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RESEARCH ARTICLE

The Institutional Field of Learning from Project-Related Failures – Opportunities and Challenges

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Abstract

Learning from past project failures presents opportunities for firms working within the construction sector to improve project delivery. This is because, if lessons from these experiences are absorbed, they offer benefits such as failure mitigation and developing resilient project teams. However, instead of using sector-wide perspectives, Project-Based Organisations (PBOs) typically implement internal technological and strategic mechanisms in both learning and project management with little attention being given to institutional contexts. Hence, this study focuses on how learning within a PBO is influenced by the external environment by adopting institutional theory. Via exploratory research, the data was collected using semi-structured interviews with 19 UK construction industry professionals. Thematic data analysis method was used to analyse the data. Findings reveal that there exists an institutional field of learning within which PBOs operate based on their interactions with the external environment. Three pillars of organisations are revealed: Organisations that are related to the Regulatory Pillar, Normative Pillar and Cultural-cognitive Pillar. The study contends that each of these pillars offers lessons for the sector. Findings further reveal that cross organisational learning is hampered mostly by competition and fragmentation. Hence, to learn from failure, it is important that the sector brings together the identified institutional field

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members through boundary spanning organisations such as professional bodies and regulatory bodies. Thus, PBOs should build better networks by viewing organisations within the institutional field as sources of knowledge and embracing collaboration instead of competition.

Keywords

Institutional Field; Learning from Project-Related Failure; Project Based Organisation

Introduction

Learning from project-related failures is being encouraged across several industries including the construction industry due to the benefits this can provide. These include building team members' resilience, improved planning, innovation, and delivery of future projects ([Madsen and Desai, 2018](#); [Flyvbjerg, 2022](#)). Other benefits according to [Min \(2018\)](#) and [Scholten, Sharkey Scott and Fines \(2019\)](#) include avoiding the pain and cost of rare failures by learning from failures vicariously. [Danneels and Vestal \(2020\)](#) also contend that learning from project-related failures develops confidence and constructive ways of solving problems. [Khanna, Guler and Nekar \(2016\)](#), who did a study in the pharmaceutical industry, also reason that learning from project-related failures improves the quality and output of product development. However, within construction, even when project-related failures affect several parties, failure and the influence of institutions on learning from project-related failures has received little attention. Similarly, scholars such as [Morris and Geraldi \(2011\)](#) and [Biesenthal, et al. \(2018\)](#) contend that there is a lack of understanding of institutions in the project environment. Specifically, [Biesenthal, et al. \(2018\)](#) observe a lack of field-wide learning within project management which mostly relies on a normative approach to learning, by instilling professional standards and certification. Accordingly, [Hu, et al. \(2023\)](#) encourage paying attention to the complex project environment (national and regional) since it influences the final outcome of a project.

Accordingly, instead of focusing on a single project based organisation (PBO) or project, attempts of learning from project-related failures should consider the many parties or institutions involved in the project-delivery process. To achieve that, institutional theory has been adopted in this study as the theoretical lens. Institutions are considered as the rules of the game and norms, arising from social interactions, which constrain or facilitate human behaviour ([North, 1991](#); [Hall and Scott, 2019](#)). Accordingly, [Uriarte, Espinoza-Benavides and Ribeiro-Soriano \(2023\)](#) contend that society (e.g., friends, family and the governments) does influence a firm's capability to learn from past failures through failure identification and financial and emotional support when recovering from grief and shame. [Escandon-Barbosa and Salas-Páramo \(2022\)](#) also contend that learning is influenced by social networks which act as sources of information and feedback. Therefore, [Engwall \(2003\)](#) advises against focusing on individual project structures and dynamics by calling "*for an ontological change; instead of lonely and closed systems, projects have to be conceptualized as contextually-embedded open systems, open in time as well as in space*" (2003, p.791). [Morris and Geraldi \(2011\)](#) similarly argue against technical mechanisms such as project planning in favour of context wide mechanisms that acknowledge the influence of the external environment on PBOs and their respective projects. Focusing on learning, scholars such as [Hartmann and Dorée \(2015\)](#) and [Wei and Miraglia \(2017\)](#) contend that learning is influenced by social activities embedded in an organisation such as organisational artefacts, norms and shared beliefs. Thus, understanding the influence of other organisations learning from failures within the sector cannot be overemphasized since learning is a social process. Therefore, considering [Argote, McEvily and Reagans \(2003\)](#) who contend that though the relationship between units of learning is important and yet it receives little attention, this study is focused on discussing how institutional field parties influence learning from project-related failures. According to [DiMaggio and Powell \(1983\)](#), the institutional field in this study is defined as different organisations that interact and operate in a recognized institutional life by producing similar products and services. This is in

contrast to having a community of practice (CmP) since it creates islands of practice through identification and membership of specific groups working towards similar goals, as observed by [Macpherson and Clark \(2009\)](#). Hence, the main aim of the study is to assess how institutions influence learning from project-related failures. This will be achieved by addressing the following questions a) *Who are the actors involved in the institutional field of learning from project-related failures?* and b) *How do actors in the institutional field of learning from project-related failures influence learning from failure?*

