Improving customer acquisition	0.713	3.567	11	High
11	Meeting customer expectations	0.767	3.833	7	High
12	Achieving project duration/timeline	0.613	3.067	13	High
13	Improving service quality	0.760	3.800	8	High
14	Managing workload	0.787	3.933	6	High
15	Improving customer satisfaction	0.807	4.033	4	Very High
16	Reducing risks involved in projects	0.853	4.267	1	Very High

## 6. Discussion and implications of the findings

Respondents ranked both increases market share and reducing risk involved in projects as the topmost preferred impacts of project management practices that significantly improve organizational performance of small and medium construction companies in Hargeisa, Somaliland. This is agreeable to a large extent because there is a very huge competition among small and medium construction companies in Hargeisa and consequently every construction company is exploring everything possible to increase its market share and reputation around the country. Furthermore, for the small and medium construction companies to sustainably deliver construction projects according to cost expectations of the project owners/clients, traditional building practices must be modified. This will not only allow the small and medium construction companies to have significant control over uncertainties in the project but will also facilitate the achievement of the target project goals. One can thus argue that this systematic approach will thus assist the small and medium construction companies that participate in both project management

processes and practices to develop emergency plans required to stop the decrease in market share or loss of business income and more importantly expand their organizational performance. This however, justifies the choice of the respondents here and shows their knowledge about risk management in projects, which they must have been putting into practice.

As perceived by the respondents, the second most influential impact of project management on the organizational performance of small and medium construction companies in Hargeisa, Somaliland are both higher degree of project successes and producing project quality deliverables. The choice of the respondents here is quite crucial to most small and medium construction companies in Hargeisa, as they take their reputation serious when executing projects. This allow them to put in their efforts to successfully manage project and as such increasing their organizational performance in terms of time delivery and quality services.

Regarding the most preferred impacts of project management practices on the organizational performance of small and medium construction companies in Hargeisa, Somaliland based on the implementation and success of project management practices, the respondents ranked both properly allocating resource, and increases the competitive advantage as the third most significant impacts. The choice of the respondents here is justifiable as most small and medium construction companies in Hargeisa often find ways of managing the available/limited resources through controlled project management practices that bolster their projects in terms of the time, cost and quality performances. Meaning that if the project success is properly managed, the competitive advantage of this group of small and medium construction companies will invariably increase. This can however be traceable to fact that organizational performance can be heightened when the right project management tools are adequately considered when executing projects.

‘Improving customer satisfaction’, ‘motivates staff by providing improved understanding of project requirements’ and ‘managing workload’ were ranked by the respondents as the fourth, fifth and sixth most preferred impacts of project management practices on the organizational performance of small and medium construction companies in Hargeisa, respectively. The importance of customer satisfaction as long been established as a measure of project success. This is also not surprising as the concept of customer satisfaction in the construction industry has long been linked to managing workload alongside staff motivation via the provision of a better understanding of project requirement. In addition, these three impacts of PM on organizational performance appears to be gladly known and accepted by project managers in the construction industry regardless of their experience or location.

Furthermore, feedbacks from the survey indicate that ‘meeting customer expectations’ and ‘improving service quality’ were ranked by the respondents as the seventh and eighth most preferred impacts of project management practices on the organizational performance of small and medium construction companies in Hargeisa, respectively. Based on the fact that the internal measure of organizational efficiency or performance such as meeting technical goals, staying within budget goals, staying on schedule or meeting timeline etc. are partial and often misleading, there are cases when a project was run effectively and efficiently but ultimately did not meet up with the customer expectations and may require improving the service quality at the long run. This is because, at more advanced stages of a construction project, external factors such as customer expectation, needs and satisfaction turn out to be much more important. As such, having ‘meeting

customer' and 'improving service quality' ranked in this position as one of the significant impacts of project management is justifiable.

'Improving customer retention' and 'guarantees increased profits' were further ranked by the respondents as the ninth and tenth most preferred impacts of project management practices on the organizational performance of small and medium construction companies in Hargeisa, respectively. These impacts are quite relevant as they reflect the immediate and profitable success of well-executed construction projects. Furthermore, the result of exploring PM practices can create new opportunities based on the organization performance and strength of the small and medium construction companies. This is why project managers are now paying more attention on customer expectation during the project management process.

