



Contrasting Perceptions of Construction Managers and Project Managers Around Failure in Light of Morris and Geraldi's Institutional Context

Danstan Bwalya Chiponde^{1*}, Barry Gledson¹, and David Greenwood¹

Abstract

In their 2011 paper titled “Managing the Institutional Context for Projects” Morris and Geraldi raised the importance of the institutional context in the management of projects. Building on that, this study proposes the conceptualisation and understanding of project-related failure and success through an institutional perspective. This is based on an understanding that projects are distinctive, time-constrained, undertakings meant to generate benefits for all associated stakeholders whose perception of failure varies. Yet, little attention has been given to explaining how such perception is influenced by underlying institutional contexts. Therefore, the aim of the study was to examine the knowledge base for contrasting perspectives of project managers and construction managers around project-related failure in light of the institutional perspectives. To do this, a systematic literature review (SLR) approach was adopted. The first finding of note from this SLR is the dominance of interest in and from the UK Construction Industry (UKCI). This may be attributed to the culture and structure of the UKCI driven by the autonomy and authority of organisations such as the National Audit Office (NAO). The findings further reveal that in the general Project Management (PM) literature, considerations of failure are more introspective and discussed more in terms of project outputs with the causes associated with project management limitations. Considering the three levels discussed by Morris and Geraldi (2011) the PM perspective of failure and success can be associated with the technical level of analysis of project outputs. In contrast, the Construction Management (CM) literature focuses predominantly on specific failures, and on external failures. Causes are more attributed to profitability and the wider supply chain and this can be associated with Morris's strategic level focus on effectiveness and value. The results from this study call for a systemic approach by heeding the call of Prof. Peter Morris to consider the institutional context level in the perception and analysis of failure instead of solely focusing on output or technical level parameters of time cost and quality.

Keywords

Project Failure, Project Manager, Construction, Perception, Institutional Theory

^{1*}Faculty of Engineering and Environment, Northumbria University, Ellison Place, Newcastle Upon Tyne, UK, danstan.chiponde@northumbria.ac.uk (Corresponding Author)



Introduction

The need, noted by Morris and Geraldi (2011), to reflect on how best to deliver projects is as current now as it was then. This is because project successes, or lack thereof, impacts upon the performance of host organisations, and wider economic activities (Jensen et al., 2016; Schoper et al., 2018). Thus, key project actors such as project managers (PMs) and (specific to the construction sector) construction managers (CMs), are regularly required to review project progress to try and avoid failure (Jugdev and Müller, 2005). Unfortunately, project-related failures are frequent despite improvements in PM education and training (Morris and Geraldi, 2011; Sage et al., 2014; Shore, 2008). Yet, most prior research has focused on project success factors, and is particularly focused on the PM function itself (Jugdev and Müller, 2005) with analysis of the CM function being rarer (Turner and Zolin, 2012). This underscores the need for greater research into project-related failures in construction as this sector is vital for the wider growth of a country's economy (DBIS, 2013). Seemingly, the focus on upskilling the PM and tools may be associated with Morris and Geraldi (2011) technological and strategic strategies in managing projects which falls short of delivering projects successfully. In that regard, this study concurs with Morris and Geraldi (2011) in encouraging an institutional perspective for understanding and managing project-related failures. According to Morris and Geraldi (2011, p. 23) the institutional level, which takes a long-term approach to project performance, is *“primarily concerned with improving success not of a specific project, but of projects within the enterprise's own organisational environment—that is, projects in the parent organisations—or the wider environmental context within which the project is located, or both”*.

Therefore, in trying to analyse the separate perspectives of failure by PM and CM, institutional theory is considered. This aligns with recommendations by Levitt and Scott (2016) and Morris and Geraldi (2011) who argue against focusing on technological (project delivery and processes) and strategic (effectiveness and value) concerns in favour of a focus at the institutional level. This is unlike the assessment of project

failure via the client's objectives without particular attention to the wider actors in the supply chain such as contractor's profitability (Jugdev and Müller, 2005). Specifically, and for purpose of scoping, this study focuses on the stakeholders by assessing two key actors' (PM and CM) typical perspectives around failure under the following sub themes: a) their manifest understanding of failure; b) causes of failure, and; c) mitigation measures.

Past Studies on Success and Failure

Past studies reveal that project-related failures are mainly viewed simply as a non-achievement of the project outputs of time, cost and quality or the abandonment, or even the termination of a project itself (Liu et al., 2017; Pinto and Mantel, 1990). More recently however, project achievements are considered in relation to a triad of 'outputs', 'outcomes' and 'impact' (DBIS, 2010). Whilst outputs can be defined narrowly as the products delivered by a project (APM, 2019), they are also more broadly the results that are supplied by a system. Related definitions from Turner and Zolin (2012) and Baccharini (1999) advise project 'outputs' as including the newly built asset, and also the immediate and tangible project results measured at the end of a project in terms of time, cost, and quality. Project 'outcomes' are instead the new capabilities that are gained after investing in the project as a result of the project outputs (DBIS, 2010), whilst 'impact(s)' enable(s) project beneficiaries to do new things, solve problems and are mostly measured months or years post project completion (Turner and Zolin, 2012). Emphasising these distinctions, Baccharini (1999) contends that achieving project outputs is considered more as 'project-management' success whilst the realisation of outcomes and impact relates instead more to 'project' success. End-users tend to focus more on performance (outcome and impact) as 'project success' whilst the PM delivery team instead focuses on the project outputs achieved as measures of their 'project management success' (Baccharini, 1999; Turner and Zolin, 2012). Evidently, perceptions of project failure vary depending on



individual stakeholders' perspectives and the stages of the projects' life cycle (DeWitt, 1988; Gupta et al., 2019; Lim and Mohamed, 1999; Turner and Zolin, 2012). Factors influencing perception of failure include project complexity, size, number and type of stakeholders (Turner and Zolin, 2012) and professional background e.g., PMs, CMs, or even economists or accountants (Khang and Moe, 2008). Therefore, this study responds to Morris and Geraldi (2011) call for an institutional perspective to project management, more specifically on the perception and management of project-related failure. Furthermore, unlike past studies that mostly identify different stakeholders, project size and complexity as factors that influence the perception of failure, this study argues that institutional factors influence actors' perception of project failure. According to Morris and Geraldi (2011) institutional factors include politics, institutional-routines, norms and- values, social contracts and culture.

Theoretical Positioning: Influence of Institutions on Failure

In their work, Morris and Geraldi (2011) contend that unlike the typical perception and management of projects 'within' its business entity, a social context or the wider environment within which it is delivered should be considered. This aligns with earlier studies that acknowledge the influence of the external environment on organisational performance, leadership, behaviour and perception through cultural factors such as norms, values, structuring and routines (Hofstede, 2001; Schein, 2004). Accordingly, Schein (2004) cautions that "*Culture is an abstraction, yet the forces that are created in social and organisational situations that derive from culture are powerful. If we don't understand the operation of these forces, we become victim to them*". Thus, instead of focusing on the two levels: technological level (project delivery and operation), and; strategic level (associated with effectiveness and value), Morris and Geraldi (2011) propose the institutional context as a third level of project management. This is focused on creating an

environment for managing and delivering a project since projects are not delivered in a vacuum.

It should be noted that this study is focused on 'failure' rather than 'success' based on the following reasons: though the media may report on failures within the construction sector, success receives more attention compared to failure from researchers and project actors; failure can have devastating impacts such as death, serious injuries, financial loss and damage to property; and; as such, failures also offer more opportunities for learning than success (Desai et al., 2018). Therefore, building on Morris and Geraldi (2011) earlier work, this study contends that instead of viewing project failure via technological and strategic levels, a more holistic approach should be considered via the institutional context. Accordingly, the study adopts institutional theory as a lens for the perception and management of project-related failure.

According to North (1991), institutions are basically formed around sets of norms that arise from practice and interactions among individuals or professionals. These actors are perceived to interact with each other in an institutional field which is considered as an aggregate of organisations, individuals or actors that constitute an identified institutional life or area; such as suppliers, regulatory bodies, consumers and other similar service providers (Biesenthal et al., 2018; Levitt and Scott, 2016). In project management, such an institutional field may be related to the interaction of various institutions in the delivery process; these can include suppliers, regulatory bodies, contractors and professional bodies. In addition, project stakeholders in the technical or strategic level approach are mostly centred around the client (including its consulting team, sponsors etc) and the prime contractor's construction team with a primary concern of organising the supply of materials and efficiency (stakeholders around a project) (Morris and Geraldi, 2011). The category and list of institutional level actors in contrast is wider and may not be identified sufficiently in advance since it includes those outside and within the project. This is in line with DiMaggio and Powell (1983) who further provide the following factors influencing the composition of institutional level actors in a particular field or enterprise;

extent of interaction among organisations; level of interorganisational and partnering/coalition arrangements; information load and dependency that an organisation must contend with; level of mutual awareness among participants or organisations involved in a common enterprise or task. In other words, all project stakeholders are institutional level actors but not all institutional actors are stakeholders. Thus, the composition of institutional level actors is dependent on the context, task or nature of a project and is institutionally defined (DiMaggio and Powell, 1983; Morris and Gerald, 2011).

