

1 External Components of Premature Construction Project 2 Closure

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8 Abstract.

9 Construction projects failures are often attributed to the slackness of different
10 project stakeholders. However, it is important to note that the success or failure
11 of construction projects can span from characteristics that could either be internal
12 or external to the project. Thus, this study explores the elements external to a
13 construction project that can lead to premature closure. Data for the study was
14 gathered through a survey of construction professionals within the Gauteng
15 Province of South Africa. The questionnaire survey was designed to collect data
16 pertinent to achieving the aim of the study. The data gathered was analysed using
17 descriptive analysis to rank the measured factors. The results revealed that
18 environmental, social and political considerations are the important elements that
19 lead to the failure of construction projects and lead to premature closure. It was
20 therefore concluded that before project take-off, various environmental forecast
21 and analysis should be conducted to reduce the probability of project flow
22 interruption, thus reducing the risk of closing projects prematurely.

23 **Keywords:** Project external factors; Project failure; Project success;
24 Construction projects; Premature project closure.

25 1 Background

26 Construction projects are controlled by a budget, schedule, as well as a scope of work
27 which are set for a specific purpose to be achieved within a stipulated period. However,
28 some projects do not end successfully as they might have to be terminated before their
29 goals and objectives are met [1]. Youker [2] argued that the success or failure of a
30 construction project often depends on the environment. Similarly, Arman [3] also
31 pointed out that factors that may lead to premature project closure may be internal or
32 external to the project. Kuye [4] submitted that a project is doomed if it is managed in
33 isolation from its environment. It is therefore essential to study, analyse and gain a
34 perfect understanding of construction project environment in order to effectively and
35 strategically plan for all possible external anomalies that could affect the project [4].
36 The volatility of the present-day business environment significantly affects
37 construction projects and dominantly poses a risk of project failure even before projects

38 are commenced [5]. This means that construction project management team must
39 ensure there are smooth relations with all environment dynamics that can affect project
40 decisions, directions, actions, size, health, profitability and performance [6].

41 To ensure uninterrupted progress in construction projects execution, Bennett [7],
42 advocates that construction project leaders must essentially be cautious of external
43 environmental factors. It is also important to note that the more volatile a project
44 environment is, the greater the risk of project failure [6]. Numerous projects have been
45 affected and subsequently shut down because of external surrounding issues including
46 environmental, social, political, economic, climatic as well as geological conditions [5].
47 In view of this, the current study was channeled to examine the elements external to a
48 project that can cause premature project closure.

49 Social influence on projects is on the increase with major concerns on the quality of
50 their immediate built environment. Although securing necessary documentation and
51 approval from relevant parties is vital, it does not necessarily guarantee that the
52 immediate society where the project is located will not challenge or try to instigate
53 project shut down [8]. For instance, a local building council may approve a project
54 proposal to construct a high-rise building within a high-density residential area, but
55 residents may oppose such construction projects by claiming it would increase traffic,
56 noise, security threats, and destroy the unique character of the neighborhood [8]. In
57 addition, economic changes affect all national sectors and the construction industry is
58 no exception. Construction projects could get stranded if credit insurance becomes
59 increasingly tough to obtain, thus causing construction companies which are heavily
60 reliant on financial institutions for capital funding to experience difficulties which in
61 some extreme cases, causes bankruptcy [9].

62 Due to political differences, government policies are bound to change, which will
63 affect different phases of a construction project as well as project duration. Government
64 instability usually can bring about premature project closure especially in large scale
65 projects [8]. The government is a very important stakeholder in the construction
66 industry as it usually can be the construction client, funder, economy regulator, and
67 construction environment regulator. Regulating the construction environment gives the
68 government power to influence any development and building approval processes and
69 enforce compliance within the stipulated regulations [8]. Sunjka [10] forwarded that
70 when there is a change in government, policies are bound to also change which might
71 cause certain projects to close prematurely. For instance, a change in monetary policy
72 will affect the cost of construction materials and equipment. In such cases, contractors
73 might find it extremely difficult to continue with the project at the agreed cost which
74 might, in turn, lead to premature project closure. Similarly, Doraisamy [11] submitted
75 that government policies are not always consistent, thus bringing lack of accountability.
76 Moreover, the government is known for corruption, which affects the construction
77 industry and its projects.

78 According to El-Rayes [12], construction projects are sensitive to change in weather
79 conditions, which often leads to a substantial loss in efficiency as well as output, and
80 in some rare cases, premature project closure. Since construction projects are executed
81 usually in an outdoor environment, projects must be subject to Environmental Impact
82 Assessment. All construction projects in any geographic location are subject to different

83 types of natural disasters such as windstorms, volcanoes, earthquakes, flood and other
 84 hazards. Since the occurrence of such incidence cannot be precisely predicted, their
 85 impact on projects must be well understood in order to take necessary assertive actions
 86 [13].