Past studies and theoretical positioning

Learning from failure is being encouraged in several sectors. However, within construction, focus has been on PBOs' mechanisms and technology for failure detection, mitigation and collecting and sharing lessons through lessons learnt meetings. For instance [Ulitzsch, et al. \(2023\)](#) discuss the use of machine learning for identifying failures early. [Anandayuvraj, et al. \(2023\)](#) also examined the use of failure lessons in designing internet of things (IoT) systems with [Schmidt \(2023\)](#) discussing how information from past failures can be used mitigate risks. Other scholars have reviewed the emotional side and recovery of individuals ([Shepherd and Cardon, 2009](#); [Frese and Keith, 2015](#)), failure perception and orientation ([Chiponde, Gledson and Greenwood, 2022a](#); [Tao, Robson and Wing, 2023](#)) and culture ([Cannon and Edmondson, 2005](#); [Catino and Patriotta, 2013](#)). Evidently, focus has been on definition and mitigation of failure within individual PBOs without considering the wider context even when projects have increased in size and complexity ([Biesenthal, et al., 2018](#); [Hu, et al., 2023](#)). Therefore, instead of focusing on individual PBOs when discussing learning from project-related failures, this study argues in favour of understanding the influence of the external environment on learning. This aligns with scholars such as [Lau, Li and Cheung \(2019\)](#) who encourage a global perspective of learning and [Madsen and Desai \(2018\)](#) who suggest a population level of learning since this offers a wider source of lessons and possible solutions to the challenges faced by PBOs.

THE INSTITUTIONAL THEORY LENS

In order to understand who is to be involved in the wider approach to learning from project-related failures, institutional theory has been adopted. This is in agreement with [Oju and Chen \(2022\)](#) who consider institutional theory ideal for analysing the micro and macro environments of project management since it involves multiple disciplinary fields and stakeholders. Accordingly, [Bresnen \(2016, p.328\)](#) contends 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"*. This is based on the understanding that *"Institutions comprise regulative, normative, and cultural-cognitive elements that, together with associated activities and resources, provide stability and meaning to social life"* ([Scott, 2014, p.56](#)). Institutions are defined by [Dille and Söderlund \(2011, p.485\)](#) as *"cultural rules and resources that shape how we experience and perceive the environment"*. Though these rules may come from formal and informal structures, this study focuses on formal structures as sources which are referred to as institutional pillars (regulatory, normative and cultural-cognitive pillars). This is because formal institutions are well structured and easily identified as opposed to informal institutions which are difficult to structure and document the learning process ([Wang, et al., 2018](#)). According to [Scott \(2014\)](#) the regulatory pillar is composed of regulatory organisation such as government bodies and financial institutions which influence behaviour through coercion (rules, laws and sanctions). The normative pillar includes professional bodies such as the Association for Project Management (APM) and influence behaviour through standardization of good practice achieved through accreditation and certification. The third pillar is the cultural-cognitive pillar and is composed of peer PBOs, suppliers and supply chain wide actors who influence each other through common beliefs and values.

Realising the negative perception associated with failure, the above institutional pillars may also provide mechanisms of legitimizing and structuring learning from project-related failures. This is based on [Meyer](#)

[and Rowan's \(1977\)](#) earlier observation that practices that are normatively sanctioned are easily accepted by organisations. Therefore, instead of conceptualising or restricting the sources of lessons to a single organisation (or a project), the sector (society) is considered as the wider source of lessons ([Levinthal and March, 1993](#); [Barnett, 1994](#); [Madsen and Desai, 2018](#)). This is by identifying the parties involved in learning from project-related failures and how they influence the process by referring to institutional theory's concept of an 'institutional field'. This aligns with [Bresnen \(2016\)](#) and [Levitt and Scott \(2016\)](#) who emphasize the need to understand the institutional context and how it enables or inhibits the development of a discipline.

THE INSTITUTIONAL FIELD OF LEARNING FROM PROJECT-RELATED FAILURES

Debate exists on whether it is an individual or an organisation that learns. In this study, we agree with [Edmondson \(2004\)](#) who reasons that the two are inseparable and indispensable in the process of learning. Organisations and teams learn through individuals while organisations create an environment for individuals to learn. Therefore, in agreement with scholars such as [Madsen and Desai \(2018\)](#) who encourage a population level approach to learning, we suggest a systemic approach to learning which occurs at all levels: individual, project, organisational and sectoral levels. To achieve that, the institutional field has been considered as a framework for learning from project-related failures. [DiMaggio and Powell \(1983, p.148\)](#) define the institutional field as "*organizations that, in the aggregate, constitute a recognized area of institutional life: key suppliers, resource and product consumers, regulatory agencies, and other organizations that produce similar services or products*". The institutional field shows the interlink of organisations and individuals to the wider social structure and other regulatory agencies ([Dille and Söderlund, 2011](#)). Equally, PBOs do not operate in isolation, since they interact with organisations such as regulatory agencies, professional bodies, financial institutions, suppliers, and client bodies with which they form an institutional field of learning from project-related failures.