Though actors within an institutional field cannot be identified priori, the study categorises the various actors based on the three institutional pillars: regulatory-related (regulatory and government bodies), normative-related (professional bodies), and; cultural cognitive-related (peer contractors, suppliers and end-users). Therefore, focusing on failure, the influence of the institutions on PMs' and CMs' perception of failure can be appreciated from the three institutional pillars related organisations highlighted as follows:[d1]

Regulative Pillar - Levitt and Scott (2016) consider regulatory-related organisations such as government and regulatory bodies as the primary source of institutions in the form of regulations. Their influence is through coercion in order to encourage compliance. They manifest in the form of legal systems, or administrative structures as created by the means of national laws, legal agreements, or via regional or local entities such as financing firms. From a project's perspective, the Regulative Pillar can be associated with the rules and sanctions that are created in contractual agreements, that govern project parameters such as financial, performance, quality, environmental and health and safety related regulations. Accordingly, due to the influence of the Regulative Pillar, any perspective of failure is considered in relation to project outputs in trying to meet contractual obligations such as completing the project within the budgeted cost and

time allocations. Thus, the Regulative Pillar may be associated with Morris and Gerald (2011) technological level.

Normative Pillar - These institutions provide for moral order and comprise of values and preferred ends and means of how any stated values are to be pursued (Levitt and Scott, 2016). Normative pillar norms are diverse in nature since they are created by a number of social institutions which may include political, economic or professional bodies (Levitt and Scott, 2016). Mechanisms of influence under this pillar is through compliance, shared standards and sanctions. Examples include multi-skilling of PMs and provision of standards and project delivery methodologies by professional bodies such as the various bodies of knowledge (BoKs) (Sage et al., 2010). Failure under this pillar therefore is seen as a lack of compliance or not having met the desired level of training. This pillar conventionally focuses more so on addressing 'outputs' where the PM teams strive to deliver a project within the time, cost and quality parameters. Thus, the Normative Pillar can be associated with Morris and Gerald (2011) strategic level focused on effectiveness and value by relying on tools such as risk management and project management methodologies.

Cultural-Cognitive Pillar - According to Levitt and Scott (2016), these are norms which relate to the social order, such as shared beliefs. They are also developed over time and become embedded with resulting norms and assumptions being taken for granted. Similarly, the project environment involves teams of varying ideologies, professions and culture leading to subjective interpretation of project outcomes (Biesenthal et al., 2018; Levitt and Scott, 2016). These may include end-users and other stakeholders. Thus, the Cultural-cognitive Pillar, can be associated with the project outcomes and impact. Failure under this pillar also takes a moral perspective with blame being the

consequence (Levitt and Scott, 2016). Unlike organisational culture which is focused on the behaviour of individuals within an organisational setting, 'cultural-cognitive' refers to shared beliefs between groups or organisations in a particular setting. In addition, "*The pairing of cultural and cognitive stresses the bridge between subjective perceptions and interpretations on the one hand and wider shared semiotic systems of meaning on the other* (Levitt and Scott, 2016, p. 7).

Collectively, the three pillars can assist in elaborating Morris and Geraldi (2011) institutional context, and are associated with the institutional level for PMs and CMs to understanding project-related failures. For instance, the Cultural-cognitive Pillar highlights the need to meet functional and end-users' needs and collaboration amongst key supply chain actors. Besides that the PM and CM are required to respond to regulatory and normative requirements as observed by Levitt and Scott (2016) and Biesenthal et al. (2018). This is unlike the technological and strategic levels which focus solely on the Normative Pillar via project management. This is evidenced by emphasis on: ideals of 'best practice' such as the PMBoKs; PM tools, techniques and models such as lean construction, and; external standards such as the quality ISO9001 standards whose adequacy has been questioned since projects still experience failures (Hodgson and Cicmil, 2006; Maylor et al., 2006; Sage et al., 2010). Hence, this study proposes a more holistic perspective of failure by appreciating the influence of the three pillars since failure is influenced by several other social institutions or entities (Sage et al., 2013, 2014; Bresnen, 2016).

Methodology

A systematic literature review (SLR) approach, as described by Bryman (2012) and Oraee et al. (2017) was adopted. This is because SLR is viewed as an appropriate research methodology for analysing and synthesising knowledge (Mostafa et al.,

2016; Xia et al., 2018). Leading journal ranking websites were consulted to determine the eight most appropriate journals, for purposes of limiting scope. From these eight most appropriate journals, with four each being separately selected from the PM and CM domains. Based on Bryman (2012) discussion of a SLR approach, stage one involved defining the purpose of the research which, for clarity was to review project failure in construction project management from the perspectives of project- and construction- managers. Stage two involved formulating the keyword search "project failure" which was used to seek out relevant articles using the keyword search, "project failure". Stage three involved appraising the articles sourced in Stage two for relevance to the research based on the following exclusion/inclusion criteria; titles relative to project failure; review of the abstract and key words, and; reviewing the main body of the paper for relevance. A further check for duplication and appropriateness of the articles sourced was performed by reviewing the articles' abstract and main contents. The search for key journal articles about 'failure' in PM literature gave an initial total of 508 articles with 18 appropriate articles ultimately being selected based on the exclusion-inclusion criteria. The distribution of these was as follows: 'International Journal of Managing Projects in Business' (124 potential articles identified, with seven appropriate articles selected); 'International Journal of Project Management' (310/5); 'Journal of Project Management' (65/4); and 'Scandinavian Journal of Management' (9/2).

Figure 1 summarises the number of selected papers from the project management journals.

A similar search on 'failure' in the CM literature yielded 87 initial articles. Using the exclusion-inclusion criteria, these filtered down to the most appropriate 11 as follows: 'Building Research and Information' (three potential articles identified, with one appropriate article selected), 'Construction Innovation: Information, Process, Management' (14/1), 'Construction Management and Economics' (35/1), 'Engineering, Construction and Architectural Management' (35/8), In total therefore, 29 articles were selected for use in Stage 4, analysis and synthesis. The selected journal papers from the construction

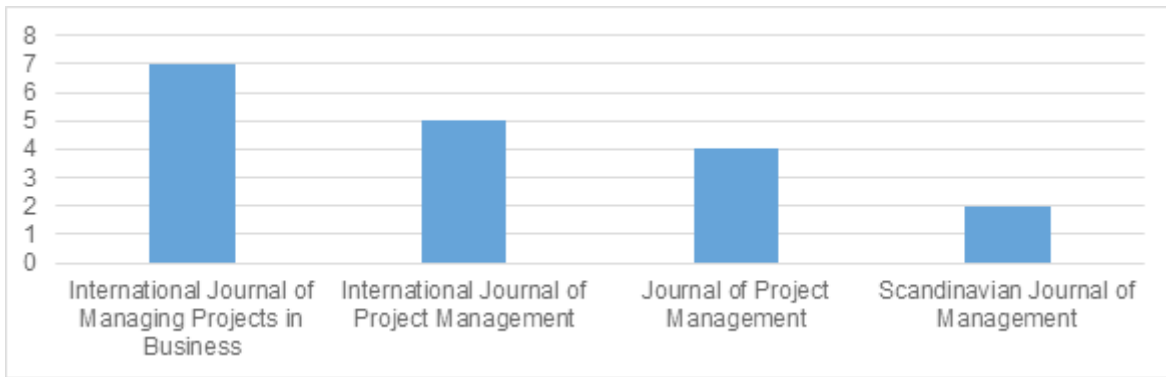


Figure 1 Summary of Project Management Journals.

management journals are summarised in Figure 2 below.

