A study on the effects of construction project delays in Somaliland construction industry

Adebayo Adeboye Fashina*, Funke Folasade Fakunle**, Mustafe Abdillahi Omar*

*Gollis University, Hargeisa, Somaliland

**AdeFolasade Management Systems Consults, Nigeria

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Corresponding author:
adebayofashina@gmail.com

Abstract

The aim of this study is to fill a significant knowledge gap by exploring the effects of delays in construction projects in Somaliland construction industry. Prior to the questionnaire design, a systematic literature review was conducted to identify five most common effects of delays in construction projects, globally. Based on simple random sampling approach, data was collected from 51 stakeholders from the different construction companies in Hargeisa using a questionnaire survey. Feedback from the stakeholders was analyzed using mean values and Relative Importance Index (RII) for ranking purposes. The results showed that legal action, cost overrun, and complete project abandonment are the three most ranked effect of delays in construction projects in Somaliland, respectively. The implications of these findings are very important as they provide practical, research, policy, and social values that expands the understanding the effects of project delay in global construction industry. This would allow impending academic researchers that might want to conduct research work in this area to validate their findings in the future. The major construction stakeholders are recommended to make use of the appropriate strategies needed to take proactive measures to mitigate the identified effects when executing future construction projects in Hargeisa and elsewhere.

Keywords: construction delay, construction projects, cost overrun, effects of construction delays, law suit, Somaliland construction industry

1. Introduction

When construction projects experience delay, the effects are frequently detrimental to the stakeholders (Fashina, Fakunle, & Opiti, 2020). Moreover, the effects of construction delays are said to be the aftermath of what happens when the reasons of delay are unidentified in a project (Aibinu & Jagboro, 2002). These effects typically have huge impact on the conclusion of a project (Aibinu & Jagboro, 2002; Meng, 2012; Odeh & Battaineh, 2002). Many researches have been carried out on the effects of construction delays (Aibinu & Jagboro, 2002; Haseeb, Bibi, & Rabbani, 2011; Haseeb, Xinhai-Lu, Bibi, Maloof-ud-Dyian, & Rabbani, 2011; Kikwasi, 2013; Owalabi et al., 2014; Sambasivan & Soon, 2007; Sun & Meng, 2009) and some selected works are be discussed here. One of these notable works is the work by (Sambasivan & Soon, 2007). The authors identified six effects of delay as cost overrun, time overrun, litigation, dispute, arbitration, and total abandonment (Sambasivan & Soon, 2007). In another work by (Ahmed, Syed M.; Azhar, Salman; Kappagantula, Pragnya; Gollapudi, 2003), the authors specified some effects of delays in construction project that include project refusal, cash flow problem, lawsuit, disbelief, settlement of a dispute between parties to a contract by a neutral third party and argumentative rapport.

Furthermore, in 2012, the effects of construction project delays in Tanzania was explored and ranked according to their impacts (Kikwasi, 2013). The author identified 14 of these delay effects and they were ranked as follows; time and cost overrun, negative social impact, resources wastages, arbitration, disputes, lead client to return the loans, poor quality, delay in making a profit for the owner, bankruptcy, litigation, create stress on contractors, total abandonment and acceleration losses (Kikwasi, 2013). Similarly, Ibironke et al. (2013) also revealed some effects that are the consequences delay in a construction project. The authors identified time overrun, cost overrun, disputes, total abandonment and litigation, arbitration, projects blacklisted by the authorities, acquisition of bad reputation, and time and money as the effects (Ibironke et al. 2013).

Focusing on material-related delays, Nwachukwu (2009) used a systematic approach to analyze the effect of material constraints on the successful management of construction projects in Nigeria. The author suggested that the behavior of a project client alongside the management team towards material resources management is vital since it often have its own consequences on achieving the project objectives (Nwachukwu, 2009). Specifically, the author indicated that delays in the procurement of construction materials can have negatively impact on construction activities and this normally leads to delay in attaining the project timeline (Nwachukwu, 2009).

