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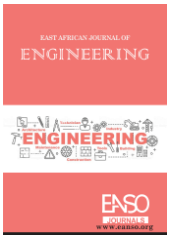

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Original Article

Delay Management as a Mitigation Strategy for Conflicts in Construction Projects in Kenya

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Construction Conflicts, Delay, Delay Conflicts, Delay Management, Project Harmony.

ABSTRACT

The problem of conflicts in construction projects is a fact that happens in many countries, one of which is conflicts associated ensuing from delays. Delay management is exceedingly arduous and remains ineffective as the majority of the construction projects are tardy in time performance. The study aimed to investigate the role of delay management in mitigating project conflicts caused by delay factors by examining the causes and management approaches to these delays during the project implementation process. Empirical evidence from a review of the literature has unveiled that delay conflicts have detrimental impacts. Consequently, understanding the causes of delay has become a critical component of improving the construction industry's performance. In Kenya, more than 70% of projects being executed are likely to increase by a factor of more than 50% over time. The study embraced a cross-sectional research design. Questionnaires were sent to randomly sampled consultants, contractors, and project developers. The data collected was then analysed using the Relative Importance Index (RII) and Spearman's rank correlation. The study established the inevitability of conflicts attributed to delays amongst project stakeholders, with delays in progress payments being the leading cause. Other factors in the top five list were; inadequate site management and control, delays in approving major changes in scope, materials price fluctuations, delays in handing over the site, and difficulties in financing the project. It is recommended that clients ensure that works are aptly planned and veritable costing executed during the pre-contract stage and that interim payment certificates are settled promptly within the defined time frame, both to avert invoking interest penalty clauses and also to promote better progress of the works, to ensure smooth completion. Additionally, the contractor should ensure proper planning and scheduling of the works, as well as effective site management and supervision. These results have significant consequences since they give practical, scientific, policy, and social values that contribute to a better understanding of delays and delay management from a global perspective.

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INTRODUCTION

This research aimed to gain a better knowledge of delay management and its role as a strategy for resolving delay conflicts in construction projects in Kenya by examining the reasons and approaches for managing delays that arise during the implementation of these projects. Building construction projects are an important part of life, with the construction sector forming a significant driver of the economy worldwide. Implementation of these projects continues to grow to meet the growing human need. However, due to the uniqueness of each project's structure, the difficult and protracted process of designing and building such projects is fraught with inherent risks that, if not handled, can result in perpetual conflict (Kingsley, 2015; Africa & Sachs, 2016). These parameters include the construction project's category, scope, geographic location, and manpower. As a result, several different parties are involved in the construction. Among them are developers and project financiers, contractors, consultants, equipment and material providers, etc. (Musonda & Muya, 2011; Serpella et al., 2014; Falcone, 2018). Leong et al. (2014) maintain that conflicts inevitably occur in construction projects due to the detailed and complex structure of the project cycle.

Due to these conflicts, projects are reportedly failing on all critical performance level measures, which according to Okaka (2019), include timely delivery of projects, budget, customer satisfaction, and quality. According to Kingsley (2015), conflicts in construction projects can damage relationships among participants, impeding the project's performance and success. Research by Mbatha et al. (2022) on the projects' harmony performance, as indicated by the projects' conflict levels, found it to be on average. Several scholars, including Talukhaba (1999), Kikwasi (2012), Indhu and Ajai (2014), Muhwezi et al. (2014), Adebayo et al. (2021), and Mbatha (2021) have identified delays as a significant contributor to dysfunctional conflicts in construction projects. According to Muhwezi et al. (2014), unresolved delays can increase construction costs and expose the projects to conflicts. Adebayo et al. (2021) assert that delay conflict is the most prevalent, costly, and noxious uncertainty inherent in both the public and private sectors of construction. There are multiple reasons for project delays, and determining the cause of the delays is critical for avoiding future claims and conflicts. The project's stakeholders can then steer their resources and energy toward the contextual variables that will aid them in managing the delays.