As a limitation to the study, it must be mentioned that due to the non-agreement on the definition of ‘failure’ with varying terms being associated to it, some articles that may refer to failure in a different view or term might have been omitted. Such phrases or words may include; unsuccessful (Lindhard and Larsen, 2016; Nahyan et al., 2012), inefficient, abandoned projects, client satisfaction, termination (Thornley and Crowley (2018), business failure, site closure, downsizing, restructuring, acquisition and mergers (Bell and Taylor, 2011; Lechler and Thomas, 2015; Alaka et al., 2016) and non-conformance (Mahmoudi and Feylizadeh, 2017). Secondly, the journals used in the search were conveniently selected and this may also have left out other journal articles discussing failure. Hence, a future research is encouraged to include a large number of journals. However, for purpose of diversity and theoretical argument, the Scandinavian Journal of Management was included

for their critical and strong theoretical orientation (Morris and Geraldi, 2011).

Findings and Discussion

In analysing the articles, the following themes were considered: a) the manifest understanding of failure; b) any causes of failure, and c) mitigation measures. These themes were influenced by earlier studies that have considered the subjective definition of project success and failure definition. These include Cooke-Davies (2002), Jugdev and Müller (2005) and Ika (2009), who discuss the success criteria (definition and measurement of success and failure) and success factors (antecedents for success). Before discussing these three themes, the geographical distribution of the studies on failure was considered and is shown in Figure 3, below. It demonstrates the global prevalence of failure and interest in the topic, further highlighting the

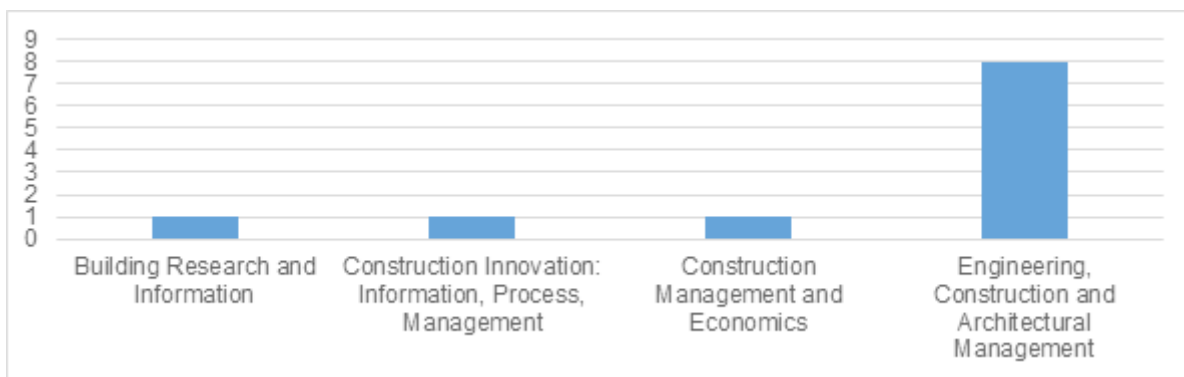


Figure 2 Summary of Construction Project Management Journals.

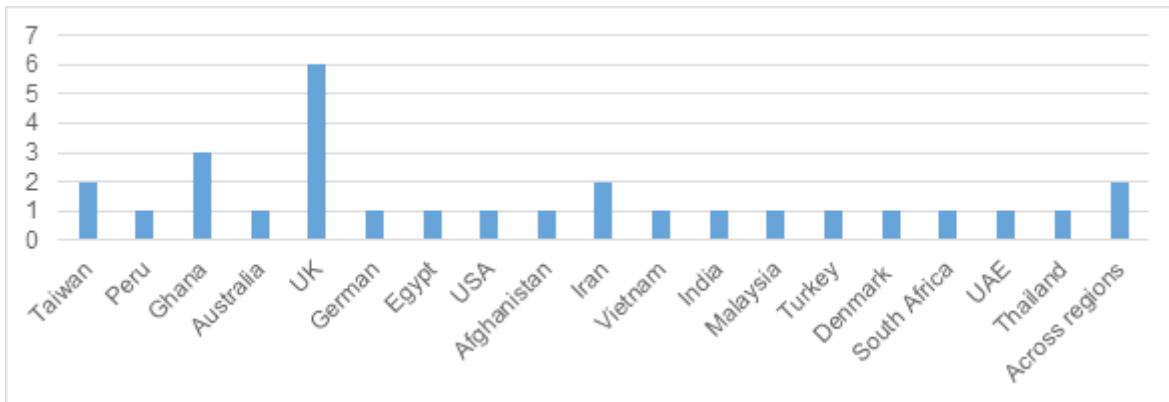


Figure 3 Distribution of PM and CM Journal Papers on Failure Across Countries.

importance of understanding the institutional or context level of delivering projects.

Worth noting in Figure 3 above is the UK, with a high level of journal articles on failure. The reason for this is unclear, however, it may be possible that the UK demonstrates willingness and openness to engage in discussions on failure. This may be supported by the culture and existence of autonomous organisations such as the National Audit Office (NAO) in the UK.

Considering the distribution of project failure-related studies across the years, Figure 4 below shows the long-standing discussion of project-related failures within the sector. The continued presence of failure and its discussion in the project realm counters the advancement in technology and project management which should see a reduction in failure occurrences on projects. With 2021 showing a high number of research on failure, it can be inferred that there is a growing interest in research associated with failure. This may also be coupled with increased awareness and concerns by

stakeholders on a number of environment-related issues such as climate change and sustainability. This was evident from the findings by Damoah et al. (2021) which include pressure groups (the media, political activities and non-governmental organisations etc) as one of the factors leading to projects being abandoned.

On the other hand, findings show a lack of specific reference or engagement with Morris and Geraldi (2011) institutional context with respect to failure perception with some authors such as Dalcher (2012) citing Morris and Hough (1987) book “The Anatomy of Major Projects: A Study of the Reality of Project Management”. This shows a lack of uptake of the institutional approach to understanding project failure. Nonetheless, a few studies such as those by Damoah and Kumi (2018) and Damoah et al. (2021) have acknowledged the influence of institutions (such as political influence) as bottle necks in managing projects whilst Lechler and Thomas (2015) and Ruiz Díaz (2020) refer to policies and standards and quality

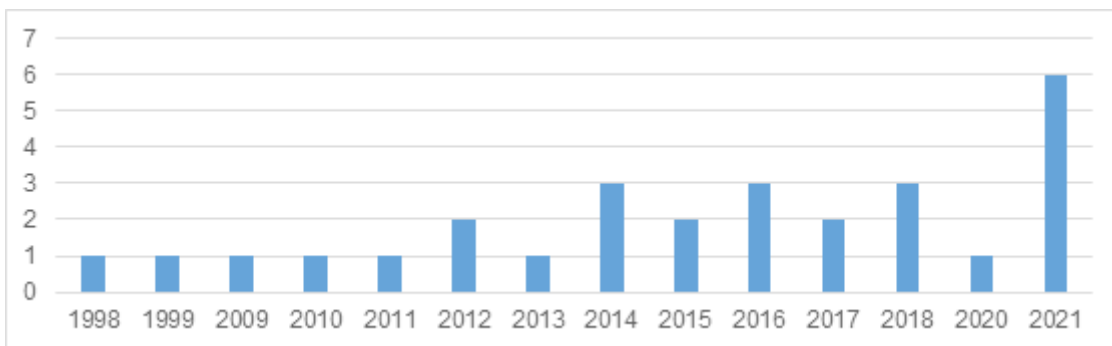


Figure 4 Distribution of PM and CM Failure Related Publications by Year.



regulatory frameworks, respectively. Though these studies do not specifically cite Morris and Gerald (2011) 'institutional context level' they confirm these concerns on widening the environment for managing projects as genuine. In addition, Ika (2009) earlier discussion on context-specific measures of project success and failure (having unique measurement criteria for each project) and social construct approaches to failure (symbolic and rhetoric approach to measuring failure) equally affirm Morris and Gerald (2011) recommendation for an institutional context to project management. Thus, to appreciate more the perception of failure by PMs and CMs in light of the institutional context, the following sections present the criteria of defining failure, causes and mitigation measures identified from the journal papers.

Understanding of failure: Perception, Indicators and Types

From the PM literature, Chipulu et al. (2014) observe that there are no agreed criteria for measuring success or failure. Thus, a majority of papers make reference to critical success and failure factors (CSFFs) such as; organisational goals, project scope, time, cost, quality, risk, safety, communication, leadership/decision making processes, project team effectiveness. However, by focusing on these CSFFs, the PM research and understanding of failure takes a positivist approach which can be associated with the technological level identified by Morris and Gerald (2011). Regarding failure types, Bell and Taylor (2011) consider 'organisational death' through varying terms such as; 'site closure', 'business failure', 'mergers', 'restructuring', 'downsizing', 'project termination' and 'abandonment' (Dalcher, 2012; Lechler and Thomas, 2015). 'Poor quality', 'delays' and 'cost overrun(s)' were also highlighted (Mahmoudi and Feylizadeh, 2017; Orouji, 2016). Institutionally, the perception of failure through the above terms such as 'business failure', 'delays' etc takes a Normative Pillar approach and overshadows project outcomes. This is similar with Sage et al. (2013) who observe a bias towards performatives (productivity, profitability) among actors such as project managers in understanding failure. The focus on technological and strategic

levels of project failure may also be appreciated from Dalcher (2012) who discusses project failure and success, in reference to Morris and Hough (1987), as follows:

- **Project functionality** - Financial or technical performance from an owner or sponsor perspective.
- **Project management** - Meeting the budget, schedule, and technical specification.
- **Contractors' commercial performance** - The commercial benefit to the service provider.