The findings from the current study reveal that the respondents ranked achieving project duration/timeline, reduction in project delivery costs and improving customer acquisition as the three least significant impacts of project management practices on organizational performance of small and medium construction companies in Hargeisa, respectively. This is understandable, since most small and medium construction companies in Hargeisa pay adequate attention to their reputation when executing projects, they appear to know the importance attaining project timeline and that reducing the cost of project delivery can invariably increase their chances of acquiring more customer base. This is the reason why these three are the least ranked impacts of PM.

Overall, the implications of the findings from the current study are vital to future studies. Owing to amplified competition and globalization among SMEs, including small and medium construction companies, the findings from this study specify that the management of SMEs are becoming proactive with the understanding of influence of implementing project management practices on organizational performance in terms of the projects executed. In addition, the findings from this study further explains how small and medium construction companies are now exploring corrective measures that can positively improve the outcomes of their projects. Besides, impending researchers in low- or medium-income countries that might want to examine similar studies can validate their findings using the outcome of the current study.

## **7. Conclusions**

In conclusion, the possible impacts of project management practices on organizational performance of small and medium construction companies in Hargeisa has been successfully examined in this study. A total of 16 possible impacts of project management practices on organizational performance has been identified and analyzed in this study, based on the implementation and success of project management practices. The six impact that fell into the top three most ranked possible impacts of project management practices on organizational performance include: increases market share (1st), reducing risk involved in projects (1st), higher degree of project successes (2nd), producing project quality deliverables (2nd), properly allocating resource (3rd), and increases the competitive advantage (3rd). Feedbacks from the questionnaire survey also revealed that reduction in project delivery costs and achieving project duration/timeline were ranked as the least impacts of project management practices on organizational performance.

Besides, the main contribution of the current research study is providing an improved understanding on impacts of project management practices on organizational performance of small and medium construction companies. The findings from the results obtained in this study are quite significant as they show that project management practices can significantly add value to small and medium construction companies in low- and medium-income countries while sustaining them to deliver within acceptable cost constraints. The findings are expected to provide new insights that could guide policy-makers, decision-makers and stakeholders on the influence project management practices have on the success and performance of small and medium construction companies in Hargeisa and elsewhere. Moreover, this study will provide additional and valuable information for impending academics, graduate students and independent researchers who may want to use the findings of this research work to validate future works related to the current study.

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## 11. References

- [1] A. Razak Bin Ibrahim, M. H. Roy, Z. U. Ahmed, and G. Imtiaz, "Analyzing the dynamics of the global construction industry: past, present and future," *Benchmarking An Int. J.*, vol. 17, no. 2, pp. 232–252, Apr. 2010.
- [2] R. Müller and R. Turner, "Leadership competency profiles of successful project managers," *Int. J. Proj. Manag.*, 2010.
- [3] M. Radujković and M. Sjekavica, "Project Management Success Factors," in *Procedia Engineering*, 2017.
- [4] K. Dziekoński, "Project Managers' Competencies Model for Construction Industry in Poland," *Procedia Eng.*, vol. 182, pp. 174–181, 2017.
- [5] A. A. Fashina, S. M. Abdilahi, F. F. Fakunle, and M. H. Ahmed, "Exploring the extent to which SMEs can realize a better organizational performance when various project management practices are linked together," *PM World J.*, vol. IX, no. VI, pp. 1–22, 2020.
- [6] M. L. Todorović, D. T. Petrović, M. M. Mihić, V. L. Obradović, and S. D. Bushuyev, "Project success analysis framework: A knowledge-based approach in project management," *Int. J. Proj. Manag.*, 2015.
- [7] A. A. Fashina, S. M. Abdilahi, M. H. Ahmed, and F. F. Fakunle, "Examining the project management practices that most significantly influence the performance of SMEs when executing projects in Hargeisa," *PM World J.*, vol. 9, no. 6, pp. 1–19, 2020.