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Projects should ideally run consistently, with no delays or conflicts. However, a construction delay entails more than just re-planning and rescheduling. More than the inconvenience of going over the original plan and laying out countermeasures, both the client and the contractor will endure significant losses. All of this can be attributed to a single cause: an inability to deal with changes and minor delays (Ika, 2012). According to Ika (2012), construction delay conflicts reduce economic output, dwindling job opportunities, and dissuade foreign investors, implying that a stalled project will always have negative and detrimental consequences on the contract. Walker (1994) in Seboru (2015) investigated construction time performance in Australia and acknowledged that through enhanced productivity and efficiency, the construction sector might significantly contribute to strengthening economic competitiveness, therefore, safeguarding national prospects and attaining a sufficient growth rate. The advantages of such enhancements include increased attractiveness for investment in infrastructure projects and new plants. Numerous research studies have indicated that delays in various projects, particularly construction projects, can be significantly minimized via the rigorous adoption of project management concepts (Ika, 2012; Fashina et al., 2020). This assertion also holds for Kenya, reinforcing the need to closely monitor construction time performance for projects since the construction industry contributes tremendously to economic development and poverty alleviation.

PROJECT DELAYS PHENOMENON

Project delays are a global threat to contemporary construction. Delay, as used in construction, refers to a protracted time of construction and interruptions caused by events that break the construction schedule (Indhu & Ajai, 2014). This means an activity occurs later than anticipated, stipulated in a contract, or after the date agreed upon by the parties for the completion of a project. Fashina et al. (2020) describe delay as the slowing down of work without completely ceasing construction, which can result in time overruns either beyond the contract deadline or beyond the date agreed upon by the parties for project delivery. This study focuses on time overruns beyond the contract's completion date, regardless of whether an extension was requested. Unforeseen events during construction can lead to delays, increasing the time required to finish work or the work required to be completed within a set time frame (Gardezi et al., 2014). *Table 1* lists the types of delays and their causes according to Gardezi et al. (2014).

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Table 1: Construction Delay Phenomenon

Code	Delay Types	Explanation	Origin
OD	Owner related delays	• Attributable and consultant activities	• Participants' operations-based delays
CD	Contractor related delays	• Attributable to contractor activities	
TPD	Third-party related delays	• Attributable to factors outside the project participants' actions	
CD	Concurrent (dependent) delays	• Attributable to one activity's influence on another	• Time of operations - based delays
NCD	Non-concurrent delays	• Attributable to independent activities	
EDC	Excusable delay with compensation	• EOT and final compensation granted for delay	• Extension of time (EOT) and financial compensation based
ED	Excusable delay with no compensation	• Only EOT granted (no final compensation)	
NED	Non-Excusable delay	No compensation for either financial or EOT	

Source: (Author, 2020)

Construction Delay Conflicts and Liability Effects

In their study, Gardezi et al. (2014) imputed delays to clients, consultants, and contractors. The top three reasons for delays were late revision and approval of design documents, subcontractor work delays, and poor client communication and coordination of change orders. Delays attributed to contractors were ranked first, followed by client-attributed delays and, finally, delays attributed to consultants. The construction sector is characterized by unpredictability, volatility, and susceptibility to misunderstandings, all of which contribute to delays. Construction delays can negatively impact all project participants. It is, therefore in everyone's interest to avoid delays as much as possible in the first place and to reduce them if they do occur (Gardezi et al., 2014). Menesi and Hegazy (2008) classify delays into three distinct categories of responsibility, as illustrated in *Figure 1* below.