In the CM literature equally, there is no agreed definition and measurement of failure with 'delays' being prominent (Ansah and Sorooshian, 2018). However, Razak et al. (2016) define failure as "a lack of success, falling short, or omission of some persons, processes or products" and 'external failure' as hidden costs after project handover in the form of insurance, maintainability, environment costs, energy use and latent defects. Trangkanont and Charoenngam (2014) define 'programme failure' as not meeting objectives of a programme such as not meeting the objective of low-income earners' access to housing and ownership, which is also an example of failure in project outcomes and impact. CM literature also refers to business failure, with terms such as 'bankruptcy', 'insolvency' and 'financial distress' being used (Dikmen et al., 2010). Of the two; CM literature gives more attention to 'business failure' (Dikmen et al., 2010) with a focus on finances, since they are more likely to face those consequences than the PM. Other failures from the CM literature include 'unsuccessful delay claims' and failing to meet customers' requirements and product quality (Razak et al., 2016). It was noted therefore that CM literature is more specific about failure types (defects, delays, costs) when compared to the PM literature. Taking into consideration various types of failures which relate to different parties on a project - such as unsuccessful delay claims, failure to meet client and product quality - the CM literature perception of failure can be associated with the strategic level discussed by Morris and Gerald (2011) which focus on value and efficiency.



Therefore, from the institutional perspective, the types of failure from both the PM and CM literature are perceived mostly via the Regulatory and Normative pillars with less emphasis on the Cultural-cognitive pillar. This can also be related with the technical level discussed by Morris and Geraldi (2011). Thus, we argue that for a balanced understanding of failure, a holistic approach through Institutional theory's three pillars should be considered.

Causes (and effects) of Project Failure

From the PM literature, Belassi and Tukel (1996) observe that there are many causes of project failure, yet technical and engineering type factors are frequently considered (Sauser et al., 2009). The PM function itself receives various attention (Belassi and Tukel, 1996). Sage et al. (2014) refer to it as the 'managerialisation' of failure, where failure is viewed purely as a result of PM practices. This is even when, within the PM literature, other project parties, cultural (Chipulu et al., 2014) and contextual factors (Sage et al., 2014) may lead to project failure. In contrast, CM literature highlights various external actors as causes by including designers, labourers, suppliers, subcontractors and the client (Ansah and Sorooshian, 2018; Trangkanont and Charoenngam, 2014). Conflicting goals, adverse weather, lack of information, competition, site conditions, social-economic and partnering challenges were also cited (Ansah and Sorooshian, 2018; Damoah and Kumi, 2018; Ruiz Díaz, 2020; Trangkanont and Charoenngam, 2014). Lindhard and Larsen (2016) also noted PM's competences, leadership, knowledge sharing, communication, and organisational culture. Changes in law, politics, procurement strategy, interest rate, inflation are other causes especially on large projects (Trangkanont and Charoenngam, 2014). Others include design capacity, bureaucracy, design changes, errors, corruption, supply chain, decision making, (Damoah et al., 2021; Dikmen et al., 2010) cost cutting, non-compliance and unreasonable contractual constraints (Layzell and Ledbetter, 1998). Such a wider conception of causes seats well with Sage et al. (2013) who argue in favour of pluralistic approaches to understanding and managing project failures. Thus, contrasting

PM and CM literature, the 'project manager' is typically considered as the root cause of project failure in PM literature (Sage et al., 2014) with the CM literature referring to other parties in the supply chain as more likely root causes of failure (Dikmen et al., 2010). From the institutional perspective it can further be inferred that PM perspective of causes of failure is biased towards the normative and regulative forces and can be associated with the strategic level perception of failure as discussed by Morris and Geraldi (2011).

CM literature on the other hand, by citing causes such as 'changes in law'; political influence, 'citizens or community demonstration' and 'inflation' (Damoah and Akwei, 2017) attribute failure externally which aligns with the cultural-cognitive perspective of the causes. Such conceptualisation of failure is also similar with Hofstede's (2001) observation that national culture (including political systems and legislation) can lead to corporations' failures. This is in agreement with Sage et al. (2013), p285) who consider failure "as a socially constructed narrative involved in the emergent identity [of] work and power relations within and between organisations, social groups and individuals". Such attribution of failure reflects in the after action or response to failure as will be elaborated in the mitigation section were organisations attributing failure internally take internal measures while those that attribute it externally pursue network or context related measures (Walsh and Cunningham, 2017).

Considering 'effects', both PM and CM literature focused on cost, essentially project outputs. In addition, failures relating to quality and time overruns are interpreted mostly in financial terms. For instance, Lindhard and Larsen (2016) note that quality failures were circa 3.6%–6.6%, with delays being 16%–23% of the total project cost. The focus on cost or profits reflects Sage et al. (2013) observation that mostly project failure is heavily viewed via the managerialist perspective and Morris and Geraldi (2011) strategic level which is focused on value and efficiency. However, loss of life, careers (Sage et al., 2013) customers' dissatisfaction, lack of housing (including its lack of affordability), reputation, grief, safety and environmental damages are some of the effects



associated to project outcome and impact (Bell and Taylor, 2011; Saunders et al., 2016; Trangkanont and Charoenngam, 2014) which can further be linked with the institutional context level.

Mitigation of project failure

According to Belassi and Tukel (1996), and more recently Sage et al. (2014) the most common approach is upskilling the PM through standardisation of knowledge, project planning, scheduling and tools. Taking a contrary position, Sage et al. (2014) contend that despite such measures (upskilling the PM), failure still persists since the PM and other parties then spend more time on paperwork, leading to stress and fatigue.

Unlike upskilling the PM, CM literature suggested external improvement in the value chain and the project environment (Dikmen et al., 2010; Rwelamila et al., 1999). Ansah and Sorooshian (2018) and Mahmoudi and Feylizadeh (2017) also recommended scheduling and planning with Lindhard and Larsen (2016) echoing the need for clarity in ‘success/failure’ definition and measurement. Design actions, motivation and risk management were also cited (Layzell and Ledbetter, 1998). Notable models for mitigating failure include: Ansah and Sorooshian (2018) 4Ps (Project Related; Participants, Practices and Procurement) in analysing delays; Failure Mode and Effects Analysis by Layzell and Ledbetter (1998) for defects; Construction Industry Bankruptcy Prediction Models (CI-BPMs) by Alaka et al. (2015) for business failure; and Enterprise Resource Planning (ERP) (Orouji, 2016) model in handling cost and time related failures. Collectively, such mitigation models of failure seem to address Morris and Geraldi (2011) technological and strategic levels (such as resource planning) approaches to project management. All these models again fall within the ‘managerialisation’ (Sage et al., 2014) or ‘managerialist’ (Sage et al., 2013) normative approach (or normative and regulatory institutional pillars) of managing failures which only try to address or respond to the iron triangle or output related failure such as cost and time. However, it can be appreciated that scholars such Ruiz Díaz

(2020) and Damoah et al. (2021) appreciate the influence of community participation which can be associated with the cultural-cognitive pillar.

Tables 1 and 2 below provide a summary of PM and CM literature respectively based on the three themes (failure definition, causes and mitigation). These are further related with Morris and Geraldi (2011) 3 levels of project management; technological level; strategic level, and; institutional levels.