- [8] A. A. Fashina, S. M. Abdilahi, and F. F. Fakunle, "Examining the challenges associated with the implementation of project scope management in telecommunication projects in Somaliland," *PM World J.*, vol. IX, no. III, pp. 1–16, 2020.
  - [9] K. C. Iyer and P. S. Banerjee, "Measuring and benchmarking managerial efficiency of project execution schedule performance," *Int. J. Proj. Manag.*, vol. 34, no. 2, pp. 219–236, Feb. 2016.
  - [10] S. M. Abdilahi, F. F. Fakunle, and A. A. Fashina, "Exploring the extent to which project scope management processes influence the implementation of telecommunication projects," *PM World J.*, vol. IX, no. V, pp. 1–17, 2020.
  - [11] J. M. Nicholas, *Project Management for Engineering, Business and Technology*. 2017.
  - [12] R. Turner, A. Ledwith, and J. Kelly, "Project management in small to medium-sized enterprises: Matching processes to the nature of the firm," *Int. J. Proj. Manag.*, 2010.
  - [13] R. Müller and R. Turner, "The Influence of Project Managers on Project Success Criteria and Project Success by Type of Project," *Eur. Manag. J.*, vol. 25, no. 4, pp. 298–309, Aug. 2007.
  - [14] A. A. Fashina, M. H. Ahmed, J. A. Salah, and F. F. Fakunle, "The major barriers to the implementation of project management in small and medium construction companies in Hargeisa," *PM World J.*, vol. 9, no. 9, pp. 1–24, 2020.
  - [15] A. S. Akintoye and M. J. MacLeod, "Risk analysis and management in construction," *Int. J. Proj. Manag.*, 1997.
  - [16] M. A. Omar, A. A. Fashina, and F. F. Fakunle, "The status quo of Somaliland construction industry: A development trend," *PM World J.*, vol. IX, no. V, pp. 1–18, 2020.
  - [17] L. Bing, A. Akintoye, P. J. Edwards, and C. Hardcastle, "The allocation of risk in PPP/PFI construction projects in the UK," *Int. J. Proj. Manag.*, 2005.
  - [18] A. A. Fashina, S. M. Abdilahi, A. I. Hassan, and F. F. Fakunle, "The significant factors that influence the choice of project scope management practices in telecommunication companies in Somaliland," *PM World J.*, vol. 9, no. 8, pp. 1–15, 2020.
  - [19] S. M. Abdilahi, A. A. Fashina, and F. F. Fakunle, "An overview of the applications of project scope management in Somaliland telecommunication industry: Approaches, impacts, constraints and practices," *PM World J.*, vol. IX, no. VI, pp. 1–17, 2020.
  - [20] A. A. Fashina, F. F. Fakunle, and M. A. Omar, "A Study on the Effects of Construction Project Delays in Somaliland Construction Industry," *J. Manag. Econ. Ind. Organ.*, 2020.
  - [21] P. Szymański, "Risk management in construction projects," in *Procedia Engineering*, 2017.
  - [22] J. T. Karlsen, "Project stakeholder management," *EMJ - Eng. Manag. J.*, 2002.
  - [23] A. Butt, M. Naaranoja, and J. Savolainen, "Project change stakeholder communication," *Int. J. Proj. Manag.*, vol. 34, no. 8, pp. 1579–1595, Nov. 2016.
  - [24] H. K. Doloi, "Understanding stakeholders' perspective of cost estimation in project management," *Int. J. Proj. Manag.*, 2011.
  - [25] A. Munns and B. Bjeirmi, "The role of project management in achieving project success," *Int. J. Proj. Manag.*, vol. 14, no. 2, pp. 81–87, Apr. 1996.
  - [26] B. Brooks, "The natural selection of organizational and safety culture within a small to medium sized enterprise (SME)," *J. Safety Res.*, vol. 39, no. 1, pp. 73–85, 2008.
  - [27] C. Makanyeza and G. Dzvuke, "The influence of innovation on the performance of small and medium enterprises in Zimbabwe," *J. African Bus.*, vol. 16, no. 1–2, pp. 198–214, May 2015.
  - [28] M. T. Pich, C. H. Loch, and A. De Meyer, "On uncertainty, ambiguity, and complexity in project management," *Manage. Sci.*, 2002.
-