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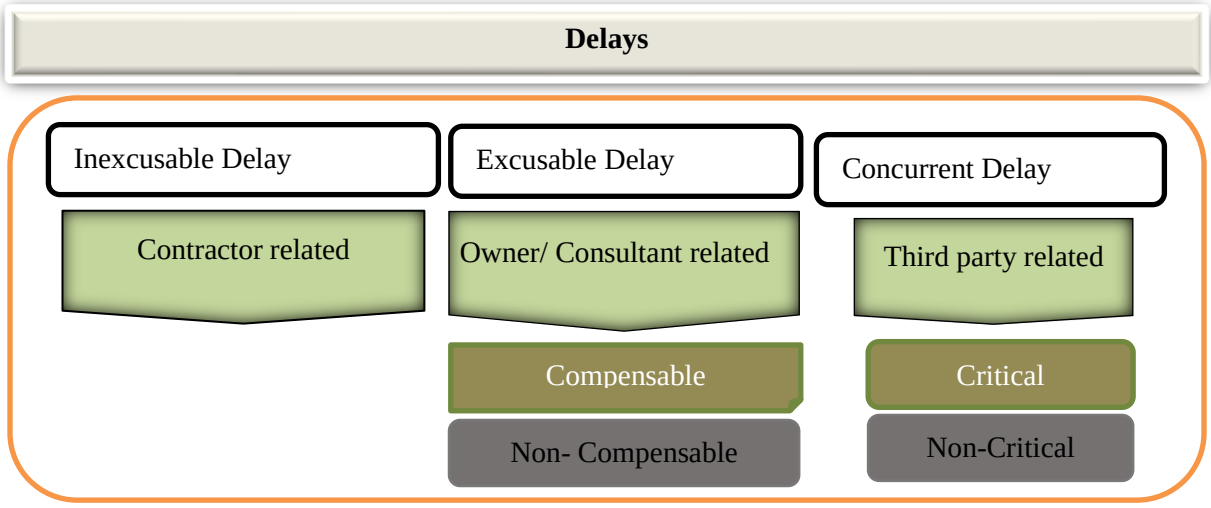
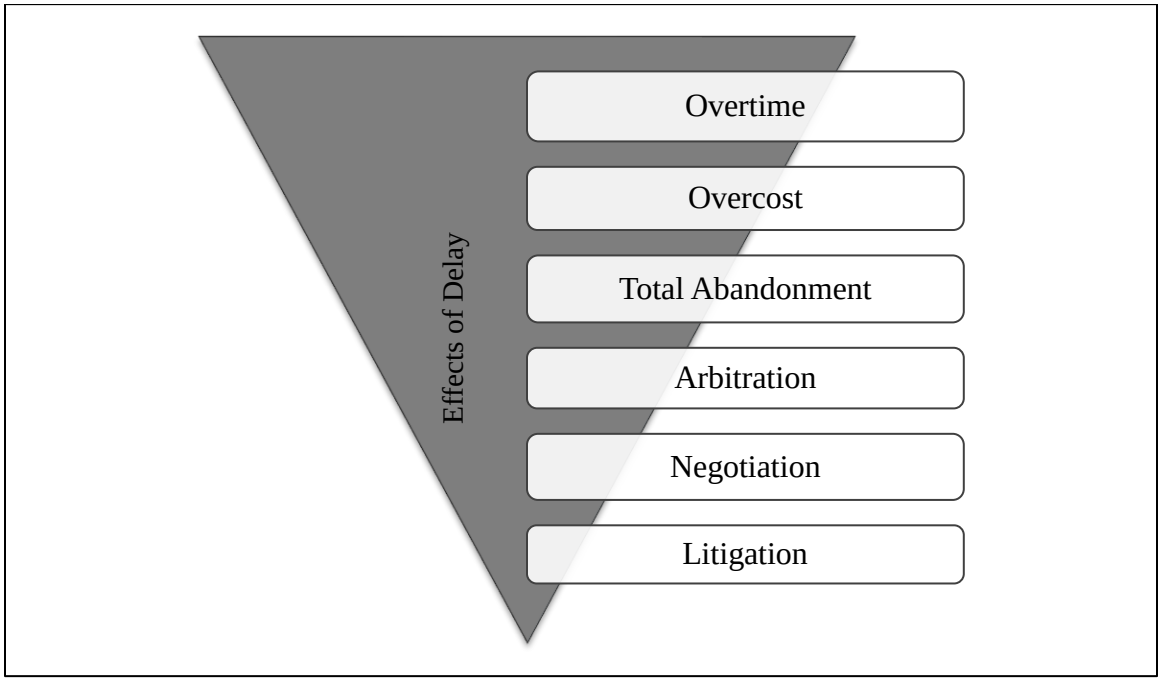
Figure 1: Types of project delays



Source: (Menesi & Hegazy, 2008)

These delays could have adverse effects on the construction implementation process, some of which include total abandonment of the project and in other cases conflicts that lead to litigation and lawsuits. *Figure 2* shows the findings of research by Sha et al. (2017) on the effects of project delays.

Figure 2: Effects of project delays in Construction projects



Source: (Sha et al., 2017)

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Delay Management

The body of knowledge contains limited empirically-based guidelines on how to handle construction delays. Managing building projects entails a significant amount of risk management. This entails planning, identification, analysis, development of risk management techniques, monitoring, and control. A competent and systematic risk management technique involves knowledge and expertise, and this responsibility primarily rests on the project manager (Serpella et al., 2014). According to previous studies in Chile, both owners and contractors do not consistently employ risk management strategies, negatively impacting project performance. Clients, consultants, and contractors should remove or minimize delays in their respective roles (Kikwasi, 2012).