THE INFLUENCE OF INSTITUTIONS ON LEARNING FROM PROJECT-RELATED FAILURES

According to [Hall and Scott \(2019\)](#), project delivery involves fragmented teams with varied networks of professionals such as designers, academics, contractors and suppliers who have to conform to the industry's norms, rules and values. These rules and norms also influence learning within projects ([Escandon-Barbosa and Salas-Páramo, 2022](#)). The institutional field of learning from project-related failures and its parties' influence can be appreciated from the three institutional pillars. For instance, the regulatory pillar-related organisations' influence is through coercion (i.e., rules from government and other regulatory bodies). Examples of such organisations include client bodies which assist with failure identification and cognition and financing learning related activities. The regulatory pillar related norms may also include policies, budgeting and structuring learning within an organisation ([Escandon-Barbosa and Salas-Páramo, 2022](#)). A good example is the Sutter Health project where problems were identified within the system and rectified. Accordingly, through engagement with industry partners, the client was able to learn from such failures by using integrated project delivery and learn construction principles ([Hall and Scott, 2019](#)). The normative pillar's influence on learning from project-related failures may be observed from professional bodies which set standards for practice and training professionals (via certification and accreditation), legitimising and diffusing the content of the knowledge (and changes) such as the Project Management Body of Knowledge (PMBOK) ([Greenwood, Suddaby and Hinings, 2002](#); [Morris and Galdi, 2011](#)). The Cultural-cognitive pillar's influence is through mimicking beliefs and values (i.e., rules based on religion and cultural differences). Organisations in this pillar include peer PBOs and suppliers. Therefore, through social interaction amongst peer construction firms, knowledge and information may be shared across organisations ([Escandon-Barbosa and Salas-Páramo, 2022](#)). However, due to the competitive nature of the sector, failure is rarely shared by organisations who seek to maintain their social legitimacy and competitiveness

as observed by [Chiponde, Gledson and Greenwood \(2022a, 2022b\)](#). Hence, this study encourages the institutional field actors to focus on collaboration instead of competition.

BARRIERS AND OPPORTUNITIES OF THE INSTITUTIONAL FIELD APPROACH TO LEARNING FROM PROJECT-RELATED FAILURES

As much as the institutional field approach to learning from project-related failures is being encouraged, knowledge may not be shared easily due to fragmented participants and professionals with divergent world views, institutional norms (different actors, institutional interest and pressures), beliefs and values ([Grunberg and Pallas, 2009](#); [Perkman, 2017](#)). For instance, [Bresnen \(2016\)](#) has observed that the differences and fragmentation of the parties are reflected in the challenge of understanding project management and organisational processes of knowledge management and learning. Such differences can be observed from the contractors' focus on profit while the clients are focused on value for money. [Perkman \(2017\)](#) further observes that academics value knowledge that is acceptable by peers whilst among practitioners, commercial value and impact of knowledge is prioritised. Other institutional barriers include the focus on performance, productivity, and practices instead of the long-term development of the project. Hence, stopping a project in order to capture and share lessons is seen as counterproductive ([Macpherson and Clark, 2009](#)). Considering [DiMaggio and Powell \(1983\)](#), identifying firms within the institutional field and its boundary is not straightforward since some members may leave whilst others are joining the field at different times. Due to competition within the sector, shame, embarrassment and the fear of losing one's employment and competitiveness leads to hiding and a lack of sharing failure related information ([Danneels and Vestal, 2020](#)). Such competition may also lead to failure of some organisations as observed much earlier by [Hannan and Freeman \(1977, p.940\)](#) who contend that "*Organizational forms presumably fail to flourish in certain environmental circumstances because other forms successfully compete with them for essential resources*".

[Macpherson and Clark \(2009\)](#) also note that institutional practices such as recruitment, induction and training based on teams create islands of practice between gangs. In addition, PBOs may not engage in learning from project-related failures if such learning is not embedded in the contract. Interaction between PBOs may also be limited to those with contractual arrangements such as suppliers and subcontractors. This aligns with [Wang, et al. \(2021\)](#) who notes that knowledge sharing and relationships of parties on mega projects are affected by contractual arrangements. These may include contractual functions (which omits learning from project-related failures) and time and cost constraints. These influence the frequency, nature of information and documents (or lessons) that is shared. Therefore, contractual agreements such as frameworks which support long term collaboration and learning (sharing past failures) among the parties is being encouraged.

Opportunities from the institutional field

The benefits of the institutional field can be observed from [Morris and Geraldi \(2011\)](#) who note that focusing on 'organisation of the environment' and not 'organisations in their environment' enhances interaction between the many parties for effective project management. Institutional actors also legitimize and coerce the sharing of information since sources of knowledge with authority and expertise receive more weight or attention ([Chiponde, Gledson and Greenwood, 2022a](#)). This aligns with [Escandon-Barbosa and Salas-Páramo \(2022\)](#) who contend that institutions facilitate learning through networks and structured processes with the external world. This also serves as a source of current and past lessons from failures. The opportunities of learning from the institutional field can be appreciated from [Min \(2018\)](#) who contend that vicarious learning from failures reduces the cost and reputation damage to an organisation since it does not experience the actual failure. In addition, the institutional field approach encourages the recognition of connectedness instead of competitiveness ([DiMaggio and Powell, 1983](#)). Importantly, since project delivery involves various organisations [Scholten, Sharkey Scott and Fynes \(2019, p.430\)](#) recommend

that “*collaborative and vicarious learning across the supply chain and broader network of stakeholders not only in preparation for, but also in response to and recovery from disruptions*”. Such sector wide learning from project-related failures is evident from the Grenfell tower fire disaster which led to the introduction of new fire testing regime for new materials and guidelines through the engagement of regulatory bodies and professional bodies. For instance, the ‘Code of Quality’ a guide on quality management on site, has been published by the Chartered Institute of Builders (CIOB) in response to the Grenfell tower fire disaster ([Flanagan and Jewell, 2021](#)). Therefore, sector wide approach to learning offers multiple sources of lessons from failure that may assist in developing resilience within teams members and project delivery ([Madsen and Desai, 2018](#)).