87 **2 Research Settings**

88 The concise theoretical background of this study has discussed various external
 89 components that can lead to premature project closure in line with the objectives of the
 90 study. Hence the study was channeled to follow a descriptive nature. The quantitative
 91 model was adopted and thus survey was the appropriate tool for collecting the primary
 92 data for this study. A five-point Likert scale structured questionnaire was used to collect
 93 data with the sole purpose of achieving the objective of the study. Primary data was
 94 sourced from built environment professionals in Gauteng Province of South Africa. A
 95 total of 120 questionnaires were distributed and 82 was retrieved and deemed useable
 96 for this study after they were checked for completeness. The data collected through the
 97 questionnaire were analysed using mean item score (MIS) and presented in tables as
 98 shown in the succeeding section of this paper.

99 **3 Findings**

100 Background data collected revealed that 47.56% of the respondents are Civil Engineers,
 101 21.95% are Construction Project Managers, 12.20% are Quantity Surveyors, 9.76% are
 102 Architects, 6.10% are Contracts Managers and 2.44% are Project Managers.
 103 Distribution of the respondents based on the length of work experience in the
 104 construction industry shows that 64.63% has 1-5 years of experience, 30.49% has 6-10
 105 years of experience while 4.88% has above 10 years of experience in the construction
 106 industry. 61.11% of the respondents worked in the private sector, 32.94% of the
 107 respondents worked for both private and public sectors while 6.15% of the respondents
 108 worked in the public sector. The background information reveals that the respondents
 109 widely cut across different built environment professions and are engaged in different
 110 sectors of the economy. From this, it can be assumed that data collected in this study is
 111 reliable.

112 Table 1 ranks external components that contribute to premature project
 113 closure. From the table, it can be deduced that possible damage to the environment;
 114 weather conditions; social influences and natural disasters are at the top of external
 115 factors responsible for premature project closure with mean item scores of 3.78; 3.77;
 116 3.71 and 3.70 respectively. Since all components measured are above the average value
 117 of 3, it could be purported that all the elements are significant external factors that could
 118 easily lead to premature project closure.

119 **Table 1.** External components that contribute to premature project closure.

External components	Mean Item Score	Standard deviation	Rank
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Possible damage to the environment	3.78	0.754	1st
Weather conditions	3.77	0.708	2nd
Social influences	3.71	0.728	3rd
Natural disasters	3.70	0.732	4th
Political instability	3.55	0.834	5th
Disruptions caused by hostile activities (e.g. riots)	3.51	0.671	6th
Economic instability	3.40	0.664	7th

120 4 Discussion

121 Abbasi [14] agree with the results of the current study as it confirmed that possible
 122 damage to the environment and extreme weather conditions as possible causes of
 123 premature project closure. Furthermore, the construction industry conducts most of its
 124 projects outdoors, leaving the projects sensitive to weather conditions such as rainfall
 125 and sunlight. Results from the study conducted by El-Rayes [12] agree with these
 126 findings as it affirms that weather conditions may favour or sabotage a construction
 127 project. Too much rainfall may lead to a project being terminated before objectives are
 128 met, and too many sunny days may assist in swift completion. On the other hand, Uher
 129 [8] also noted that the society can push or delay a project, thus causing it to close
 130 prematurely. Sunjka [10] believe political instability can cause premature project
 131 closure in the construction industry.

132 The empirical findings and theoretical review of this study revealed that the
 133 construction industry is easily influenced by the geographical location of a project.
 134 Some geographic locations are more prone to natural disasters such as windstorms,
 135 volcanoes, earthquakes, floods and other hazards which can lead to premature project
 136 closure. In addition, weather conditions, social, economic and political influences may
 137 also easily cause a project to close prematurely. They could either lead to a project's
 138 objectives being met before the deadline or lead to a project being prematurely closed
 139 before objectives are met. Therefore, external environmental considerations are a very
 140 important part of project success. Since individual construction projects are part of a
 141 larger environmental system, it is imperative to take all necessary precautions to
 142 mitigate the effects of the surrounding physical and nonphysical environment on
 143 projects. Most importantly, various environmental forecast and analysis should be
 144 conducted as part of the project planning phase to reduce the probability of project flow
 145 interruption, thus reducing the risk of closing projects prematurely. In risk management,
 146 it is important to learn from past mistakes, this will help in making swift and better
 147 project decisions.

148 **5 Conclusions**

149 Construction projects cannot be carried out in isolation of its external environment as
 150 both the physical and abstract surrounding influences project progress and success.
 151 Since it is the ultimate goal of every project to successfully reach a state of completion
 152 with all project objectives achieved, it is imperative to take into consideration all
 153 components external to the project that may hinder the smooth completion of the
 154 construction project. In view of this, the study found that out that environmental,
 155 climatic, social, and political considerations are major external components that could
 156 determine the success of a construction project. Although construction projects cannot
 157 be completely void of environmentally or naturally occurring interruptions, they could
 158 be adequately managed in such a way that will reduce impacts on projects. Adequate
 159 forecast should be carried out and critically analysed in order to develop suitable
 160 strategies that could be deployed to mitigate the effects of these external components
 161 thus increasing the probability of project success.

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