- [29] J. Thomas and T. Mengel, "Preparing project managers to deal with complexity - Advanced project management education," *Int. J. Proj. Manag.*, 2008.
- [30] L. A. Vidal and F. Marle, "Understanding project complexity: Implications on project management," *Kybernetes*, 2008.
- [31] J. R. S. Cristóbal, "Complexity in Project Management," in *Procedia Computer Science*, 2017.
- [32] A. K. Bhunia, L. Sahoo, and A. A. Shaikh, "Project Management," in *Springer Optimization and Its Applications*, 2019, pp. 367–402.
- [33] H. Kerzner, *Project Management Best Practices: Achieving Global Excellence*. 2014.
- [34] R. Atkinson, "Project management: Cost, time and quality, two best guesses and a phenomenon, its time to accept other success criteria," *Int. J. Proj. Manag.*, 1999.
- [35] B. J. Galli, "Project Management Maturity Models," *Int. J. Appl. Logist.*, vol. 8, no. 2, pp. 19–38, Jul. 2018.
- [36] V. S. Anantatmula and P. F. Rad, "Role of Organizational Project Management Maturity Factors on Project Success," *Eng. Manag. J.*, vol. 30, no. 3, pp. 165–178, Jul. 2018.
- [37] PMI, *Project Management Body of knowledge (PMBOK)*. 2017.
- [38] M. S. Salerno, L. A. D. V. Gomes, D. O. Da Silva, R. B. Bagno, and S. L. T. U. Freitas, "Innovation processes: Which process for which project?," *Technovation*, 2015.
- [39] J. U. M. Smith, C. Chapman, and S. Ward, "Project Risk Management: Processes, Techniques and Insights.," *J. Oper. Res. Soc.*, 1998.
- [40] P. Řeháček, "Project management processes," in *The PMP® Certification Exam Study Guide*, Auerbach Publications, 2012, pp. 73–119.
- [41] A. Brent and C. Labuschagne, "Social Indicators for Sustainable Project and Technology Life Cycle Management in the Process Industry (13 pp + 4)," *Int. J. Life Cycle Assess.*, vol. 11, no. 1, pp. 3–15, Jan. 2006.
- [42] D. B. Khang and T. L. Moe, "Success Criteria and Factors for International Development Projects: A Life-Cycle-Based Framework," *Proj. Manag. J.*, 2008.
- [43] S. A. Furst, M. Reeves, B. Rosen, and R. S. Blackburn, "Managing the life cycle of virtual teams," *Acad. Manag. Perspect.*, vol. 18, no. 2, pp. 6–20, May 2004.
- [44] J. J. Phillips, W. Brantley, and P. P. Phillips, "The Project Management Lifecycle," in *Project Management ROI*, Hoboken, NJ, USA: John Wiley & Sons, Inc., 2011, pp. 15–30.
- [45] Kimmons and R. L. Kimmons, "The Project Manager," in *PROJECT MANAGEMENT*, 2018.
- [46] S. Blackburn, "The project manager and the project-network," *Int. J. Proj. Manag.*, 2002.
- [47] A. Lester, *Project Management, Planning and Control*. Elsevier, 2007.
- [48] R. L. Kimmons, "The Project Manager," in *PROJECT MANAGEMENT*, Routledge, 2018, pp. 89–129.
- [49] D. R. Lee, "Global project management handbook," *J. Eng. Technol. Manag.*, 1995.
- [50] D. Baloi and A. D. F. Price, "Modelling global risk factors affecting construction cost performance," *Int. J. Proj. Manag.*, 2003.
- [51] S. A. Burtonshaw-Gunn, *Risk and financial management in construction*. 2017.
- [52] A. Taroun, "Towards a better modelling and assessment of construction risk: Insights from a literature review," *Int. J. Proj. Manag.*, 2014.
- [53] S. M. E. Sepasgozar, R. Karimi, S. Shirowzhan, M. Mojtahedi, S. Ebrahimzadeh, and D.

