

CHALLENGES OF ORGANISATIONAL LEARNING IN A NETHERLANDS PROJECT-BASED ORGANISATION

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Project-Based Organisations (PBOs) in the Dutch construction sector face continual challenges to become more adaptable and increase their performance. Whilst there are several cultural and procedural issues that need to be addressed to fully overcome these problems, this research explores the possibility of Organisational Learning (OL) as a theoretical lens for overcoming some of the inherent concerns and to aid the industry in the quest to create, disseminate and apply new knowledge for the common good. Semi-structured interviews were conducted with seven construction managers and leaders from a high-level Dutch construction case study firm. Primary and secondary research results reveal that many construction PBOs fail to effectively practice OL, as most learning stays within project boundaries due to a lack of organisational learning mechanisms (OLM) that would institutionalise learning. Furthermore, the project-based manner of working prioritises short-term project objectives instead of improvements that are associated with learning. Barriers that impede OL include project uniqueness, geographical dispersion, fragmentation, the dissolution of project teams, the temporary nature of projects and decentralised organisational structures. Increasing the organisational commitment of project team members and priority towards learning can improve OL.

Keywords: organisational culture; organisational learning; the Netherlands

INTRODUCTION

The Dutch construction industry is continually under pressure from external factors to improve performance and adapt to new policies and regulations imposed by the Dutch Government. Recent regulatory impositions, such as, a move to a circular economy by 2050 (Ministry of Economic Affairs and Climate Policy, 2021) and tightened nitrogen and PFAS regulations in favour of the environment (Ministry of Agriculture, Nature, and Food Quality, 2019) have a significant impact on new and current construction projects according to a report by ABN AMRO (2020). On top of these pressing challenges are further criticism of the Dutch construction industry with regards to their underperformance, cost-overruns, and failure costs (ABN AMRO; 2019, Economic Institute for Construction, 2011).

Whilst there are several cultural and procedural issues that need to be addressed to fully overcome these problems, this research explores Organisational Learning (OL)

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as a theoretical lens for overcoming some of the inherent concerns and to aid the industry in the quest to create, disseminate and apply new knowledge for the common good. OL fosters a culture of learning and increases strategic flexibility, effectiveness, and efficiencies in an ever-changing environment. However, learning from projects, especially in the construction industry, has been identified by multiple authors as troublesome. (Carrillo *et al.*, 2013; Chiponde *et al.*, 2022). Unlike traditional organisations, the temporal nature of construction projects inherently results in newly acquired knowledge not being captured, transferred, and retained and therefore allowing mistakes to repeat itself in new projects (Graham and Thomas, 2008; Newell *et al.*, 2006;).

The aim of the research is to explore organisational learning within a selected Dutch construction Project-Based Organisation and make recommendations for improvements. The organisation selected is representational of businesses in the Dutch construction industry. The study primarily examines matters of Organisational Learning (OL) and closely related subjects, such as Knowledge Management (KM), Lessons Learned (LL) and project learning.

LITERATURE REVIEW

The basic concept of OL is grounded in the collectivity of individual learning. It is the ability and culture of the organisation in enabling learning for continuous improvement, innovation and creativity that will determine the extent to which OL is successful (Wang and Ahmed, 2003). Crossan *et al.* (1999) framework challenged previous theories on OL and introduced the concept of 'strategic renewal'. He claims that learning happens on three levels; individual, group and organisation and can be attained through the 4Is process, Intuiting, Interpreting, Integrating, and Institutionalising. Learning is subsequently captured through several inputs and outputs (See Table 1).