Discussion and Implications for the Sector Actors

Though scholars such as Pinto and Mantel (1990) and Atkinson (1999) have long discouraged the use of the iron triangle, recent studies by Pollack et al. (2018) and those shown in Tables 1 and 2 reveal more focus on time, cost and quality when compared to other project requirements. This also results in mitigation measures focusing on project management tools and upskilling of the project manager without appreciating the influence of the institutional context. The literature from the two sets of journals also reveal that even with the advancement in technology and PM training, failure still occurs (Maylor et al., 2006; Sage et al., 2014; Shore, 2008) which also highlights limitations of the technological and strategic approaches in managing projects. Correspondingly, the perception of failure by the wider sector has to change by not only managing the project, but instead creating an environment within which a project can be managed successfully as echoed by Morris and Geraldi (2011). In order to achieve that, a critical approach to project management and failure is being encouraged by perceiving projects beyond performatives of productivity and profitability. (Hodgson and Cicmil, 2008; Ivory and Alderman, 2005; Sage et al., 2013). This is by appreciating the dynamic interaction of institutions and the socio-economic and political environment within and outside a project. Therefore, this study’s association of Morris and Geraldi (2011) institutional perspective with project-related failure can be appreciated as follows:



Table 1 Contrasting Understanding of failure based on PM Literature

Journal	Author(s)	Failure definition and measurement	Causes	Mitigation	Morris and Gerahdi's Levels
Journal of Project Management in Business	Chen, 2021	Project outcomes; project technological capacity; managerial capacity.	Laws; regulations; corruption; inflation; quality of contract documents; economic stability;	Team management; communication; risk management; research and development	Strategic and technological levels; institutional context.
	Ruiz Díaz, 2020	Project termination; duration; economic performance.	Intrinsic and extrinsic factors; institutional factors eg, regulatory quality.	Institutional factors eg, regulatory quality.	Strategic level oriented; mitigation considers institutional context.
	Damoah and Kumi, 2018	Abandonment, delays and cost overruns.	Delayed payment; politics; bureaucracy; corruption; poor planning; supervision; culture; beliefs.	Administration practices; project management techniques; Improving institutional systems.	Causes and mitigation aligns with the institutional context
	Pollack et al., 2018	Triple constraints and performance; other requirements.	Inadequate management of one or of the triple constraint.	Balancing the iron triangle and other requirements	Technological and strategic level focus.
	Damoah and Akwei, 2017	Time; cost; requirements; stakeholder satisfaction; national and sectoral development; cultural; economic; political.	cultural, economic and political factors.	benefits to stakeholders; contribution to the sector; meeting the iron triangle.	Institutional context level.
	Chipulu et al., 2014	No universal measures; team satisfaction, client satisfaction, technical validity, commercial success; cultural values.	Cultural differences; ineffective communication, poor team integration.	Stakeholder involvement; Project managers' multi-cultural competence.	Strategic level
	Dalcher, 2012	Cost overruns; delays; project termination/ cancellation; functionality; contractors' commercial performance.	Inflation, underestimation, changes, uncertainty, technology advances, poor project definition.	Address uncertainty; contractors benefiting; commercial performance; Strategic management of projects.	Strategic level focus.

Continued



Table 1 Continued

Journal	Author(s)	Failure definition and measurement	Causes	Mitigation	Morris and Gerahdi's Levels
International Journal of Project Management	Lechler and Thomas, 2015	Project termination/ abandonment.	Dysfunctional executive behaviour; weak project definition and initiation.	Organisational governance; project goals definition; manage executive advocacy/decisions.	Strategic level focus.
	Belassi and Tukel, 1996	Project factors/ performance, Project managers' and team members' performance;	Project factors; internal and external environment factors (economy, whether).	Identifying failure/ success factors for the project manager.	Strategic level focus.
	Sage et al., 2014	Non performative approaches (stakeholder satisfaction) instead of performatives (productivity, time, profit).	over-ambitious and speculative projects; poor training and safety, cover-pricing.	Alternative analysis of project failures; understand project manager's limitations; stakeholder engagement.	Strategic and institutional levels.
	Chen, 2015	Forecasting time, cost, and profitability; project management performance.	Risks; project factors; organisational context; team leadership/ design; management.	Managing risks/ uncertainty, complexity scope changes, technological uncertainty.	Technological and strategic levels.
	Sauser et al., 2009	Failure beyond of time, cost and quality; contingency framework.	Managerial factors due to 'better, faster, cheaper' approach.	Understanding failure/ projects through contingency theory.	Strategic level
Journal of Project Management	Damoah et al., 2021	Project termination, abandonment.	Politics; culture; institutional bottlenecks; inadequate planning and funding; inflation; bankruptcy; incompetency.	Alternative funding; avoid partisan politics; competent project managers.	Technological and institutional context.
	Shafei and Puttanna, 2021	Project impact and outcome	Financial constraints, Ineffective recruitment; Project leadership and management; corruption.	Recruitment process of key personnel such PM; mitigating corruption and nepotism.	Strategic level
	Mahmoudi and Feylizadeh, 2017	Cost, time, quality, non-conformance; reworks	Project risks; inflation.	Risk management; Training, document processes, equipment,	Technological and strategic level.
	Orouji, 2016	cost, time and cost	Project managers and teams factors; environmental factors.	Enterprise resource planning; knowledge management; Project management information systems (PMIS); decision making.	Technological and strategic level.
Scandinavian Journal of Management	Bell and Taylor, 2011	Organisational/business death; site closure.	Project managers' performance; team members and environmental factors.	Collective loss approach;; Manager at the centre of managing failure.	Strategic level
	Sage et al., 2013	Beyond the iron cage (performative ontologies).	Social, economic, and political.	Interpretivist and critical approaches; plurality in notions of performance and failure.	Institutional level.

Table 2 Contrasting Understanding of failure based CM Literature

Journal	Authors	Failure definition and measurement	Causes of failure	Mitigation measures	Morris and Gerahdi's Levels
Engineering Construction & Architectural Management Journals	Do et al., 2021	Stakeholders' performance; scope, quality, performance.	adversarial relationships, incompetent parties, poor planning and organisation.	Stakeholder coordination.	Strategic level
	Navandar et al., 2021	Business/company failure.	Inexperience; personal attributes; low profit margin, competition, overtrading, corruption.	Project planning/ management; managerial skills.	Strategic level
	Tariq and Zhang, 2021	Government and tax payers' value; contract termination.	poor pre-project planning; high non-revenue water; politics; financial difficulties; flawed contractual clauses; disputes; corruption; public opposition.	Learning from past lessons; affordable tariffs; citizens representation; reduce corruption.	Institutional Level
	Ansah and Sorooshian, 2018	Project delay; cost overruns	Decision making; administrative processes; experience; skills; contract management; disputes.	4P - Project Related, Participants, Practices and Procurement; risk and scheduling techniques.	Technological and strategic levels.
	Dikmen et al., 2010	Business failure; financial stress.	Competition; delayed payments; inexperience; bad relationships; poor planning and management;	Value Chain; Resources, Decisions; Revise policies and appropriate strategies.	Technological and strategic levels
	Lindhard and Larsen, 2016	Cost, time, quality and performance.	Client; hostile socio-economic environment; climate; Project Manager's skills; organisational culture; errors/ omissions.	Trust, shared objectives, project coordination, knowledge sharing and communication.	Strategic level.
	Trangkanont and Charoenngam, 2014	Low cost housing; Programme Failure - Considered time completion, delays, termination and budget (iron triangle)	Socio-economic and political; legal and institutional frameworks; poor coordination ; corruption; inexperience; financial and managerial issues.	Lessons learnt; strategic risk management.	Institutional context level.
	Rwelamila et al., 1999	Time, cost, quality.	Poor relationships between project stakeholders; use of inappropriate building procurement systems.	Procurement system; stakeholders co-operation; risk management; MIST - Morality, Interdependence, Spirit of Man and Totality.	Strategic level.

Continued



Table 2 Continued

Journal	Authors	Failure definition and measurement	Causes of failure	Mitigation measures	Morris and Gerahdi's Levels
Construction Management & Economics Journals.	Saunders et al., 2016	Safety and timely delivery.	Uncertainty; organisational leadership, ineffective decision-making and communication.	project manager' competencies and involvement; uncertainty management.	Strategic level.
Construction Innovation Journal	Nahyan et al., 2012	Time, cost, quality	Unqualified contractors; poor design; price increments; availability of resources; poor planning, budgeting and scoping.	Effective communication, coordination, stakeholder management; skills and competencies of professional staff.	Strategic level
Building Research & Information	Layzell and Ledbetter, 1998	Defective works (cladding/walling and structural glazing failure)	Material quality and workmanship; poor maintenance; architectural detailing, weather.	Failure Mode and Effects Analysis (FMEA)	Strategic level.