In another research work carried out by Aibinu & Jagboro (2002), the authors explored the effect of the delivery of project in the construction industry of Nigeria and revealed the following as the major consequences of project delay; cost overrun, time overrun, project budgeted cost, work

exceeding schedule, disagreement, lawsuit, and total abandonment (Aibinu & Jagboro, 2002). A study by Kaming et al. (1997) focused more on one of the major effects of project delay. The authors conducted a comprehensive research that revealed that the cost overrun that happened when the manipulating factors on the thirty-one (31) multi-story projects studied in the Indonesian context is more severe when compared with the time overrun that occurred (Kaming et al. 1997). They also suggested that the major factors upsetting cost overruns can be traceable to the increase in material cost, as well as wrong assessment due to scarcity and availability (Kaming et al. 1997).

Amoatey et al. (2015) in their study on the analysis of delay causes and effects in Ghanaian state housing construction projects identified the critical effects of delays as cost overrun, time overrun, litigation, lack of continuity by client and arbitration. In 2016, (Santoso & Soeng, 2016) carried out a research work in Cambodia, where the top ten factors were found to be related to the contractor. They further show that rain and flood factors were also found to be significantly influencing on the key objectives of construction projects, which are time, cost and quality (Santoso & Soeng, 2016). In addition, out of the 21 identified effects from poor communication in construction projects, Gamil & Abdul Rahman (2018) found time overrun to be the effect that occur recurrently. Pinamang et al. (2018) in a recent work, found that the major effects of lack of scheduling in construction projects are delays and disruptions of construction projects.

After carefully examining the effects of construction project delay identified by selected researchers globally, the following are the main effects investigated in the current study; time overrun, cost overrun, dispute between parties, complete abandonment and law suit. Within this context, the aim of this study is to investigate the effects of delays in construction projects in the capital of Somaliland, Hargeisa. The identification and evaluation of the significant effects of delay factors is achieved through the collection of primary and secondary data before validating the data via the use of statistical methods. Moreover, the current paper further provides new insights that could guide construction stakeholders, decision-makers and policy-makers in the development and formulation of future strategies and measures that could help to prevent future construction project delays and its aftermaths. Future researchers or academics that might want to carry out similar research work in other part of Somaliland or elsewhere can use the results of the current study to validate their future results.

The first part of this study presents the background introduction on the effects of delays in construction projects alongside relevant studies that have been carried out in other countries. The second part provide details regarding the research methodology adopted in this study. The research findings obtained via the use of statistical tools are also analyzed and discussed in the third and fourth parts, respectively, before exploring the implications of the results in the fifth part of the

current paper. The concluding remarks and significant recommendations that could guide the formulation of evidence-based measures required to reduce the effect of delay factors on future construction projects in Somaliland and elsewhere.

2. Research methodology

A questionnaire survey approach was adopted in this study to explore the effects of delays in construction projects in the Somaliland construction industry. The current study utilized a quantitative research to acquire information and data from the target population through field sources. A sample size of 61 respondents was selected from a population of 70 using simple random sampling method, as suggested by (Krejcie & Morgan, 1970). In an effort to get genuine information directly from the respondents, structured questionnaires were designed based on the identified effects of delay in construction projects. However, to ensure that an accurate level of quality in the research instrument is attained in terms of its consistency and steadiness, a pilot survey was adopted. This was accomplished via a convenience sample of experts in the construction industry to review the questionnaire, individually, before the distribution of the questionnaires. A soft copy of the questionnaire was sent to one construction practicing experts and two paper copies of the questionnaire were given to two academics to validate the contents of the questionnaire, accordingly. Afterwards, their comments and suggestions were modified, before a final version and formulation of the questionnaire was reached.

The questionnaire distribution was mainly carried out among owners, consultants and contractors working in Somaliland construction industry. This was geared towards obtaining the primary data used in this study via self-administration. A total of five common effects of delay in construction projects were investigated in this study. Besides, these effects were rated in the current study based on the Likert's scale of 5 ordinal measures from 1 to 5 according to the level of importance (Allen & Seaman, 2007).