Dynamism, competing values and logics within an institutional field

Though the identified parties in the institutional field of learning from project-related failures offer opportunities, worth considering is [Faulconbridge and Muzio \(2021\)](#) who emphasize the need to appreciate the dynamic nature of the institutional field since they involve subfields. More specific, [Ringel, Hiller and Zietsma \(2018\)](#) contend that some organisations may be embedded in the field on a shorter period, while others may be exposed to one or more institutional fields. As such, organisations may have divergent values, needs and interests due to different institutional pressure such as mega projects which involve PBOs and financiers from different countries with varying institutions. Hence, interaction may not only exist between organisations, but also across fields necessitated by globalisation ([Ringel, Hiller and Zietsma, 2018](#); [Faulconbridge and Muzio, 2021](#)). This also presents the challenge of governing cross institutional field interactions influenced by a number of factors such as national culture and professional background which leads to boundary protection ([Ringel, Hiller and Zietsma, 2018](#)). In construction, this is reflected via competitive tendencies. For instance, PBOs within an institutional field may compete for a larger market share which hinders boundary permeability since both good practice and failures are hidden.

Enhancing learning from project-related failures - boundary spanning practices

Since knowledge does not only reside within an organisation but also across organisations and communities, [Perkman \(2017\)](#) encourages the use of boundary practices (and organisations) that are effective in diffusing conflicts amongst actors and at the same offer structural and cognitive mechanisms for sharing knowledge. Similarly, [Stjerne, Soderland and Minbaeva \(2019\)](#) encourages the use of boundary organisations (organisations that interact with several organisations within a field by virtue of their authority) and framing as practices which may facilitate collaboration and exchange of lessons. Framing “*involves the use of various measures that extend or shrink the time horizon of the interorganizational collaboration... in order to motivate additional resource investments, knowledge sharing, and relational stability*” ([Stjerne, Soderland and Minbaeva, 2019](#), p.353). From a project management perspective, these may include professional bodies, universities and regulatory bodies such as the Health and Safety Executive. This is by acting both as repositories of knowledge and framing and structuring (social) interactions among PBOs for purposes of sharing lessons from failure. The Code of Quality report produced by the CIOB serves as an example which provide guidance on quality management on construction sites in response to quality failures ([Flanagan and Jewell, 2021](#)). Other boundary organisations, and associated boundary documents, include the National Audit Office’s reports on delayed and over budget projects such as Crossrail ([NAO, 2019](#)). In contrast, [Sage, Dainty and Brookes \(2010\)](#) contend that some of the boundary objects such as project files are rarely used. Hence, to encourage use of boundary objects and interaction with boundary organisations it is important that incentives such as prospective works are offered across supply chain actors ([Stjerne, Soderland and Minbaeva, 2019](#)).

Instead of focusing on one institutional pillar and associated organisations, which is typical of the *CmP*, the study agrees with [Levitt and Scott \(2016\)](#) who recommend a ‘multiple pillars’. This is based on the understanding that any system is sustained by the robust interaction of the regulatory, normative and cultural-cognitive pillars. Therefore, this study proposes a shift from the *CmP* to an institutional field for the following reasons: Firstly, the *CmP* is myopic and limited with regard to sources of knowledge since it only considers teams with similar practice and is focused on quality practices without considering failures ([Macpherson and Clark, 2009](#)). Secondly, the word ‘community’ presents the *CmP* as being homogenous, yet disputes may at times arise in such ‘communities’ since teams have vying and different interests. For instance, contractors are focused on profit while the regulatory bodies or clients are focused on value for money ([Jugdev and Muller, 2005](#); [Müller and Jugdev, 2012](#)). [Lindkvist \(2005\)](#) also contends that because projects are temporal, the *CmP* cannot be sustained since this requires teams or units that have worked together for a long time. [Roberts \(2006\)](#) also observe lack of clarity on power and control within the *CmP*. Consequently, participants struggle to balance instructions from internal leaders and those from external organisations. Therefore, [Roberts \(2006, p.628\)](#) notes that “*where power is centralized, negotiation may be limited to key figures of authority within the organization, the voices of members of a community may be somewhat muted*”. Such imbalance of power can be observed from the contractor-subcontractor relationships with the main contractor having more influence in discussing failures since they decide who to engage in future projects ([Chiponde, Gledson and Greenwood, 2022b](#)). Hence, since project delivery involves multiple, teams the institutional field does provide an opportunity to structure the parties and their powers through norms established under the three pillars (regulatory, normative, and cultural-cognitive).

Methodology

To get a better understanding of the main parties involved in learning from project-related failures and their influence, the study adopted an exploratory study. Due to failure being subjective, the data was collected through semi-structured interviews since they offer an opportunity of getting in-depth insights through probing. Having adopted institutional theory, which inherently discusses heterogenous organisations, the participants were purposively sampled from varied professions in order to have views from the wider institutional field of where learning from project-related failures occurs. Accordingly, 19 participants were drawn from different construction professionals and PBOs of varying size and type such as project managers, quantity surveyors, architects, planners, and engineers. The interviews were conducted face-to-face and virtually through Microsoft Teams in order to reach participants in distant locations. Due to the sensitive nature of failure, snowball sampling was adopted ([Bryman, 2012](#)). This involved initially gaining trust from a few participants who later then recommended other participants to be interviewed. Worth stating are limitations associated with snowball sampling such as difficulty in achieving a representative sample and generalization of findings. However, in agreement with [Bryman \(2012\)](#), the method was adopted since it is ideal for qualitative studies which do not seek to test a theory and are focused establishing relationships amongst people or actors. This aligns with the focus of our study which sought to identify parties and their influence on learning from project-related failures. To overcome such limitations, participants with varied experience (number of years and professional background) and position/power (top and middle management) were interviewed. Therefore, participants with over 10 years were interviewed and data saturation was reached at 19 ([Malterud, Siersma and Guassora, 2016](#)). See [Table 1](#) which provides a summary participants’ information.