Nonetheless, certain solutions have been proposed to mitigate the risks associated with building project delays. One of the recommended techniques for minimizing delays during the implementation phase of a construction project is the establishment of a comprehensive and robust project management strategy (Alotaibi et al., 2016). Kazaz et al. (2012) stated in a related study that reducing construction delays requires adequate funding until the project is completed. Furthermore, the study also underlines the need to hire a qualified consultant and a credible contractor. Burke (2013) highlighted in another study that five elements were important for reducing the probability of building project delays. These include resource availability, a proficient project manager; the composition of a multidisciplinary/capable project team; and a reliable estimate of the initial time schedule and cost.

According to Fashina et al. (2020), the more complicated the project, the less probable it is to be completed on schedule or within budget using traditional management methods. Most likely to be delayed are low-rise health care and hospital facilities, jails and security structures, stadiums, and railway stations. High-rise construction and sophisticated engineering projects are likewise unlikely to be completed on time, and the majority reported were anticipated to be severely delayed. Delays are a major hindrance to project success. Consequently, traditional management is no longer sufficient for project success (Serpella et al., 2014).

METHODOLOGY

This study adopted a quantitative technique. Quantitative data was contemporaneously collected on various variables. The researcher collected data using both electronic and manual questionnaires and a response rate of 77% was attained. Respondents were randomly selected from 30 consulting and 128 contracting organizations classified as NCA 1 to NCA 5 in Nairobi as the research site, based on their technical knowledge in construction, taking into account the project's size. It was critical to include consultants in the survey in order to minimize bias in the evaluation process and to acquire an objective viewpoint. These were deemed inextricably linked to project planning and delivery, including delay management, since they are the ones who created the blueprint for the project life cycle, hence enabling them to provide relevant and varied information to the study. Using the Likert scale, the relative importance index (RII) ranked the various causes of construction delays as shown in *Table 3*. The RII method was used to analyse the data collected from the questionnaire survey and the importance of a cause determined by its respective RII value.

$$\mathbf{RII} = \sum \frac{w}{\beta x N}$$

Equation 1

Where: RII = Relative Important Index; W = Constant describing the weighting assigned to each response; β = Highest possible weight; N = Total number of responses

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RESULTS AND DISCUSSION

Response Rate

Out of a total of 158 questionnaires distributed to respondents both manually and electronically, 122 were returned. This was equivalent to a response rate of 77%, as indicated in *Table 2* below.

Table 2: response rate

Stakeholders	No. of questionnaires issued	No. of questionnaires returned	Response Rate (%)
Consultancy firms	30	24	80
Building contractor firms	128	98	77
Total	158	122	77

Source: (Author, 2020)

Frequency of Project Delay Conflicts

In most construction projects, delays during projects undertaking have become the norm. Clients, consultants, and contractors all acknowledged that they had encountered delays to varying degrees in projects they were engaged. In particular, 78%, 70%, and 56%, respectively. This indicates the prevalence of delay conflicts in construction projects. A study on the frequency of conflict resolution among Project developers, consultants, contractors, sub-contractors, and material suppliers revealed that the rate of conflict resolution carried between the design team and contractor and between the developer and contractor for all the projects responded to was above average, with a mean of 4.63 and 4.31 respectively. The rate of conflict resolution between the design team and developer had a mean value of 3.58, which is an average performance. Finally, the rate of conflict resolution between the developer and material supplier and between contractor and sub-contractor was found to be below average, with a mean of 2.69 and 2.29, respectively, as presented in *Table 3* below. This indicates that the frequency of conflicts among these groups rated from the lowest to the highest is between; contractor and sub-contractor; developer and material supplier; design team and developer; developer and contractor; and design team and the contractor. Most of these conflicts were found to be delay related.