Following the administration of the questionnaires, the questionnaires were collected from the respondents after one week to ensure that the questionnaires were appropriately filled. Consequently, a reliability test was conducted for the collected data using the Cronbach's Alpha method (Cronbach, 1951). This was achieved by employing 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 (Cronbach, 1951):

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

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.

Before the analysis of the collected data using statistical tools, the information obtained from the respondents via the questionnaires was filtered, and entered into Microsoft Excel spreadsheets (2019 version). The processing of the data into the required information was geared towards reading and understanding the answer provided by the respondents. To achieve the aim of the study, Relative Importance Index (RII) was selected as a suitable analytical method (Doloi, Sawhney, Iyer, & Rentala, 2012). RII was thus used to analyze the ratings received through the questionnaires and establish a mean rating point. Each calculation was carried out using RII formula in Equation 2 (Doloi et al., 2012):

$$\textbf{Relative importance index, RII} = \frac{\sum \boldsymbol{W}}{\boldsymbol{A}\times\boldsymbol{N}} \qquad \textbf{(2)}$$

where W, represents the rating given to each delay effect by the respondents. For instance, 5 represents very high-median, 4 represents high-median, 3 represents average, 2 represents low-median and 1 represents very low-median. A is the highest weight (5 for this study) and N represents the total number of samples (48 for this study).

Furthermore, the study was carried out according to standard ethical practices required of any reputable academic research. Respondents were informed both orally and in writing concerning the objective of the study and their consents was established before completing the questionnaires. Besides, the respondents were further assured of confidentiality.

3. Results and data analysis

3.1 Survey results

Out of the 61 questionnaires that were distributed randomly among the target respondents, 51 (83.6 %) questionnaires were returned and 10 (16.4 %) respondents were unable to provide information. Of the 51 questionnaires returned however, 3 questionnaires were recorded invalid while 48 questionnaires were deemed valid (See Table 1).

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	61	10	51	48	3
2	100 %	16.4 %	83.6 %	94.12 %	5.88 %

Furthermore, Figure 1 shows that 52.1% of the respondents possesses between 5 to 10 years of experience, 37.5 % have less than 5 years of experience, 2.1 % have between 11 to 15 years of construction experience while the remaining respondents (8.3 %) are with the most years of experience (i.e. more than 15 years of construction of construction industry). Moreover, most of the respondents that participated in the questionnaire survey (Above 63%) are experienced construction practitioners which in turn added to the quality of the responses received from the respondents and the findings of the study.