Table 1: Learning/Renewal in Organisations: Four Processes Through Three Levels

Level	Process	Inputs/Outputs
Individual	Intuiting	Experiences, Images, Metaphors
Individual	Interpreting	Language, Cognitive Map, Conversation/Dialogue
Group	Integrating	Shared understandings, Mutual adjustment, Interactive systems
Organisational	Institutionalising	Routines, Diagnostic systems, Rules and procedures

The model suggests feed-forward (exploration), and feedback (exploitation) processes exist in a field of tension, as new learning(s) constantly float from the individual to the organisational level and existing learning can feedback from the organisational level to the individual. The model, however, is criticised for its limitations in implementing it in a practical context (Sun and Scott, 2003) and, in a project context, Swan *et al.*, (2010) noted that it: "does not explore in detail the mechanisms which link institutionalisation" suggesting that learning is not returned to the organisational level for dissemination for future projects (Swan *et al.*, 2010, 327).

To translate learning from individuals and groups into organisational learning, Popper and Lipshitz (1998, 2000) introduced the notion of Organisational Learning Mechanisms (OLM), "[...] structural and procedural arrangements that allows organisations to systematically collect, analyse, store and disseminate and use information relevant to the performance of the organisation and its members" (Popper and Lipshitz, 1998, 171). OLMs function as the bridge between the different learning levels as described by Crossan *et al.*, (1999) and attribute some sort of learning

capacity to organisations (Lipshitz *et al.*, 2002). OLMs are categorised by Popper and Lipshitz (1998) as integrated or non-integrated and designated or dual-purpose mechanisms. Integrated mechanisms are intertwined with task performance and exploited by the same user. Non-integrated mechanisms are, for example, strategic plans, because they are exploited for their benefit by someone else other than the creator. Designated mechanisms are those where learning and task performance are carried out at different time intervals and separate places. Dual-purpose mechanisms are those where learning takes place at the same time with task performance (Lipshitz *et al.*, 2002; Popper and Lipshitz, 1998).

The most studied project OLMs in construction literature are post-project reviews (PPR) They allow organisations to systematically improve performance, capture knowledge from previous projects and to interpret the knowledge to enhance future projects and the organisation itself (Anbari *et al.*, 2008). However, multiple authors point out there is a gap between the theorised benefits and advantages of PPRs and lessons learned and their utilisation in practice in projects (Swan *et al.*, 2010). Often argued by authors is that PBOs and construction companies do not systematically use OLMs and efforts made to improve learning appear to be fruitless due to several barriers (Duffield and Whitty, 2015; Hartmann and Doreé, 2015). However, OLMs on their own are not enough to facilitate OL (Popper and Lipshitz, 1998). Lipshitz *et al.*, (2002) proposed a multifaceted model of OL, in which OL is most likely to be most productive.

The model consists of five facets, which influence each other: Contextual facet, Policy facet. Psychological facet, Cultural facet, Structural facet. All the facets are not a necessary condition for learning, but Lipshitz *et al.*, (2002) hypothesize if each facet is positively linked, they will increase the likelihood of productive OL. Research from Chiponde *et al.* (2020) expanded on the work of Lipshitz, and specifically in the construction sector. Mahdiptura similarly (2007) analysed several articles relating to enabling conditions that benefit OL (Kriegesmann *et al.*, 2007) and found 13 different enabling conditions spread across Influencing, Learning, and Facilitating factors that that can benefit OL. Chan *et al.*, (2005) states that Organisational Learning (OL) in Project Based Organisations (PBOs) requires a different approach from traditional functional organisations. Projects are described as vehicles for learning because they constantly require project members to solve new problems (Swan *et al.*, 2010; Koskinen, 2012).

Yet, conversely, many challenges are acknowledged in construction projects, such as short-term objectives and the long-term development-oriented nature of organisational learning processes, unsupportive organisational cultures, the inherent nature of projects and social people factors. (Carrillo *et al.*, 2013; Duffield and Whitty, 2015; Grabher, 2002; Murray, 2003). Construction projects add extra difficulties to the project learning dimension and differ from other PBO sectors (e.g., IT, manufacturing, aviation) as they are geographically dispersed, and suffer from fragmentation (Kasvi *et al.*, 2003). The geographical dispersion makes it difficult for interaction between different project teams and the organisation (Wiewiora *et al.*, 2009a). The fragmentation raises issues as many people work in a silo environment with less opportunities for social interaction and the high specialisation of people makes it more difficult for people to learn together (Carrillo *et al.*, 2013). This is especially an issue as studies by Styhre *et al.*, (2004) and Carrillo *et al.*, (2013) indicate that an important aspect of learning in construction projects is through personal contacts, communities of practice and personal interaction.