Table 3: Frequency of delay conflicts amongst selected groups

Project groups	Min	Max	Mean	Rank
Design team and contractor	2	5	4.63	1
Design team and developer	1	5	3.58	3
Developer and contractor	1	5	4.31	2
Developer and material supplier	1	4	2.69	4
Contractor and sub-contractor	1	5	2.29	5

Source: (Author, 2020)

Factors Influencing Delay Conflicts in Construction Projects

A total of 56 factors influencing construction project delays in Kenya were identified and evaluated in the study. These indicators were then classified into six categories, analysed, and ranked

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according to their Relative Importance Index (RII). Additionally, to determine the relative significance of delay factors, the RII rankings were categorised using the RII classification table shown in *Table 4*.

Table 4: RII Rankings

Scale Level	RII Expression
Very low	$0.0 \leq RII \leq 0.2$
Low	$0.2 \leq RII \leq 0.4$
Average	$0.4 \leq RII \leq 0.6$
High	$0.6 \leq RII \leq 0.8$
Very high	$0.8 \leq RII \leq 1.0$

Source: (Author, 2020)

Delay Factors Attributed to Clients/Owners

A study of factors of delay attributed to clients or owners indicates that delays in honouring progress payment (RII = 0.832) are the most often cited cause of project delay in terms of its degree of contribution. Besides that, delays in handing over the site (RII = 0.793), and change orders by owner (RII = 0.789), both attributed to the client or project developer, were placed in the second and third ranks, respectively in this category. Despite the following factors having their degree of influence to project delays in the scale level rated high, they were the least critical aspects of delay causes ascribed to clients or project owners. These are; incomplete project documentation before the commencement of the project (RII = 0.626), late revising and approving design documents (RII = 0.638), and slow decision-making process (RII = 0.645), respectively.

Table 5: Owner-related delay conflicts

Code	Causes of delay conflicts attributed to owners	RII	RII rank	Scale Level
OD1	Delay in handing over a site	0.793	2	High
OD2	Delays in progress payments	0.832	1	Very high
OD3	Late in revising and approving design documents	0.638	9	High
OD4	Compensation issues	0.658	7	High
OD5	Change orders by the owner during construction	0.789	3	High
OD6	Late delivery of material	0.765	4	High
OD7	Incomplete project documentation before the commencement of the project	0.626	10	High
OD8	Contractual claims	0.685	6	High
OD9	Slow decision-making process	0.645	8	High
OD10	Suspension of work by the owner	0.712	5	High
OD11	Poor communication and coordination	0.765	4	High
OD12	Joint-owners conflicts	0.645	8	High

Source: (Author, 2020)

Delay Factors Attributed to Contractors

The major causes of project delays related to contractors, as presented in *Table 6* below, were inadequate site management and control (RII =

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0.808), constraints in project financing (RII = 0.793), and unqualified contractor technical personnel (RII = 0.783).

Table 6: Contractor-related delay conflicts

Code	Causes of delay conflicts attributed to contractors	RII	RII rank	Scale Level
CD1	Delays in site mobilization	0.741	5	High
CD2	Rework owing to construction mistakes	0.638	10	High
CD3	Late delivery of material	0.718	7	High
CD4	Constraints in financing project	0.793	2	High
CD5	Incompetent contractors	0.741	5	High
CD6	Frequent changes of sub-contractors	0.690	9	High
CD7	Poor communication and coordination	0.690	9	High
CD8	Accidents during construction	0.585	12	Average
CD9	Poor understanding of the project	0.620	11	High
CD10	Multiple projects by contractors	0.706	8	High
CD11	Inadequate site management and control	0.808	1	Very high
CD12	Inappropriate construction methods	0.725	6	High
CD13	Ineffective project planning and scheduling Unqualified	0.769	4	High
CD14	contractor technical personnel	0.783	3	High

Source: (Author, 2020)

Under the category of factors of delay attributed to the contractor, the study found the following factors as having the least degree of contribution significance to construction delays; accidents during construction (RII = 0.585) with an average scale level of contribution to construction delays, poor understanding of the project (RII = 0.620), and rework owing to construction mistakes (0.638), both with a large scale of contribution to delays.

Delay Factors Attributed to Consultants

The study found delays in approving substantial modifications to work scope (RII = 0.802), inadequate communication plan and collaboration (RII = 0.789), and inaccurate time (RII = 0.753) as the most impactful delay factors attributed to consultants.

The two least impactful factors of delay attributed to consultants had a high-scale level of influence on construction delays, just like the case with the project owner-attributed delay category. These include delays in producing design plans (RII = 0.615), and errors and inconsistencies in design documents (RII = 0.636), respectively.