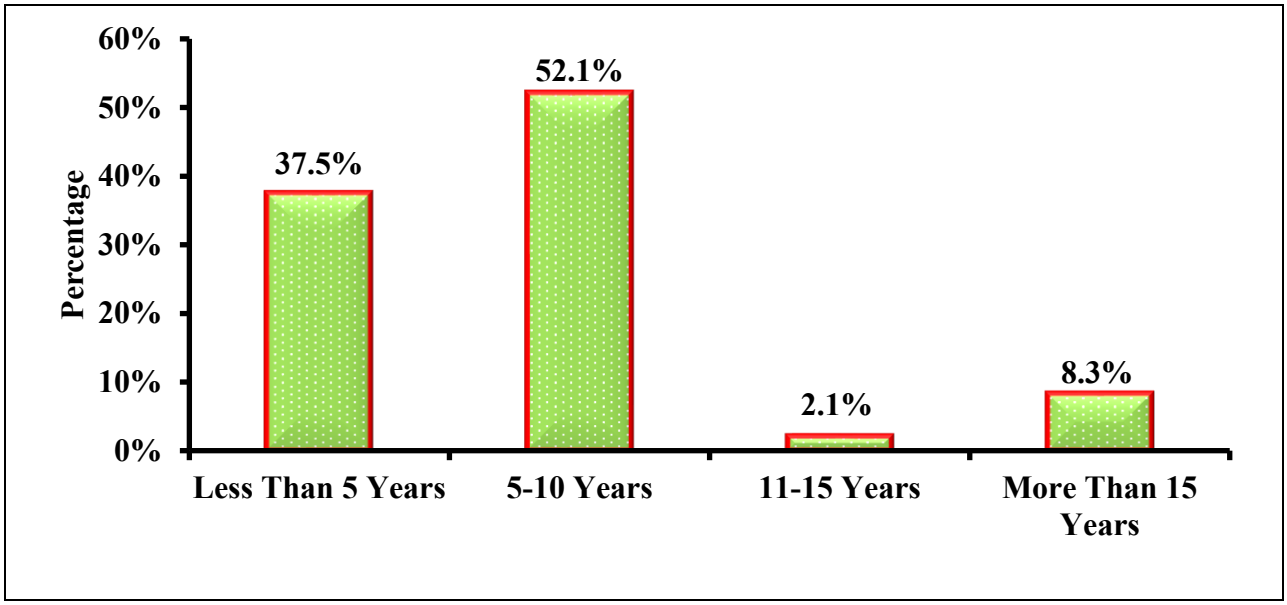

Figure 1: The respondents' years of experience in the construction industry

Figure 2 presents the percentage distribution of the knowledge of the respondents concerning the company's experiences with delay in executing construction projects. As depicted in Figure 2, 52.1 % of the respondents believes that their companies have experienced delay in 1 to 3 construction projects, 33.3 % of the respondents are certain that their companies have experienced delay in 4 to 6 projects, while 6.3 % of the respondents specified that their companies have

experienced delay in 7 to 10 construction projects However, four (8.3%) of the respondents indicated that their companies have experienced over 10 delays in construction projects. This can be traceable to the fact that, of all the 48 respondents, only four respondents (8.3%) have more than 15 years of experience in the construction industry (See Figure 1).