Project and project failure conception: the Institutional Level Perspective

In their work Morris and Geraldi (2011), refer to 3 levels of project management; level 1 – technological; level 2 – strategic, and; level 3 – institutional context. Focusing on the last (institutional) context, this study has considered perceptions of both projects themselves and of their failure.

a) Perception of a ‘Project’ and ‘Project Management’

We would argue that the theorising and conceptualisation of ‘a project’, ‘project management’ and ‘failure’ should change by including institutions instead of focusing on inputs and outputs. This aligns with Engwall (2003) earlier understanding that projects are never delivered in isolation or a vacuum. Thus, a project is viewed as an interaction of institutions instead of inputs as echoed by Biesenthal et al. (2018) that; *“Inputs and outputs hardly define projects, except in limited, functional terms. Beyond these, projects are defined by their social construction by those who sponsor, fund, make, contest and use them.... Project processes and their institutionalisation.... it is these that define*

projects” (2018, p. 2). Similarly, Bresnen (2016) regards a ‘project’ and ‘project management’ as an interaction and management of institutions since many actors are involved in its delivery. To achieve that and in line with Morris and Geraldi (2011), project actors need to pay particular attention to the institutional level of project management instead of focusing on the technical and strategic levels which address delivery and performance concerns respectively. Morris and Geraldi (2011, p. 23) contend that project organisations should primarily be *“concerned with improving success not of a specific project, but of projects within the enterprise’s own organisational environment—that is, projects in the parent organisations—or the wider environmental context within which the project is located”*.

b) Perception of Project Failure via Institutions

Considering Morris and Geraldi (2011) work, project actors need to appreciate the influence of the institutional context on the perception of failure. For instance, Bresnen (2016) observes that *“What we know about project management and organisation is shaped by a huge variety of actors and institutions and informed by the diverse orientations and interests that they represent”*. Therefore, it must be argued that the focus on



the technological (outputs) and strategic level (effectiveness/commercial viability) of project management may be influenced by the norms or institutions around a project and project-related failure. For instance, with emphasis on regulations on a project via the contract which outlines the time cost and quality requirements or standards, the PM and CM may dedicate their efforts around project constraints leading to the use of cost control and project planning tools in order to avoid failure or its negative consequences. Hence, little attention is given to the external environment or institutional context of their operations as recommended by Morris and Geraldi (2011). Consequently, this study contends that project failure should not be perceived via the iron triangle since it is simplistic and does not acknowledge the complex nature of the institutional field within which projects are delivered. Elaborately, Sage et al. (2013), p283) observe that *“failure’ appears both: (i) a social construction involved in the production of (pernicious) managerial interests and agendas; and (ii) an unequivocally experienced end-state, a materially manifest reality composed of lost profits, careers and even lives”*. In view of that, the criteria for measuring project failure are ever being reconstructed based on social demands and needs as evidenced by stakeholders demanding the inclusion of other factors beyond the iron triangle, such as delivering ‘green’ outcomes and addressing religious and cultural concerns (Damoah et al., 2021; Venkataraman and Cheng, 2018).

Hence, to take a holistic perspective, the study recommends the application of the three Institutional Pillars in perceiving project failure as shown in Table 3 below. Table 3 illustrates how the

three pillars may act as a basis of understanding and assessing (or characterising) of project failure at a contextual or institutional level whilst encompassing the technological and strategic levels.

In view of Table 3 above, the study summarises the perception of project-related failures in relation to the three institutional pillars and in consideration of Morris and Geraldi (2011) institutional context level as follows:

- **Regulative Pillar Related Failures** - Morris and Geraldi (2011) perspective, this is associated with the technological level. Failure in the eyes of regulative bodies relating to the environment, sustainability, health and safety or that does not meet the set standards or rules. This also includes the project output as requested by the client such as the physical building and contractual agreements in form of time and costs.
- **Normative Pillar Related Failures** - This can be related to Sage et al. (2013) view of failure mostly in form of the rational-normative approach based on professional practice or body. This may be associated with Morris and Geraldi (2011) strategic level which seeks to address efficiency and value. Other forms of failures may include commercial viability of the organisation involved in delivering the project and any failure that does not meet established professional practices.
- **Cultural-cognitive Pillar Related Failures** - Subjective and related to

Table 3 Institutional Pillars Related Types of Failure

	Regulative	Normative	Cultural-cognitive
Failure Based on Institutional Pillars.	Based on contractual agreement or client and regulatory bodies requirements.	Based on the project output/ internal success or failure.	Based on end users and responds to outcomes and impact.
Criteria and Actors' View.	Regulatory bodies/Clients/ funders/ contractual parties – budget.	Conforming to standards/ internally professional bodies – (Cost, time and quality).	Functionality; interaction of diverse parties in delivery; End users, contractors and supply chain actors.
Mitigation Measures.	Regulatory framework; training; ICT tools; standards.	Risk allocation management; decision making; leadership; upskilling project managers.	Collaboration; stakeholder management; cultural and economic related measures;



project impacts and outcomes. It is a type of failure(s) that does not meet the end-users needs and other participants'/ organisational needs (Levitt and Scott, 2016). Such failures take long to assess since they fall under impacts which is like the lengthy period taken for cultural-cognitive norms to develop.

It is worth stating that the study does not suggest the abandonment of the iron triangle, but instead advises against solely relying on it. Thus, the two levels of perception (technological and strategic levels) discussed by Morris and Geraldi (2011), which may be associated with project outputs, serve as building blocks for the application of a holistic approach via the institutional context level. This is in agreement with other scholars who suggest that the iron triangle serves as a starting point for setting the project failure or success criteria (Atkinson, 1999; Pollack et al., 2018). This is because projects, including project failure, are defined by contests and conflicts between project actors or institutions such as, funders, contractors and institutionalisation of project process as observed by Biesenthal et al. (2018). Similarly, Damoah and Kumi (2018) observe that external factors such as donors, foreign partners, regulatory pressures and sanctions, pressure groups (political activities, media, NGOs) and the communities' belief systems/resistance as factors leading to project failure. Such causes have also been observed by Hofstede (2001) who in discussing culture, contends that organisations (and the people within them) are influenced by external factors and institutions such as political systems, legislation, social stratification, religion, and national cultures. Accordingly, the study recommends that for the effective management of project-related failures, actors should consider taking an institutional context level/approach in defining failure and correspondingly, identify related or meaningful mitigation measures against failure. This is against relying solely on project management tools and methodologies that are considered to be inadequate to handle the socio-economic and political factors influencing a project's delivery process (Hodgson and Cicmil, 2006, 2008; Ivory and Alderman, 2005; Sage et al., 2013, 2014). Accordingly, the

need for leaders and project actors to pay particular attention to social factors and cultural context as observed by Morris and Geraldi (2011) is supported by scholars such as Hofstede (2001) and Schein (2004) who acknowledge the influence of national culture, institutions and organisational settings on 'thinking' and 'perception/meaning'.

Worth noting from the literature review is the slow traction of Morris and Geraldi (2011) institutional approach to managing projects, even when literature supports the assertion that project delivery is influenced by the institutional context. This further raises questions on whether their model has not been shared enough, or the sector still perceives the 'technological level' as being efficient. Therefore, this study encourages more research on the institutional context and its influence on project management-related activities.

Conclusion

From this review, it can be concluded that in the PM literature, considerations of failure are often of an introspective nature. This is evidenced by attributing causes of failure to failings in the project management process which can further be likened to Morris and Geraldi (2011) strategic level approach. This can be associated with their institutional positioning where the PM relies on the normative pillar which emphasises on standardisation and conformance leading to self-introspection and multi-skilling. Additionally, the failures are discussed in more generalised terms (in contrast with the CM literature) and the main causes are identified as being associated with the PM function itself, or caused by poor project management practice. Such practices may be associated with Morris and Geraldi (2011) strategic and technological levels of project management. In contrast, the CM literature instead focuses on more specific, and external, instances of failures, with causes often attributed back to the wider supply chain. The CM literature also tends to attribute failure externally, which can be associated with the cultural-cognitive pillar by them taking a wider approach to causes of failure and its mitigation tools. Thus, the study encourages actors' perception of failure such as PM and CM, including their parent

organisations, to take a contextual or institutional approach to project management in line with Morris and Geraldi (2011) institutional context level. Implications for research are that studies on project failure should take a wider or institutional-context perspective instead of it being conducted within a specific country or practice (mostly assessing project managers and construction teams). Instead, more cross-country and-region and across projects are to be considered realising the influence of the institutional factors and the wider external project environment on the project delivery process.