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Table 7: Consultants-related delay conflicts

Code	Causes of delay conflicts attributed to consultants	RII	RII rank	Scale Level
CR1	Delays in producing design plans	0.615	9	High
CR2	Errors and inconsistencies in design documents	0.636	8	High
CR3	Delays in approving substantial modifications to work scope	0.802	1	Very high
CR4	Inadequate communication plan and collaboration	0.789	2	High
CR5	Changes in schedule and design documents	0.695	6	High
CR6	Inaccurate cost estimation	0.722	4	High
CR7	Inaccurate time scheduling	0.753	3	High
CR8	Procurement problems	0.712	5	High
CR9	Poor understanding of the project	0.653	7	High
CR10	Inadequate experience of the consultant	0.789	2	High

Source: (Author, 2020)

Delay Factors Attributed to Materials and Equipment Suppliers

From *Table 8* below, Material price fluctuations (RII = 0.796), scarcity of high-tech mechanical equipment (RII = 0.774), and delay in material delivery from late procurement (RII= 0.765) were the three most influential factors of delay attributed to materials and equipment suppliers in that order, as indicated by the relative importance index (RII).

Under the material and equipment supplier attributed category, the three factors that contribute the least to delay are: damage to sorted material when they are urgently required (RII= 0643), delayed decision of finishing materials due to a wide variety of types in the market (RII= 0.668), and inadequate equipment-operator expertise (RII=0.680) respectively. These were also found to have a high degree of contribution to construction delays at the scale level.

Table 8: Material and equipment suppliers delay conflicts

Code	Causes of delay conflicts attributed to Materials and equipment suppliers	RII	RII rank	Scale Level
MR1	Delay in material delivery from late procurement	0.765	3	High
MR2	Changes in material types and specifications during construction	0.718	6	High
MR3	Materials price fluctuations	0.796	1	High
MR4	Delay in the production of specialized construction materials Damage to sorted materials when they are urgently required	0.761	4	High
MR5	The delayed decision of finishing materials due to the wide variety of types in the market	0.643	10	High
MR6	Scarcity of high-tech mechanical equipment Equipment breakdowns	0.668	9	High
MR7	Inadequate equipment-operator expertise	0.774	2	High
MR8	Low equipment productivity and efficiency	0.705	7	High
MR9		0.680	8	High
MR10		0.732	5	High

Source: (Author, 2020)

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Delay Factors Attributed to Manpower

The study found lack or scarcity of manpower (RII =0.769) to be the most often cited cause of project delay. Additionally, the deficiency of skilled labour (RII = 0.765) is ranked second in this category, followed by interpersonal conflicts between labourers (RII = 0.651). Although they all contribute significantly to project delays, respondents identified labour strikes (RII = 0.623) as the least significant manpower-attributed source of delay. This is illustrated in *Table 9*.

Table 9: Manpower-related delay conflicts

Code	**Causes of delay conflicts attributed to manpower**	**RII**	**RII rank**	**Scale Level**
LD1	Lack/ scarcity of manpower	0.769	1	High
LD2	Labour strike	0.623	4	High
LD3	Interpersonal conflicts	0.651	3	High
LD4	Deficiency of skilled labour	0.765	2	High

Source: (Author, 2020)

Delay Factors Attributed to External Factors

As shown in *Table 10*, the three most influential delay factors associated with external factors are adverse environmental conditions (RII = 0.774), changes in weather patterns (RII = 0.753) and accidents during construction (RII = 0.714), respectively. Delay in obtaining permissions (RII = 0.663) was the least contributor. However, its scale level was high.

Table 10: External factors related delay conflicts

Code	**Causes of delay conflicts attributed to External factors**	**RII**	**RII rank**	**Scale Level**
ED1	Adverse environmental conditions	0.774	1	High
ED2	Change in weather patterns	0.753	2	High
ED3	Delay in securing permits	0.663	6	High
ED4	Accidents during construction	0.714	3	High
ED5	New government laws, policies, and regulations	0.701	4	High
ED6	Delay in the provision of services by utility service providers	0.682	5	High

Source: (Author, 2020)