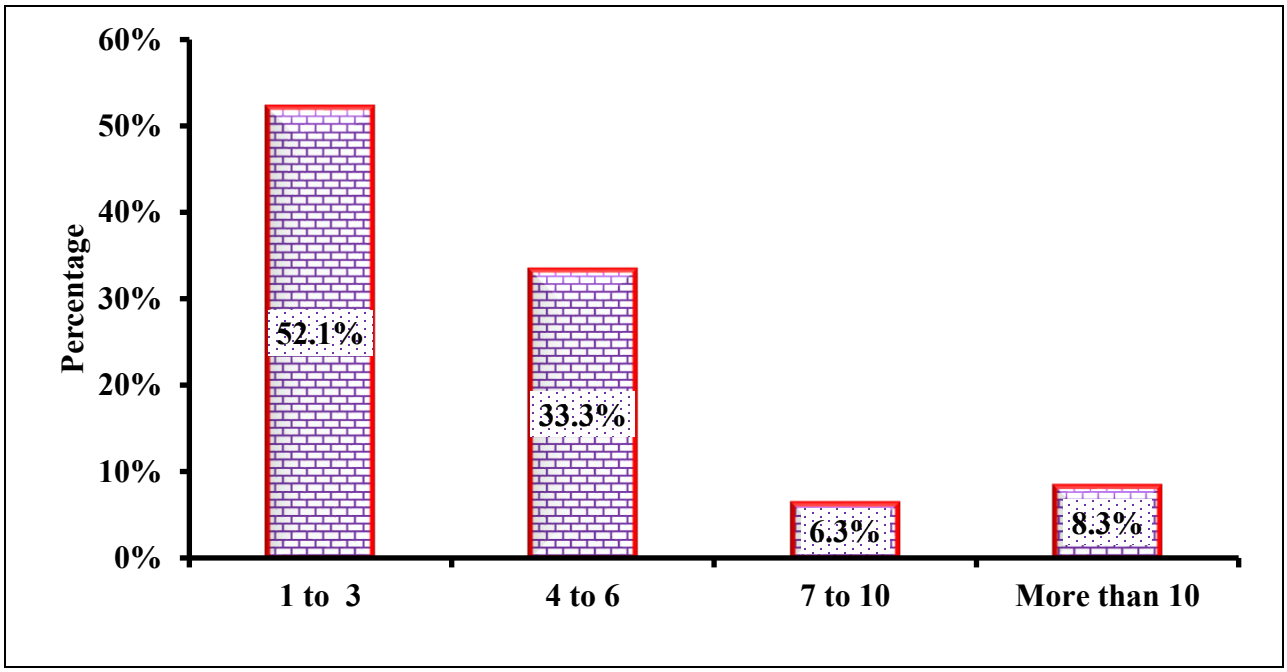

Figure 2: The knowledge of the respondents concerning the company's experiences with delay in executing construction projects

3.2 Cronbach's Alpha data reliability test

The results of the Cronbach's Alpha data reliability test were acquired prior to the data analysis in order to measure the internal consistency of the answers provided by the respondents, using the Likert's scale. Also, the internal consistency of the answers provided by respondents was determined based on the Cronbach coefficient obtained, using Table 2 (Gliem & Gliem, 2003). The results of the Cronbach's Alpha reliability test conducted for the answers received with respect to the five effects explored in this study show that the Cronbach's Alpha values is 0.744, indicating that the internal consistency of the questions in this study is good. This however implies that the answers provided by the respondents, concerning the identified challenges has an excellent reliability of 74.4 %.

Table 2: Internal consistency of Cronbach's Alpha

S/N	Cronbach's alpha, α	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

3.3 Analysis of the effects of delays in construction projects

The five effects examined in this study are ranked based on Relative Importance Index (RII) and Mean Value. To establish the level of importance of the different effects of delays in construction projects, the RII and Mean Value rankings are classified based on the RII classification table presented in Table 3.

Table 3: Classification of RII

Scale	Importance level	RII
1	Very low-median	$0.0 \leq RII \leq 0.2$
2	Low-median	$0.2 < RII \leq 0.4$
3	Average	$0.4 < RII \leq 0.6$
4	High-median	$0.6 < RII \leq 0.8$
5	Very high-median	$0.8 < RII \leq 1.0$

Table 4 presents the results of the survey analysis of the effects of construction delays in Hargeisa, Somaliland. As perceived by the respondents, Table 4 indicates that legal action or law suit (RII = 0.650) is the most significant effect of construction delays. Besides that, cost overrun (RII = 0.629) is ranked second most significant effect of delays in construction projects while complete abandonment (RII = 0.608) is ranked third most significant effect of construction delays in Hargeisa. Table 4 further shows that the top three significant effects of construction delay have a High-median level of importance. However, the level of importance (average) of time overrun (RII = 0.583) and dispute/disagreement between parties (RII = 0.588) indicates that they are the two least significant effects of construction delays in Hargeisa, Somaliland, respectively.

Table 4: The Mean Score Value and RII ranking of the effects of construction delays in Somaliland

S/N	Effect of delays in construction projects	RII	Mean value	RII & mean value ranking	Importance level
1	Time overrun	0.583	2.917	5	Average
2	Cost overrun	0.629	3.146	2	High-median
3	Dispute/Disagreement between parties	0.588	2.938	4	Average
4	Complete abandonment	0.608	3.042	3	High-median
5	Legal action or Law suit	0.650	3.25	1	High-median

4. Discussion

As perceived by the respondents, legal action or law suit is ranked as the most common effect of construction delays in Somaliland construction projects. This is similar to some of the related works on the effects of construction delays (Aibinu & Jagboro, 2002; Amoatey et al., 2015; Ibironke et al., 2013; Sambasivan & Soon, 2007), where law suit is ranked as one of the three top most significant effects of delay in construction projects. However, the choice of the respondents to rank legal action as the most significant effect of projects in the Somaliland construction industry can be traceable to the fact that majority of the contract agreements between the clients and contractors are not put into writing nor signed and this mostly leads to misinterpretation of building agreement or sometimes escalates into law suit. Nevertheless, this particular effect of construction delay is often detrimental to the contracting party (the owner).