The data was analysed using thematic data analysis method. Considering [Bryman \(2012\)](#), [Saunders, Philip and Thornhill \(2009\)](#), and [Nowell, et al. \(2017\)](#), the key stages of thematic data analysis involved the following stages. The initial stage involved transcription using NVivo 12 and familiarisation with transcripts. Due to the sensitive nature of the topic, denaturalised type of transcription was adopted which allowed the

Table 1. Summary of Research Participants' Information

Interview No.	Participants ID	Years of Experience	Job Function	Job Level	Company Size
1	Participant 1	10 - 19 Years	Director	Top Management	1 - 49 Employees
2	Participant 2	10 - 19 Years	Director	Top Management	250+ Employees
3	Participant 3	30+ Years	Academic/Civil Engineer	Middle management	250+ Employees
4	Participant 4	10 - 19 Years	Electrical Engineer	Middle Management	50 – 249 Employees
5	Participant 5	30+ Years	Project Planner	Middle Management	250+ Employees
6	Participant 6	20 - 29 Years	Project Manager	Top Management	250+ Employees
7	Participant 7	30+ Years	Environmental Engineer	Top Management	1 - 49 Employees
8	Participant 8	30+ Years	Director	Top Management	250+ Employees
9	Participant 9	10 - 19 Years	Director	Top Management	250+ Employees
10	Participant 10	20 – 29 Years	Director	Middle Management	250+ Employees
11	Participant 11	20 – 29 Years	Project Manager	Upper Management	250+ Employees
12	Participant 12	Over 30 Years	Regional Manager	Lower Management	250+ Employees
13	Participant 13	10 – 19 Years	Social Value Manager	Lower Management	250+ Employees
14	Participant 14	20 – 29 Years	Civil Engineer	Lower Management	250+ Employees
15	Participant 15	10 – 19 Years	Civil Engineer	Top Management	1 – 49 Employees
16	Participant 16	20 – 29 Years	Regional Manager Commercial	Middle Management	250+ Employees
17	Participant 17	10 – 19 Years	Commercial Manager	Lower Management	250+ Employees
18	Participant 18	10 – 19 Years	Services Engineer	Middle Management	250+ Employees
19	Participant 19	20 - 29 Years	Project Manager	Lower Management	250+ Employees

removal of actual company names (and personal information) and vocalised expressions ([Oliver, Serovich and Mason, 2005](#)). This led to the second stage which involved identification of themes through prolonged reading and review of transcripts. As a guide, the initial codes were informed theoretically by institutional theory and took a deductive approach. Hence, themes of the parties within the institutional field of learning from project-related failures were categorised and coded based on the three pillars (regulatory, normative, and cultural-cognitive related organisations). Using the inductive approach, repeating topics among participants were also identified as themes such as boundary related mechanisms. The third stage involved reviewing the themes. According to [Braun and Clarke \(2006\)](#) and [Nowell, et al. \(2017\)](#), this involves checking for themes that may not have enough data while those with similar themes being combined. The final stage involved drawing relationships between the identified codes and was supported by sufficient details from the transcripts in form of quotations as advised by [Nowell, et al. \(2017\)](#).

Findings

The first section of the findings is based on the participants' perception of failure as this is considered as the important part of learning from failures. The second part discusses the levels and the parties in the process of learning from project-related failures. This is in response to the two main questions of the study: a) Who are the actors involved in the institutional field of learning from project-related failures, and b) How do actors in the institutional field of learning from project-related failures influence learning from failure?

UNDERSTANDING AND PERCEPTION OF FAILURE

Participants were asked on how they define and measure failure which gave subjective or contradicting definition. For instance, though Participants 18 and 19 referred to a failed project as the one that does not meet its intended function. In contrast, Participant 17 referred to a failed project as when *"the project hasn't made the percentage profit that you want to make"*. However, this study encourages a balanced perception of project failure as provided by Participant 4 *"...a project which has not met the requirements [and] expectations of a client, and you also as an organisation [contractor] in terms of the profit"*. It was also found that a contest of power exists on projects when deciding on whether there is a failure or not. Two extremes were found: the client (and its project management team) and the end users, with the client having more influence than the users. Evidently, Participant 5 indicated that *"that links with understanding who the project stakeholders are and much more importantly understanding which of them have the powers... the ability to say whether the project has failed or not"*. This demonstrates the influence of institutions and how project failure is perceived and measured subjectively. However, though failure is subjective, project failure is still mostly measured through the regulatory and normative pillars by referring to the time, cost, and quality constraints. For instance, Participant 4 indicated that *"if you extract issues [failures] relating to suppliers, supply issues whether it was a wrong product supplied or it was a supplier who failed, who delivered outside the agreed time limit"*.

LEARNING FROM OTHERS - A MULTILEVEL APPROACH

In order to learn from project-related failures, participants emphasized engaging everyone. For instance, Participant 2 noted that *"...you need an external view of it. The person who is being directly accountable or directly in the interface with the failure, you essentially need that reviewed and challenged by a number of experienced and senior people around them"*. Therefore, the following themes have been identified as levels for learning from failure:

- **Theme 1 – Individual Level:** As much as sector wider learning is being encouraged, individual learning remains important. This may include individuals attending company sponsored training and CPDs as observed by Participant 17 *"So we do have training courses which are organized through the year"*

and we put people on those training courses to improve their ability and obviously make their progressive learning as well.”