The Overall Ranking of Construction Delay Factors

The most critical factors impacting construction project delays in Kenya may be determined using the RII ranking of the 56 factors that were assessed and analysed. The RII ranking ranged from 1 to 42 since some rank positions had multiple delay factors with the same RII value. Subsequently, the top ten list of significantly impactful factors of delay in Kenyan construction projects had a total of 18 factors, out of which five are attributed to project owners, four are attributed to the contractor, consultants, as well as materials and equipment suppliers have each three attributed factors, while labour and external factor attributed factors are two and one, respectively. Figure 3 below shows the overall RII ranking of delay factors attributed to the respective project stakeholders as coded from *Tables 5 to 10* above. The top ten impactful factors are (1) delay in progress payments (RII = 0.832), (2) Inadequate site management and control (RII =

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0.808), (3) Delays in approving major changes on scope (RII = 802), (4) Materials price fluctuations (RII = 0.796), (5) Delay to hand over the site, and Difficulties in financing project (RII = 0.793), (6) Change orders by the owner during construction, Poor communication plan and coordination, and Inadequate experience of the consultant (RII = 0.789), (7) Poor qualification of the contractor's technical staff (RII = 0.783), (8) Shortage of high-tech mechanical equipment, and Adverse environmental conditions (RII = 0.774), (9) Lack or scarcity of manpower, and Ineffective planning and scheduling of project (RII = 0.769), (10) Late delivery of material, Poor communication and coordination, Deficiency of skilled labour, and Delay in material delivery from late procurement (RII = 0.765). To validate the study's findings, these significant factors were reviewed and compared to similar and pertinent research conducted in other countries.

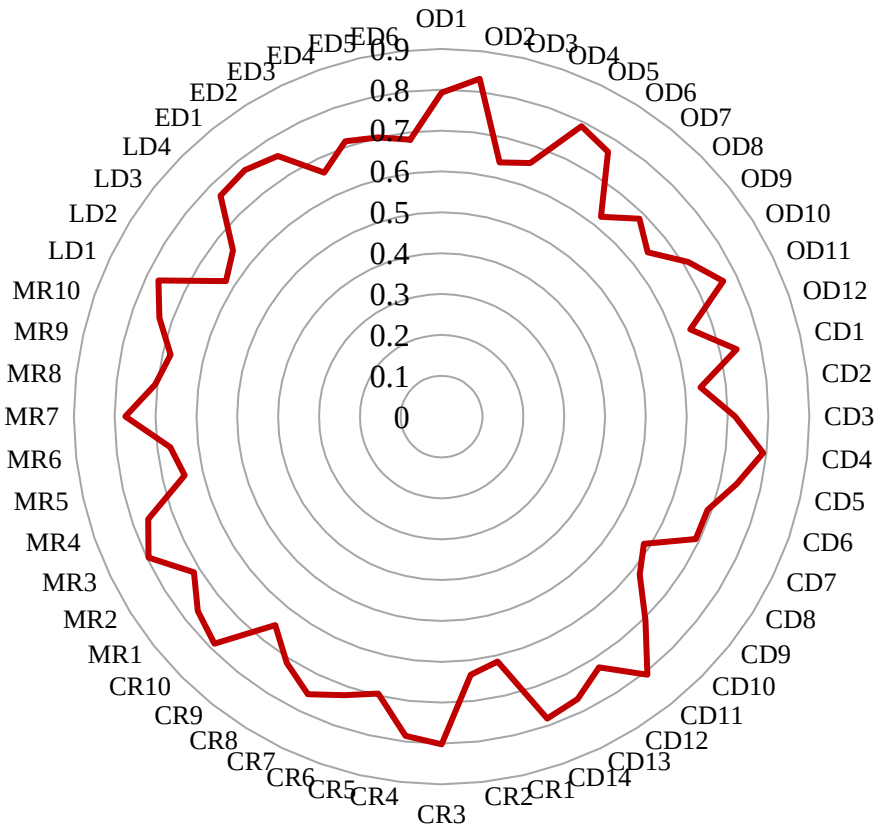

Fig. 3: Overall profile for construction delay factors
Source: (Author, 2020)

Respondents ranked delays in honouring progressive payments, delays in approving major changes on scope, materials price fluctuations, and constraints in project financing as the first, third and fifth most pressing causes of delay in construction projects in Kenya. This validates the findings of Gebrehiwet and Luo (2017); Adebayo et al. (2021), that ranked delays in honouring payment progressively, difficulties in which clients finance and pay for work done, and delays in approving major changes on the scope as part of the critical factors influencing building project delay in Ethiopian and Somaliland construction projects respectively. However, Gebrehiwet and Luo (2017) observed that any type of financial shortfall among contractors might result in a range of problems,

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including inadequate work progress, reductions in personnel output, and inability to source materials, tools and equipment, or manpower for the project. To resolve this, however, contracting parties should attempt to mitigate this risk by utilizing project management concepts such as a rigorous cost management strategy, risk management plan, or liquidity projections.