Cost overrun was ranked by the respondents as the second most shared effect of construction delays in Somaliland construction projects. This validates the findings from the studies by (Aibinu & Jagboro, 2002; Amoatey et al., 2015; Ibironke et al., 2013; Sambasivan & Soon, 2007) that ranked cost overrun as one of the top two significant effects of construction delay on the delivery of project in different construction industries. However, researchers like (Aibinu & Jagboro, 2002; Kaming et al., 1997) believes that the occurrence of cost overrun in construction projects is often more severe that time overrun, as in the case of the current study.

Respondents ranked complete abandonment as the third most common effect of construction delays in Hargeisa. This is justifiable because most times the Somaliland law courts are unable to settle the conflicts related to construction disagreement between the contractor and the building owners. This is as a result of the lack of regulations or laws for building construction that would have been a guide for the contractors as well as the law court to back their judgements (Sheikh,

Fakunle, & Fashina, 2020). The consequence of this is that once the building owner and the contractor are not able to reach a consensus, the entire project is totally abandoned.

Respondents were of the view that dispute/disagreement between parties is the fourth most common effect of construction delays in Somaliland construction projects. On one hand, this is actually surprising because according to the study carried out by (Sheikh et al., 2020), the authors indicated that the Somaliland court of law receives tens of law suit related to disagreement on building construction between owners and contractors. On the other hand, since most Somalilanders prefer oral contracts than properly documented contracts, dispute between this parties would be quite difficult to avoid, as such, one would have expected this effect of project delays to be ranked in the second position.

The respondents agreed that time overrun is the least significant effect of construction delays in Hargeisa. It is however, understandable because the contractor has to immediately return back to complete the project or abandon the entire project if no consensus is reached between the owner and the contractor. This can be linked to the fact that since there are no laws in place for building standards or codes alongside the lack of written contract between the owner and the contractor, there is no legal way for the government to judge who among the two parties is wrong or not (Sheikh et al., 2020). This in turn makes the owners to have no choice but to continue his/her project and as such leads to cost overrun if achieving the project objectives is paramount.

5. Implications

The implications of the results obtained in this research work are of high significance. First, in an effort to facilitate the timely delivery of future construction projects such as residential apartments, education buildings, hospitals, and other indispensable infrastructure for societal use, the findings from this study is expected to guide construction stakeholders and decision-makers on how to practically take measures to reduce or thwart probable effects of construction delays. This could therefore guide the development of long-term evidence-based strategies and policies for future construction projects, globally.

In terms of research implications, this current study fills the knowledge gap regarding the examination of the effects of projects delays in the Somaliland construction industry as it presents an organized and detailed document that serves as a guideline for future research related to construction project delays, particularly, in low- and medium-income countries. Besides, future academics and researchers can validate the findings of similar research work that would be carried in the future in other part of Somaliland or elsewhere using the outcome of this study.

Furthermore, since the effect of delay in construction projects are often universal, the findings from this study would help in the analysis of potential risks involved in the implementation stage of future construction projects. Moreover, the originality of the study comes from the fact that it provides an improved understanding on the effects of delay in construction projects by contributing insightful evidence that could guide fresh construction consultants and contractors entering into the global construction industry.

6. Conclusions

The current study has examined the common effects of delays in construction projects in Hargeisa, Somaliland. Five effects of delays in construction projects have been explored to effectively achieve the aim of the study. They include: times overrun, cost overrun, dispute/disagreement between parties, complete abandonment, and legal action/law suit. Using Cronbach's alpha reliability test, the internal consistency of the feedback from the questionnaire survey was tested and validated. The findings from the analysis in Table 4 revealed that these effects were ranked accordingly, as perceived by the respondents: legal action/law suit (1^{st}), cost overrun (2^{nd}), complete abandonment (3^{rd}), dispute/disagreement between parties (4^{th}) and time overrun (5^{th}).