- **Theme 2 – Team/Project Level;** Unlike a focus on productivity at the project level, participants encouraged projects to serve as a source of knowledge. For instance, Participant 2 indicated that *“perception and understanding needs to be more about how collaboration is managed and how knowledge is shared, and the culture on a project, moving away from, we produce deliverables towards we produce a landscape of information that everyone uses”*
- **Theme 3 – PBO Level:** At the PBO level, Participant 2 reasoned that *“Quite often you may need other people from the business support involved, it could be how HR manages something, it could be finance getting involved, it just depends”*. This may also be likened to [Grunberg and Pallas’ \(2009\)](#) boundary units within an organization as evidence of the influence of institutions.
- **Theme 4 – Sectoral Level:** The importance of the sectoral level may be observed from Participant 14 who reasons that *“if a certain group came together, you may be key designers, or customers and suppliers within the organisation. One modification could impact the internal customers and vendors.”* This again highlights the influence of institutions on learning from project-related failures and the possibility of making the boundaries between organisations permeable to allow the inflow and outflow of lessons from failure ([Perkman, 2017](#)).

Considering the above themes, the findings demonstrate the need to take a sectoral approach to learning from project-related failures.

WHO SHOULD BE INVOLVED IN LEARNING FROM PROJECT-RELATED FAILURES AND THEIR INFLUENCE?

To identify the parties in the institutional field of learning from project-related failures, participants were asked to indicate who they involve in the process of learning from failures. In reference to the previous section, the project level and PBO level are regarded as important units for learning from project-related failures. This is supported by Participant 4 echoed that *“all the key project team members must be involved... any other organisational department which contributes to projects must also be involved”*. However, since a context wide approach via the institutional field is being encouraged, it is worth considering the reasoning by Participant 10 of involving external organisations such as the client: *“So we incorporate the client side, we get the design side, the build side and all those individuals right through to handover processes. So, we get a cross section view from everybody about how well we are performing in these particular areas”*. Thus, responses to the research question on who should be involved in learning from project-related failures, the themes of parties to be involved were identified based on the following institutional pillars:

- **Theme 1 – Regulatory pillar-related actors** – Participant 1 indicated that *“the government and all the different governing bodies... have a part to play, they could probably work together on some [additional] standard key performance indicators for the industry”*. Therefore, under the regulatory pillar, mechanism for encouraging (influencing) learning is coercion via contractual arrangements and provision of guidelines. For instance, Participant 3 indicated that there has to be an external force (such as policy and culture) to encourage acceptance of failures and learning from them: *“Let’s say a construction project has a fatality, they are forced to try and learn from that because of the legal proceedings brought against them and procedures and regulations that govern that sort of things”*. Participant 1 also referred to the government collecting failure information for government projects by requesting contractors to submit records to a common portal to review the performance of various projects with the intention of collecting and sharing lessons on failure.

- **Theme 2 - Normative pillar-related parties** - Participant 2 submitted that *“Maybe the CIOB or someone like that could get... call it a lesson learnt amnesty rather than a failure amnesty which might get a few people”*. Under the normative pillar, this is through embedding learning from project-related failures into good practice, providing guidelines and documenting lessons for sharing across the sector by professional bodies. Hence, the influence of normative related pillar parties by embedding lessons on failure in professional body practices such as certification and accreditation.
- **Theme 3 - Cultural-cognitive pillar-related parties** – This may include peer PBOs, subcontractors, suppliers, and other supply chain actors. Accordingly, Participant 14 notes that *“the whole team working on the [project] needs to be involved in the measure right from internal and external suppliers and that’s right through the internal and external customers and clients. And subcontractors they normally get left out, they are normally who get the blame”*. Learning at this level is influenced through the belief and values held across the sector. Hence, collaboration is encouraged as opposed to competition. In addition, by mimicking, PBOs may learn vicariously from their peers’ failures.

Overall, an institutional wide approach as opposed to learning within individual PBOs is echoed by Participant 1 who reasons that *“it’s really dangerous to concentrate just on your expertise, you have to open that up to everybody within your team. Because there might be what any other discipline might think is the right way to approach something or detail something, once it’s been done on site, it might not actually be practical to do it as you are drawing it”*. This aligns with scholars in favour of boundary spanning practices and appreciating subfields since knowledge does not reside within a single organisation ([Perkman, 2017](#); [Faulconbridge and Muzio, 2021](#)). In contrast, instead of learning involving other organisations in the institutional field, Participant 4 focused more on the PBO level by stating that *“organisational learning, it’s basically the learning process is run under the human resource department”*. Instead of such an approach, collective learning is being encouraged since it presents benefits to all parties as echoed by Participant 17 that *“It is all about sharing the lessons learnt... If we can make them [subcontractors] profitable as a company by learning from mistakes, we will become more profitable because they are... And if the site runs smoothly, generally the subcontractor makes money and so do we”*. This also highlights the influence of leadership and sub-institutions within an organisation learning from failure. Hence, attention should be given to nuances observable within the institutional field which include power differences. For instance, Participant 16, as a main contractor, echoed that subcontractors not willing to engage in learning risk not being considered for future jobs. Equally, the influence of key parties such as the client, from the regulatory pillar, can be appreciated from Participant 5 who revealed that the *“Sutter health did in California with lean production.... you had a client who had 4-billion-dollar, production program of a new hospitals... a big powerful client who said I want this, I want more value from my book”*. This shows that learning from project-related failures is not only a responsibility of the contractor but all key stakeholders.