Poor site management and underestimation of the project timeframe will undoubtedly result in delays. Nevertheless, straining the workforce to compensate for unforeseen time may result in physical stress on the part of the workforce, resulting in rework and cost overruns on the project (Zhou et al., 2015). The project will succeed if the workers improve in quality and efficiency. Conversely, most construction workers in Kenya are untrained and come from remote or rural locations. A study by Memon (2014) indicated that clients with financial difficulty frequently change designs or project scope, causing delays in decision-making that ultimately affect project completion deadlines. To tackle this issue, project management techniques such as expert opinion and experience, workshops, and change control systems should be used. Using an expert consultant might also assist reduce design errors. Based on the findings of this research, the study made recommendations aimed at improving future construction project delay management techniques and operations.

CONCLUSIONS

Delays are inevitable, but how the project manager responds to them can make or break the project's success. When delays are successfully detected and analysed, they can be minimized or avoided. The need for proper and timely financial resource provision in building construction project management cannot be overstated. Everything hinges on adequate finance. Insufficient financial flow affects everyone and everything associated with construction. Wage non-payment or irregularity causes not just project delays but also worker morale. Subcontractors, suppliers, and their employees are also impacted.

This study's key contribution is a better knowledge of delays and delay management in the Kenyan construction industry. The findings of this study are significant to global construction sector stakeholders. The study could help generate longstanding evidence-based measures/strategies to alleviate construction project delays and optimise industry procedures and operations. The following recommendations were made based on the research findings to improve construction project delay management:

Consultant Related Recommendations

- As an intermediary between client and contractor, consultants must promote efficient communication and coordination among project stakeholders.
- Any design flaws made by consultants must be immediately remedied to avoid delays in the progress of activities.
- The consultants should conduct adequate site investigations during the feasibility study and conceptual design phases to prevent suspending work during the building phase to address design issues.
- The consultant should ensure that a competent representative is on-site to make timely binding judgments and to measure work prior to covering to ease the preparation of interim payment certificates.
- It is the lead consultant's responsibility to provide timely, accurate, and adequate communication with all stakeholders over the contract period.
- Before suggesting a contractor for a project, the consultants should do appropriate scrutiny and due diligence to verify that the proper contractor

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with the requisite competencies is chosen from the bids.

Contractor Related Recommendations

- To acquire a competitive edge, contractors should pay particular attention to the assignment's requirements throughout the pre-contract and bidding phases.
- Contractors should make certain that they have a feasible cash flow to complete the works and should not divert funds from the project to non-project tasks in order to avoid cash shortages during the execution of the works.
- The contractor should provide excellent planning, scheduling, and effective site administration and management in order to monitor critical operations and finish tasks on schedule and within budget.

Client Related Recommendations

- Clients should ensure that interim payment certificates are paid on time to avoid interest penalty provisions and to expedite the completion of activities.
- To avoid delays, clients must ensure that their requests for design changes do not interfere with vital activities.
- All change order requests must be examined for impact on work quality, scope, complexity and cost, claim risks, and work disruption to avoid avoidable disputes and litigation.
- Clients should ensure proper pre-contract planning and costing to avoid intermittent work suspensions.

External Related Recommendations

All project stakeholders should focus on working together to resolve all conflicts during construction to prevent delaying the project's completion due to litigation. All stakeholders must ensure effective planning for unforeseen events that may cause delays, increased costs, property damage, and injury to project participants.

This study significantly contributes to the advancement of knowledge in construction project management, particularly in the Kenyan context. The results of this study are consequently imperative for the key stakeholders in the global perspective of the construction industry, and thus could the formulation of a medium and long-term framework for mitigating or eradicating construction conflicts attributed to delay factors. This will in turn, improve management of construction projects through advanced operations and techniques.

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