The significant contribution of this study is that it expands the knowledge regarding the effects of construction project, particularly in the Somaliland context. The results obtained in the study are thus vital to major stakeholders within the global construction industry and as such could guide the formulation of medium- and long-term evidence-based measure that can help minimize or eradicate the effects of construction projects delay in low- and medium-income countries. This will in turn advance the construction industry's procedures and operations if effectively implemented.

Lastly, in order to significantly improve the future management of construction project delays and the associated effects, the following are practical recommendations relevant to the major stakeholders in the Somaliland construction industry and elsewhere:

- Proper communication and coordination with contracting parties must be encouraged by the building owners i.e. good communication channel should be utilized by the contracting parties to avoid delays and its effects (Kamanga & Steyn, 2013);
- In order to ensure that projects are delivered within the specified time, to the required quality, and most importantly to the estimated cost, contractors should manage financial resources and plan cash flow by progressively paying workers and suppliers and manage the budget contingency (Ika, 2012; Omar, Fashina, & Fakunle, 2020);

- Consultants (particularly, those with little experience) should be flexible in the evaluation of contractors' works without compromising the quality of works, and in turn learn in the process (Fakunle & Fashina, 2020) and;
- The government of Somaliland should make efforts to set up a building and construction codes/standards in the construction industry (Funke F. Fakunle, Opiti, Sheikh, & Fashina, 2020; Sheikh et al., 2020).

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Declaration of Conflicting Interest

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References

Ahmed, Syed M.; Azhar, Salman; Kappagantula, Pragnya; Gollapudi, D. (2003). Delays in Construction: A Brief Study of the Florida Construction Industry. *ASC Proceedings of the 39th Annual ASC Conference, Clemson University - Clemson, South Carolina (Vol.257)*.

Aibinu, A. A., & Jagboro, G. O. (2002). The effects of construction delays on project delivery in Nigerian construction industry. *International journal of project management*, *20*(8), 593-599. https://doi.org/10.1016/S0263-7863(02)00028-5

Allen, I. E., & Seaman, C. A. (2007). Likert scales and data analyses. *Quality progress*, *40*(7), 64-65.

Amoatey, C. T., Ameyaw, Y. A., Adaku, E., & Famiyeh, S. (2015). Analysing delay causes and effects in Ghanaian state housing construction projects. *International Journal of Managing Projects in Business*, 8(1), 198-214. https://doi.org/10.1108/IJMPB-04-2014-0035

Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika*, *16*(3), 297-334. https://doi.org/10.1007/BF02310555

Doloi, H., Sawhney, A., Iyer, K. C., & Rentala, S. (2012). Analysing factors affecting delays in Indian construction projects. *International journal of project management*, *30*(4), 479-489. https://doi.org/10.1016/j.ijproman.2011.10.004

Fakunle, Funke F., Opiti, C., Sheikh, A. A., & Fashina, A. A. (2020). Major barriers to the enforcement and violation of building codes and regulations: a global perspective. *SPC Journal of Environmental Sciences*, *2*(1), 12-18.

Fakunle, Funke Folasade, & Fashina, A. A. (2020). Major delays in construction projects: A global overview. *PM World Journal*, *IX*(V), 1-15.

Fashina, A. A., Fakunle, F. F., & Opiti, C. (2020). Exploring the common delay factors related to major parties involved in construction projects: A systematic review. *PM World Journal*, *IX*(V), 1-18.

Gamil, Y., & Rahman, I. A. (2017). Identification of causes and effects of poor communication in construction industry: A theoretical review. *Emerging Science Journal*, *1*(4), 239-247. https://doi.org/10.28991/ijse-01121

Gliem, J. a, & Gliem, R. R. (2003). Calculating, Interpreting, and Reporting Cronbach's Alpha Reliability Coefficient for Likert-Type Scales,. *2003 Midwest Research to Practice Conference in Adult, Continuing, and Community Education*. https://doi.org/10.1109/PROC.1975.9792

Haseeb, M., Lu, X., Bibi, A., Dyian, M. U., & Rabbani, W. (2011). Causes and effects of delays in large construction projects of Pakistan. *Kuwait Chapter of Arabian Journal of Business and Management Review*, *33*(832), 1-25.