USE OF LESSONS FROM FAILURE AND ASSOCIATED BARRIERS

To encourage learning from project-related failures, and further review the influence of institutions on learning, participants were asked to state their use of lessons from failure. Most participants indicated a lack of use of lessons from failures. Instead, failures are used to assess the performance of suppliers (including subcontractors) and individuals. For instance, Participant 6 echoed that *“project managers can come up and see what people have scored and what their ratings are... I wouldn’t use them if they have got a low score”*. Thus, the typical response to failures, instead of learning from such experiences, is ‘who to fire or blame’. In addition, though participants referred to a sectoral level of learning, most learning occurs at PBO level. Reasons advanced for such responses, which may also hinder the effectiveness of the institutional field of learning from failure, are summed up in the following themes:

- **Theme 1 – Competition:** The competitive nature of construction and the negative effect of failure on PBOs' competitiveness was cited as a barrier. Participant 2 echoed that *"the commerciality of the construction sector means that any business open enough to talk about failure in a direct way risks the opportunity of working with that client again on the next project, because it could be reputational damage for them and the client"*.
- **Theme 2 Productivity:** PBOs are not willing to stop construction activities in order to learn from failures. This can be observed from Participant 5 who indicated that the sector just wants to see things done by stating that *"you are under constant pressure to do something, because construction values doing, movement. If there is a hole fill it, if you have got some concrete foundations, put some brickwork on it. It's absolutely... [unheard of] in construction to stop a job and think."*
- **Theme 3 – Profitability:** Profitability and costs were also cited among barriers to learning from project-related failures. For instance, Participant 5 indicated that *"it's the cost driven nature as opposed to the value driven nature of the industry; it's the low profits; not allowing investments in the systems to improve"*.
- **Theme 4 – Fragmentation:** The fragmentation of the sector is another barrier to learning from failure. Evidently, Participant 14 reasons that *"you can have everyone working together but then you still stay in your silo because they want [to] do better than the others at the work center, to be looked at great as an organisation"*. From an institutional theory perspective as discussed by [Ringel, Hiller and Zietsma \(2018\)](#) and [Faulconbridge and Muzio \(2021\)](#), this echoes the importance of making organizational boundaries permeable for effective learning from project-related failures.

Worth stating is that the above themes of barriers are not exhaustive. Other barriers include a lack of acceptance of failure and the perception that learning from failures does not generate income (Participant 16 and 19). Therefore, to surmount these barriers, sector wide efforts are encouraged such as collaboration instead of relying on learning within individual PBOs.

Discussion and framework

For a sector associated with unsatisfied customers and projects repeatedly experiencing failures such as cost and time overruns, learning from project-related failures collectively through a multilevel approach involving several actors such as professional bodies and learning institutions cannot be over emphasized. This aligns with earlier studies such as [Hannan and Freeman \(1977\)](#), and [Madsen and Desai \(2018\)](#) who recommend a population level approach to learning since this offers a heterogenous source of lessons and solutions to common problems within the sector. Similarly, [Kortantamer, Kalra and Vine \(2021\)](#), p.6) contend that *"there is a need to develop reflexive learning skills that move beyond individualised learning from the past... This requires an organisational culture that recognises the benefits of joint problem-solving, strategic envisionment and experimentation"*. However, though there has been an increase in parties interacting together, findings show a focus on how to be efficient or work together without discussing or learning from failures. Accordingly, this study builds on earlier calls by scholars such as [Morris and Geraldi \(2011\)](#) and [Bresnen \(2016\)](#) who encourage paying attention to the institutional context of project management practices by focusing on the institutional field of learning from project-related failures. Consequently the influence of institutions (via the institutional field) for effective learning from project-related failures is crucial via the identified institutional pillars (regulatory and normative) as echoed by [DiMaggio and Powell \(1983\)](#), p.148) that *"Strategies that are rational for individual organizations may not be rational if adopted by large numbers. Yet the very fact that they are normatively sanctioned increases the likelihood of their adoption"*. However, the institutional field is dynamic since this involves temporal teams and organisations that have to reconfigure and restructure depending on the nature of the project ([Wei and Miraglia, 2017](#)). Evidently, the

main barriers to learning from project-related failures revolve around the fragmented sector, time constraint and temporary teams. This further confirms earlier findings by [Latham \(1994\)](#) and how these challenges have persisted within the sector. To counter these, the study recommends the following framework based on boundary objects and practices driven by institutional mechanisms. This by building on earlier works of [Stjerne, Soderland and Minbaeva \(2019\)](#) and [Eggleton \(2021\)](#).

BOUNDARY ORGANISATIONS

To encourage effective learning from project-related failures, it is worth considering [Eggleton \(2021\)](#) who recommends boundary organisations, which are organisations that interact with other firms within the sector by virtue of their authority. From an institutional perspective, the identified boundary organisations, include professional bodies such as CIOB, APM (normative-related) and regulatory-related bodies such as the Health and Safety Executive. These interact with other PBOs by virtue of their regulatory powers or affiliation of members which presents an opportunity of collecting and sharing lessons from failures. These boundary organisations may assist with legitimizing the lessons ([Perkman, 2017](#)) and the process of learning from project-related failures. Such an example is the CIOB's 'Code of Quality' series of reports and guidelines on how to manage quality on construction projects ([Flanagan and Jewell, 2021](#)). At the organisational level, in agreement with [Grunberg and Pallas \(2009\)](#), boundary spanning units (e.g., human resource department and project leaders) can be used to share lessons from past and current projects across departments and project teams.