- McCarthy, “Delay causes and emerging digital tools: A novel model of delay analysis, including integrated project delivery and PMBOK,” Buildings. 2019.
- [54] D. Megha and B. Rajiv, “A Methodology for Ranking of Causes of Delay for Residential Construction Projects in Indian Context,” *Int. J. Emerg. Technol. Adv. Eng. Website* [www.ijetae.com](http://www.ijetae.com) ISO Certif. J., 2013.
- [55] D. Robertson, “Product development performance: Strategy, organization, and management in the world auto industry,” *J. Eng. Technol. Manag.*, 1992.
- [56] C. H. Botter, “Project management: A systems approach to planning, scheduling and controlling,” *Eur. J. Oper. Res.*, 1982.
- [57] M. Hobday, “Product complexity, innovation and industrial organisation,” *Res. Policy*, 1998.
- [58] P. Healy, “Project management in construction,” in *Design and Construction*, 2007.
- [59] M. Barnes, “Construction project management,” *Int. J. Proj. Manag.*, 1988.
- [60] D. Gadenne and B. Sharma, “An investigation of the hard and soft quality management factors of Australian SMEs and their association with firm performance,” *Int. J. Qual. Reliab. Manag.*, 2009.
- [61] K. H. Rose, “A Guide to the Project Management Body of Knowledge (PMBOK® Guide)-Fifth Edition,” *Proj. Manag. J.*, 2013.
- [62] D. I. Cleland, “Leadership and the project-management body of knowledge,” *Int. J. Proj. Manag.*, 1995.
- [63] F. F. Fakunle and A. A. Fashina, “Major delays in construction projects: A global overview,” *PM World J.*, vol. IX, no. V, pp. 1–15, 2020.
- [64] A. A. Fashina, F. F. Fakunle, and C. Opiti, “Exploring the common delay factors related to major parties involved in construction projects: A systematic review,” *PM World J.*, vol. IX, no. V, pp. 1–18, 2020.
- [65] B. Hobbs, M. Aubry, and D. Thuillier, “The project management office as an organisational innovation,” *Int. J. Proj. Manag.*, vol. 26, no. 5, pp. 547–555, Jul. 2008.
- [66] M. Parchami Jalal and S. Matin Koosha, “Identifying organizational variables affecting project management office characteristics and analyzing their correlations in the Iranian project-oriented organizations of the construction industry,” *Int. J. Proj. Manag.*, 2015.
- [67] J. Ward and E. M. Daniel, “The role of project management offices (PMOs) in IS project success and management satisfaction,” *J. Enterp. Inf. Manag.*, vol. 26, no. 3, pp. 316–336, Apr. 2013.
- [68] M. Aubry, B. Hobbs, and D. Thuillier, “Organisational project management: An historical approach to the study of PMOs,” *Int. J. Proj. Manag.*, 2008.
- [69] T. Kotnour, “Organizational learning practices in the project management environment,” *Int. J. Qual. Reliab. Manag.*, vol. 17, no. 4/5, pp. 393–406, Jun. 2000.
- [70] J. Art Gowan and R. G. Mathieu, “The importance of management practices in IS project performance,” *J. Enterp. Inf. Manag.*, vol. 18, no. 2, pp. 235–255, Apr. 2005.
- [71] R. Ramabadron, J. W. Dean, and J. R. Evans, “Benchmarking and project management: a review and organizational model,” *Benchmarking Qual. Manag. Technol.*, 1997.
- [72] J. L. Thomas and M. E. Mullaly, Eds., “Researching the value of project management,” in *Project Management Institute*, 2008th ed., Newtown Square, PA., 2008.
- [73] D. J. Bryde, “Project management concepts, methods and application,” *Int. J. Oper. Prod. Manag.*, vol. 23, no. 7, pp. 775–793, Jul. 2003.
-

- [74] H. Kerzner, "Understanding Best Practices," in *Project Management Best Practices*, Hoboken, NJ, USA: John Wiley & Sons, Inc., 2018, pp. 1–57.
- [75] J. Binder, *Global Project Management*. 2016.
- [76] L. Jawaharnesan and A. D. F. Price, "Assessment of the role of the client's representative for quality improvement," *Total Qual. Manag.*, vol. 8, no. 6, pp. 375–390, Dec. 1997.
- [77] M. G. Whelton, "The development of purpose in the project definition phase of Construction projects: Implications for project management," Univ. California, Berkeley, USA, 2004.
- [78] U. Kulatunga, D. Amaratunga, and R. Haigh, "Structured approach to measure performance in construction research and development: Performance measurement system development," *Int. J. Product. Perform. Manag.*, 2011.
- [79] B. Sharma and D. Gadenne, "An inter-industry comparison of quality management practices and performance," *Manag. Serv. Qual. An Int. J.*, vol. 12, no. 6, pp. 394–404, Dec. 2002.
- [80] I. E. Allen and C. A. Seaman, "Likert scales and data analyses," *Quality Progress*. 2007.
- [81] R. V. Krejcie and D. W. Morgan, "Determining Sample Size for Research Activities," *Educ. Psychol. Meas.*, 1970.
- [82] L. J. Cronbach, "Coefficient alpha and the internal structure of tests," *Psychometrika*, 1951.
- [83] H. Doloi, A. Sawhney, K. C. Iyer, and S. Rentala, "Analysing factors affecting delays in Indian construction projects," *Int. J. Proj. Manag.*, 2012.
- [84] J. a Gliem and R. R. Gliem, "Calculating, Interpreting, and Reporting Cronbach's Alpha Reliability Coefficient for Likert-Type Scales," 2003 Midwest Res. to Pract. Conf. Adult, Contin. Community Educ., 2003.

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