Haseeb, M., Bibi, A., & Rabbani, W. (2011). Problems of projects and effects of delays in the construction industry of Pakistan. *Australian journal of business and management research*, *1*(5), 41-50.

Ibironke, O. T., Oladinrin, T. O., Adeniyi, O., & Eboreime, I. V. (2013). Analysis of non-excusable delay factors influencing contractors' performance in Lagos state, Nigeria. *Journal of Construction in Developing Countries*, *18*(1), 53.

Ika, L. A. (2012). Project management for development in Africa: Why projects are failing and what can be done about it. *Project management journal*, *43*(4), 27-41. https://doi.org/10.1002/pmj.21281

Kamanga, M. J., & Steyn, W. J. (2013). Causes of delay in road construction projects in Malawi. *Journal of the South African Institution of Civil Engineering*, *55*(3), 79-85.

Kaming, P. F., Olomolaiye, P. O., Holt, G. D., & Harris, F. C. (1997). Factors influencing construction time and cost overruns on high-rise projects in Indonesia. *Construction Management & Economics*, *15*(1), 83-94. https://doi.org/10.1080/014461997373132

Kikwasi, G. (2012). Causes and effects of delays and disruptions in construction projects in Tanzania. In *Australasian Journal of Construction Economics and Building-Conference Series*, 1(2), 52-59.https://doi.org/10.5130/ajceb-cs.v1i2.3166

Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities. *Educational and psychological measurement*, *30*(3), 607-610. https://doi.org/10.1177/001316447003000308

Meng, X. (2012). The effect of relationship management on project performance in construction. *International journal of project management*, *30*(2), 188-198. https://doi.org/10.1016/j.ijproman.2011.04.002

Nwachukwu, C. C. (2009). Client's constraining factors to construction project management success in Nigeria: a systems analytical approach. *International Journal of Development and Management Review*, *4*(1), 207-219.

Odeh, A. M., & Battaineh, H. T. (2002). Causes of construction delay: traditional contracts. *International journal of project management*, *20*(1), 67-73. https://doi.org/10.1016/S0263-7863(00)00037-5

Omar, M. A., Fashina, A. A., & Fakunle, F. F. (2020). The status quo of Somaliland construction industry: A development trend. *PM World Journal*, *IX*(V), 1-18.

Owolabi, J. D., Amusan, L. M., Oloke, C. O., Olusanya, O., Tunji-Olayeni, P. F., Dele, O., ... & Omuh, I. O. (2014). Causes and effect of delay on project construction delivery time. *International Journal of Education and Research*, *2*(4), 197-208.

Pinamang, P. A., Adu Gyamfi, T., Danso, H., & Ampofo Kwame, J. (2018). Schedule delay analysis of construction projects in Ghana: objectives, importance and effects. *Civil and Environmental Research*, *10*, 25-30.

Sambasivan, M., & Soon, Y. W. (2007). Causes and effects of delays in Malaysian construction industry. *International Journal of project management*, *25*(5), 517-526. https://doi.org/10.1016/j.ijproman.2006.11.007

Santoso, D. S., & Soeng, S. (2016). Analyzing delays of road construction projects in Cambodia: Causes and effects. *Journal of Management in Engineering*, *32*(6), 05016020. https://doi.org/10.1061/(ASCE)ME.1943-5479.0000467

Sheikh, A. A., Fakunle, F. F., & Fashina, A. A. (2020). The status quo of building codes and construction practices in Somaliland: practitioners' perceptions. *SPC Journal of Environmental Sciences*, *2*(1), 4-11.

Sun, M., & Meng, X. (2009). Taxonomy for change causes and effects in construction projects. *International journal of project management*, *27*(6), 560-572. https://doi.org/10.1016/j.ijproman.2008.10.005