BOUNDARY DOCUMENTS

The sector relies mostly on project reports and lessons learnt reports which in most cases are not used across projects or organisations ([Sage, Dainty and Brookes, 2010](#)). Therefore, in a bid to encourage learning from project-related failures, 'boundary documents' are recommended. These are basically documents that 'cross boundaries' (such as cross-organisation, cross-department or cross-project) ([Newell and Edelman, 2008](#)). Thus, through the normative or regulatory pillar-related organisations, boundary documents (project progress report, lessons learnt report, annual reports) can be shared and could be produced in different formats (virtually, podcasts, online reports/portals).

BOUNDARY PRACTICES – FRAMING

Realising the temporal nature of construction project teams, worth considering is 'framing' which [Stjerne, Soderland and Minbaeva \(2019\)](#) refer to as extending the time horizon for interorganisational collaboration. Relying on the normative and regulatory pillars, this could be achieved via contractual clauses or guidelines which encourage project parties to commit to future learning beyond project completion. This may be motivated by sharing future opportunities for suppliers or contractors by the client. In addition, the cultural-cognitive pillar via establishing networks between peer PBOs for purposes of sharing lessons is encouraged.

Other boundary practices to consider include the need to adopt technological advancements as echoed by supporters of new institution as a way of making the boundary between organisations permeable ([Ringel, Hiller and Zietsma, 2018](#)). Boundary practices should also be supported by 'trust' and 'collaboration' instead of competitive tendencies. Importantly, blaming should be avoided whilst clients are encouraged to reduce their power by treating all project parties as equals ([Stjerne, Soderland and Minbaeva, 2019](#)). Thus, instead of focusing on the negative side of the institutional field, a balanced approach which appreciates opportunities (solutions and lessons from failure from respective institutional field organisations) is encouraged. The framework is summarised in [Table 2](#).

Table 2. Opportunities and Barriers Associated with Institutional Field Parts

Institutional Part	Associated Barriers to learning from project-related failures	Associated Opportunities for learning from project-related failures	Mechanism/Influence
Regulatory Pillar-related – regulatory bodies, government	Not part of the learning process (limited social contact with PBOs).	Failure identification, creating psychological safety for the PBOs.	Act as boundary organization; produce boundary documents. Avoiding the blame game.
Normative Related – Professional bodies	Competence and practice oriented; failure perceived as non-conformance.	Interact with several parties via affiliation; Legitimizing learning from project-related failures.	Act as boundary organizations, e.g. APM; Produce boundary documents (reports and guidelines).
Cultural Cognitive-related – Suppliers, Subcontractors.	Engage temporal teams; involve diverse professionals; competition oriented.	Valuable alternative source of lessons; improves wider supply chain – Leverage on long term relations.	Produce boundary documents e.g. reports, lessons learnt; cross organizational learning.

To actualise learning from project-related failures, boundary organisations such as professional bodies, such as APM, RICS and CIOB, are further encouraged to work together instead of operating in isolation. In addition, much of the resources are accessible only to members of such professional bodies which acts as a barrier to sharing lessons sector wide. Thus, cross professional body research and production of boundary documents on failure is encouraged. A good example of such is the CIOB's 'Code of Quality' guidelines (Flanagan and Jewell, 2021). In addition, since project parties are guided by contractual clauses, ensuring that learning from project-related failures and production of such boundary documents are part of the contract may motivate teams to learn from failures. This aligns with Pemsel, Söderlund and Wiewiora (2018) who call for new forms of contracts in order to encourage learning from failures on mega projects. This further reinforces the influence of institutions (through the regulatory pillar) on learning from project-related failures.

Conclusions

Reflecting on the main research question (*who are the actors involved in the institutional field of learning from project-related failures?*) it is acknowledged that learning should include key players within the sector such as professional bodies and regulatory bodies instead of focusing on individual PBOs. This is based on the understanding that lessons from failure reside across various types of organisations and communities such as PBOs, academia, regulatory bodies and end users (Perkman, 2017). Furthermore, reflecting question the other research question (*How do actors in the institutional field of learning from project-related failures influence learning from failure?*) regulatory-related organisations, such as the government, may use coercion (contractual clause, policies, and regulations/guidelines) to influence learning from failure. Normative organisations may also influence learning from project-related failures via accreditation and legitimizing the process and content of learning from failures. However, even with associated benefits of learning from such as improving team members' resilience, PBOs rarely engage in cross-organisational learning from

project-related failures due to the competitive and fragmented nature of the sector. To mitigate some of these barriers, project actors are encouraged to build trust, networks and long-term relationships for collaborative purposes within PBOs and across the sector. In addition, instead of perceiving parties within the institutional field as competitors, these should be viewed as sources of valuable lessons on failure. For researchers, since majority of research on learning from project-related failures focuses more on learning mechanisms (e.g. lessons learnt meetings), without elucidating its benefits, the academia are encouraged to conduct more research on how PBOs may benefit from learning from project-related failures. With regards to practice, professional bodies within the sector should act as 'boundary spanners' since they interact with multiple organisations (and individuals) within the sectors. This is by hosting events (workshop, seminars) and producing documents (reports, guidelines) on failure instead of focusing on sharing good practice. Worth noting is that these findings are limited due to the small number of participants. Hence, future studies are encouraged to take a larger sample size. In addition, to understand the role of key participants within the institutional field, future studies may focus on the role and influence of clients on learning from project-related failures. In addition, since parties and activities on a construction project a guided by contractual clauses, future studies by focus on analysing the influence of standard forms of contracts on learning from project-related failures.

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