References

- Alaka, H. (2015), "Methodological approach of construction business failure prediction studies: a review" E, A.-N., 31st Annual ARCOM Conference, 7-9 September 2015 Raidén, A. B., Lincoln, UK., Association of Researchers in Construction Management. 1291–1300.
- Alaka, H. A., Oyedele, L. O., Owolabi, H. A., Ajayi, S. O., Bilal, M., Akinade, O. O., Alaka, H. A. and Alaka, H. A. (2016), "Methodological Approach of Construction Business Failure Prediction Studies: A Review", *Construction Management and Economics*, Vol. 34 No. 11, pp. 808–842. 10.1080/01446193.2016.1219037
- Ansah, R.H. and Sorooshian, S. (2018), "4P delays in project management", *Engineering, Construction and Architectural Management*, Vol. 25 No. 1, pp. 62–76. 10.1108/ECAM-09-2016-0199
- APM. (2019). In: Murray-Webster R, Dalcher D, eds, *APM Body of Knowledge*. 7th edn ed. Buckinghamshire: Association for Project Management.
- Atkinson, R. (1999), "Project management: cost, time and quality, two best guesses and a phenomenon, its time to accept other success criteria", *International Journal of Project Management*, Vol. 17 No. 6, pp. 337–342. 10.1016/S0263-7863(98)00069-6
- Baccarini, D. (1999), "The logical framework method for defining project success", *Project Management Journal*, Vol. 30 No. 4, pp. 25–32. 10.1177/875697289903000405
- Belassi, W. and Tukel, O.I. (1996), "A new framework for determining critical success/failure factors in projects", *International Journal of Project Management*, Vol. 14 No. 3, pp. 141–151. 10.1016/0263-7863(95)00064-X
- Bell, E. and Taylor, S. (2011), "Beyond letting go and moving on: new perspectives on organizational death, loss and grief", *Scandinavian Journal of Management*, Vol. 27 No. 1, pp. 1–10. 10.1016/j.scaman.2010.09.013
- Biesenthal, C., Clegg, S., Mahalingam, A. and Sankaran, S. (2018), "Applying institutional theories to managing megaprojects", *International Journal of Project Management*, Vol. 36 No. 1, pp. 43–54. 10.1016/j.ijproman.2017.06.006
- Bresnen, M. (2016), "Institutional development, divergence and change in the discipline of project management", *International Journal of Project Management*, Vol. 34 No. 2, pp. 328–338. 10.1016/j.ijproman.2015.03.001
- Bryman, A. (2012), *Social Research Methods*. 4th edn ed. Oxford: Oxford University Press.
- Chen, H.L. (2015), "Performance measurement and the prediction of capital project failure", *International Journal of Project Management*, Vol. 33 No. 6, pp. 1393–1404. 10.1016/j.ijproman.2015.02.009
- Chen, H.L. (2021), "Early identification of distressed capital projects: a longitudinal approach", *International Journal of Managing Projects in Business*, Vol. 14 No. 5, pp. 1185–1201. 10.1108/IJMPB-07-2020-0227
- Chipulu, M., Ojiako, U., Gardiner, P., Williams, T., Mota, C., Maguire, S., Yongyi, S., Stamati, T. and Marshall, A. (2014), "Exploring the Impact of Cultural Values on Project Performance: The Effects of Cultural Values, Age and Gender on the Perceived Importance of Project Success/Failure Factors", *International Journal of Operations and Production Management*, Vol. 34 No. 3, pp. 364–389.
- Cooke-Davies, T. (2002), "The "real" success factors on projects", *International Journal of Project Management*, Vol. 20 No. 3, pp. 185–190. 10.1016/S0263-7863(01)00067-9
- Dalcher, D. (2012), "The nature of project management: a reflection on the anatomy of major projects by Morris and Hough", *International Journal of Managing Projects in Business*, Vol. 5 No. 4, pp. 643–660.
- Damoah, I.S. and Akwei, C. (2017), "Government project failure in Ghana: a multidimensional approach", *International Journal of Managing Projects in Business*, Vol. 10 No. 1, pp. 32–59. 10.1108/IJMPB-02-2016-0017
- Damoah, I.S., Ayakwa, A. and Kumi, D.K. (2021), "Causes of government construction projects' abandonment", *Journal of Project Management*, Vol. 6 No. 2021, pp. 179–190. 10.5267/j.jpm.2021.5.004
- Damoah, I.S. and Kumi, D.K. (2018), "Causes of government construction projects failure in an



- emerging economy”, *International Journal of Managing Projects in Business*, Vol. 11 No. 3, pp. 558–582. 10.1108/IJMPB-04-2017-0042
- DBIS. (2010), *Guidelines for Managing Programmes - Understanding Programmes and Programme Management*. United Kingdom: Guidelines for Managing Programmes.
- Desai, V.M., Maslach, D. and Madsen, P. (2018), ““Organizational Learning from Failure: Present Theory and Future Inquiries 1””. In: Argote L, Levine J, eds, *Oxford Handbook of Group and Organizational Learning*. Oxford: Oxford University Press. pp. 1–40.
- DBIS (2013), *UK Construction: An Economic Analysis of the Sector*, UK: UK Construction.
- de Wit, A. (1988), “Measurement of project success”, *International Journal of Project Management*, Vol. 6 No. 3, pp. 164–170. 10.1016/0263-7863(88)90043-9
- Dikmen, I., Talat Birgonul, M., Ozorhon, B. and Egilmezer Sapci, N. (2010), “Using analytic network process to assess business failure risks of construction firms”, *Engineering, Construction and Architectural Management*, Vol. 17 No. 4, pp. 369–386. 10.1108/09699981011056574
- DiMaggio, P.J. and Powell, W.W. (1983), “The iron cage revisited: institutional Isomorphism and collective rationality in organizational fields”, *American Sociological Review*, Vol. 48 No. 2, 147. VolNo. 10.2307/2095101
- Do, S.T., Nguyen, V.T. and Dang, C.N. (2022), “Exploring the relationship between failure factors and stakeholder coordination performance in high-rise building projects: empirical study in the finishing phase”, *Engineering, Construction and Architectural Management*, Vol. 29 No. 2, pp. 870–895. 10.1108/ECAM-09-2020-0744
- Engwall, M. (2003), “No project is an island: linking projects to history and context”, *Research Policy*, Vol. 32 No. 5, pp. 789–808. 10.1016/S0048-7333(02)00088-4
- Gupta, S.K., Gunasekaran, A., Antony, J., Gupta, S., Bag, S. and Roubaud, D. (2019), “Systematic literature review of project failures: current trends and scope for future research”, *Computers & Industrial Engineering*, Vol. 127 No. 5, pp. 274–285. 10.1016/j.cie.2018.12.002
- Hodgson, D. and Cicmil, S. (2008), “The other side of projects: the case for critical project studies”, *International Journal of Managing Projects in Business*, Vol. 1 No. 1, pp. 142–152. 10.1108/17538370810846487
- Hodgson, D. E. and Cicmil, and (2006), "Are Projects Real?: The PMBoK and the Legitimation Of Project Management Knowledge", *Making Projects Critical*. 10.1007/978-0-230-20929-9_2
- Hofstede, G, *Culture's Consequences: Comparing Values, Behaviors, Institutions and Organisations Across Nations*. London: Sage Publications. n.d.
- Ika, L.A. (2009), “Project success as a topic in project management journals”, *Project Management Journal*, Vol. 40 No. 4, pp. 6–19. 10.1002/pmj.20137
- Ivory, C. and Alderman, N. (2005), “Can project management learn anything from studies of failure in complex systems?” *Project Management Journal*, Vol. 36 No. 3, pp. 5–16. 10.1177/875697280503600302
- Jensen, A., Thuesen, C. and Geraldi, J. (2016), “The Projectification of everything: projects as a human condition”, *Project Management Journal*, Vol. 47 No. 3, pp. 21–34. 10.1177/875697281604700303
- Jugdev, K. and Müller, R. (2005), “A retrospective look at our evolving understanding of project success”, *Project Management Journal*, Vol. 36 No. 4, pp. 19–31. 10.1177/875697280503600403
- Khang, D.B. and Moe, T.L. (2008), “Success criteria and factors for international development projects: a Life-Cycle-Based framework”, *Project Management Journal*, Vol. 39 No. 1, pp. 72–84. 10.1002/pmj.20034
- Layzell, J. and Ledbetter, S. (1998), “FMEA applied to cladding systems - reducing the risk of failure”, *Building Research & Information*, Vol. 26 No. 6, pp. 351–357. 10.1080/096132198369689
- Lechler, T.G. and Thomas, J.L. (2015), “Examining new product development project termination decision quality at the Portfolio level: consequences of dysfunctional executive advocacy”, *International Journal of Project Management*, Vol. 33 No. 7, pp. 1452–1463. 10.1016/j.ijproman.2015.04.001
- Levitt, R. E. and Scott, W. R. (2016), "Global Projects: Institutional and Political Challenges", In: Flyvbjerg, B., ed. *Global Projects: Institutional and Political Challenges*, Oxford, UK: Oxford University Press, pp. 1–23.
- Lim, C.S. and Mohamed, M.Z. (1999), “Criteria of project success: an exploratory re-examination”, *International Journal of Project Management*, Vol. 17 No. 4, pp. 243–248. 10.1016/S0263-7863(98)00040-4
- Lindhard, S. and Larsen, J.K. (2016), “Identifying the key process factors affecting project performance”, *Engineering, Construction and Architectural Management*, Vol. 23 No. 5, pp. 657–673. 10.1108/ECAM-08-2015-0123
- Liu, J., Geng, L., Xia, B. and Bridge, A. (2017), “Never let a good crisis go to waste: exploring the effects of



- psychological distance of project failure on learning intention”, *Journal of Management in Engineering*, Vol. 33 No. 4, p. 04017006. 10.1061/(ASCE)ME.1943-5479.0000513
- Mahmoudi, A. and Feylizadeh, M.R. (2017), “A mathematical model for crashing projects by considering time, cost, quality and risk”, *Journal of Project Management*, Vol. 2, pp. 27–36. 10.5267/j.jpm.2017.5.002
- Maylor, H., Brady, T., Cooke-Davies, T. and Hodgson, D. (2006), “From projectification to programmatication”, *International Journal of Project Management*, Vol. 24 No. 8, pp. 663–674. 10.1016/j.ijproman.2006.09.014
- Morris, P.W.G. and Geraldi, J. (2011), “Managing the institutional context for projects”, *Project Management Journal*, Vol. 42 No. 6, pp. 20–32. 10.1002/pmj.20271
- Morris, P.W.G. and Hough, G.H. (1987), *The Anatomy of Major Projects: A Study of the Reality of Project Management*. Chichester: Wiley.
- Mostafa, S., Chileshe, N. and Abdelhamid, T. (2016), “Lean and agile integration within offsite construction using discrete event simulation A systematic literature review”, *Construction Innovation*, Vol. 16 No. 4, pp. 483–525.
- Nahyan, M.T.A. (2012), “Transportation Infrastructure Development in UAE Stakeholder Persp.pdf”, *Construction Innovation*, Vol. 12 No. 4, pp. 492–514.
- Navandar, Y.V., Bari, C. and Gaikwad, P.G. (2021), “Failure factors—a comparative study of private and government construction firms”, *Engineering, Construction and Architectural Management*, Vol. 25 No. 7. 10.1108/ECAM-03-2020-0184
- North, D. C. (1991), “Douglass C. North: Institutions”, *Journal of Economic Perspectives*, Vol. 5 No. 1, pp. 97–112.
- Orace, M., Hosseini, M.R., Papadonikolaki, E., Palliyaguru, R. and Arashpour, M. (2017), “Collaboration in BIM-based construction networks: a bibliometric-qualitative literature review”, *International Journal of Project Management*, Vol. 35 No. 7, pp. 1288–1301. 10.1016/j.ijproman.2017.07.001
- Orouji, M. (2016), “Critical Success Factors data Management”, *Journal Of Project Management*, Vol. 1 No. 2016, pp. 35–40.
- Pinto, J.K. and Mantel, S.J. (1990), “The causes of project failure”, *IEEE Transactions on Engineering Management*, Vol. 37 No. 4, pp. 269–276. 10.1109/17.62322
- Pollack, J., Helm, J. and Adler, D. (2018), “What is the iron triangle, and how has it changed?” *International Journal of Managing Projects in Business*, Vol. 11 No. 2, pp. 527–547. 10.1108/IJMPB-09-2017-0107
- Razak, D. S. A., Mills, G. and Roberts, A. (2016). Edited by P. W. Chan and C. J. Neilson, Manchester, UK: Association of Researchers, Construction Management.
- Ruiz Diaz, G. (2020), “What drives the failure of private participation in infrastructure projects?” *International Journal of Managing Projects in Business*, Vol. 13 No. 6, pp. 1167–1185. 10.1108/IJMPB-12-2019-0298
- Sage, D.J., Dainty, A.R.J. and Brookes, N.J. (2010), “Who reads the project file?” *Exploring the power effects of knowledge tools in construction project management*, *Construction Management and Economics*, Vol. 28 No. 6, pp. 629–639.
- Rwelamila, P. D., Talukhaba, A. A. and Ngowi, A. B. (1999), “Tracing the African Project Failure Syndrome: The Significance of ‘Ubuntu’”, *Engineering, Construction and Architectural Management*, Vol. 6 No. 4, pp. 335–346. 10.1108/eb021122
- Sage, D., Dainty, A. and Brookes, N. (2013), “Thinking the ontological politics of managerial and critical performativities: an examination of project failure”, *Scandinavian Journal of Management*, Vol. 29 No. 3, pp. 282–291. 10.1016/j.scaman.2013.01.004
- Sage, D., Dainty, A. and Brookes, N. (2014), “A critical argument in favor of theoretical pluralism: project failure and the many and varied limitations of project management”, *International Journal of Project Management*, Vol. 32 No. 4, pp. 544–555. 10.1016/j.ijproman.2013.08.005
- Saunders, F.C., Sherry, A.H. and Gale, A.W. (2016), “Dualities and dilemmas: contending with uncertainty in large-scale safety-critical projects”, *Construction Management and Economics*, Vol. 34 No. 9, pp. 657–675. 10.1080/01446193.2016.1196824
- Sausser, B.J., Reilly, R.R. and Shenhar, A.J. (2009), “Why projects fail?” *How contingency theory can provide new insights - A comparative analysis of NASA’s Mars Climate Orbiter loss*, *International Journal of Project Management*, Vol. 27 No. 7, pp. 665–679.
- Schein, E. H. (2004), *Organisation Culture and Leadership*. 3rd Edition, USA: John Wiley Sons.
- Schofer, Y.-G., Wald, A., Ingason, H.T. and Fridgeirsson, T.V. (2018), “Projectification in Western economies: a comparative study of Germany, Norway and Iceland”, *International Journal of Project Management*, Vol. 36 No. 1, pp. 71–82. 10.1016/j.ijproman.2017.07.008



- Shafiei, N.A. and Puttanna, K. (2021), “An investigation into the factors causing international development project failure in developing countries: focus on Afghanistan”, *Journal of Project Management*, Vol. 6 No. 3, pp. 157–170. 10.5267/j.jpm.2021.2.002
- Shore, B. (2008), “Systematic biases and culture in project failures”, *Project Management Journal*, Vol. 39 No. 4, pp. 5–16. 10.1002/pmj.20082
- Tariq, S. and Zhang, X. (2021), "A Critical Analysis of Water PPP Failures in Sub-Saharan Africa", *Engineering, Construction and Architectural Management*, July. 10.1108/ECAM-01-2021-0084
- Thornley, C. V. and Crowley, C. A. (2018), "Developing the Capability to Terminate IT Projects When They Can No Longer Deliver Business Value: A Discussion of Key Insights from Practitioners", *International Journal of Managing Projects in Business*, Vol. 11 No. 2, pp. 406–431.
- Trangkanont, S. and Charoenngam, C. (2014), “Critical failure factors of public-private partnership low-cost housing program in Thailand”, *Engineering, Construction and Architectural Management*, Vol. 21 No. 4, pp. 421–443. 10.1108/ECAM-04-2012-0038
- Turner, R. and Zolin, R. (2012), “Forecasting success on large projects: developing reliable scales to predict multiple perspectives by multiple stakeholders over multiple time frames”, *Project Management Journal*, Vol. 43 No. 5, pp. 87–99. 10.1002/pmj.21289
- Venkataraman, V. and Cheng, J. C. P. (2018), "Critical Success and Failure Factors for Managing Green Building Projects", *Journal of Architectural Engineering*, Vol. 24 No. 4, pp. 04018025. 10.1061/(ASCE)AE.1943-5568.0000327
- Walsh, G.S. and Cunningham, J.A. (2017), “Regenerative failure and attribution: Examining the underlying processes affecting entrepreneurial learning”, *International Journal of Entrepreneurial Behaviour and Research*, Vol. 23 No. 4, pp. 688–707.
- Xia, N., Zou, P.X.W., Griffin, M.A., Wang, X. and Zhong, R. (2018), “Towards integrating construction risk management and stakeholder management: a systematic literature review and future research agendas”, *International Journal of Project Management*, Vol. 36 No. 5, pp. 701–715. 10.1016/j.ijproman.2018.03.006