The literature highlights a disconnect between the functional organisations that most theoretical models refer to, and the PBOs of the construction industry. Based on the literary findings of the research and building on models and theories of Lipschitz *et al.* (2002) and Crossan, *et al.* (1999) the following framework has been developed to show the expected process of effective OL in the context of a construction PBO (Figure 1).

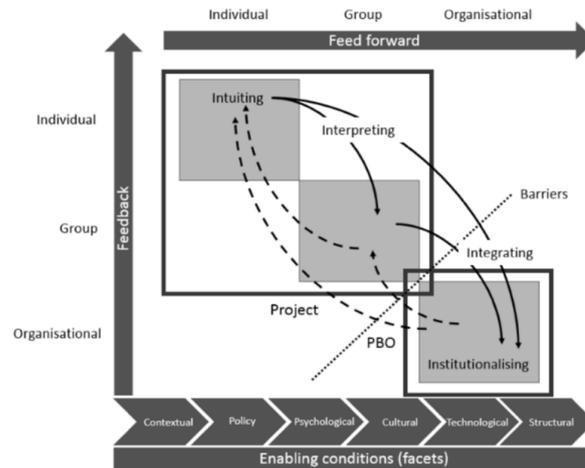


Figure 1: Process of effective Organisational Learning in the context of a construction Project Based Organisation

METHOD

This exploratory research aims to establish how organisational learning within Dutch construction Project-Based Organisations can be improved. Learning is very much perceived as a social undertaking, and as such an interpretivist approach focusing on exploring the complexity of social phenomena to gain an interpretive understanding means that the philosophical position of the research leans towards the phenomenological paradigm of the continuum. The main research question "How can organisational learning from construction projects be improved in Dutch Project-Based Organisations?" was broken up into three different sub questions: "Why do Project-Based Organisations fail to effectively practice organisational learning in construction projects?", "What are the perceived barriers to organisational learning from construction projects?", and "What conditions constitute towards successful organisational learning from construction projects?".

The research investigates the experiences, insights, and approaches of individuals to gain an understanding of the current level, barriers and enabling conditions to organisational learning from construction projects in PBOs. OL is a concept deeply connected with the experience and insights of individuals and has proven difficult to pursue in numbers, thus the focus of the research is on words and their implications. Semi-structured interviews were undertaken to understand certain processes, structures, and systems within the organisation. The interviews were audio recorded to support accurate transcription and analysis of the data. The population of interest were construction managers and leaders employed by a high-level Dutch construction PBO.

To be more specific: 3 project leaders, 2 superintendents, 1 director and 1 manager continuous improvement of the project company were interviewed. These seven were spread across a total of three different projects and central office within the same firm.

Owing to small sampling size, the participants were carefully selected based on their position. The population of interest contained a possible influence and impact on the concept of OL in their organisation, as they possess a certain degree of authority over the way of working. Questions focused on key concepts such as OL, lessons learned, learning from projects and OLMs. After conducting interviews, the data were transcribed and then analysed using NVivo 12. Thematic-analysis was aided by the SWOT-method on the interview transcripts, which was used as a framework for identifying attitudes and relations to OL. Data was coded according to the types identified by Corbin and Strauss" (1990), to ensure systematic analysis.

FINDINGS

In answer to the research sub-question 1 "Why do Project-Based Organisations fail to effectively practice organisational learning in construction projects?" Respondents indicated that there is a reliance on informal, non-integrated mechanisms "I think people have a tendency of doing their own thing" "Right now, you get ideas informally from your colleagues, but then you are very dependent on the person on the project" Other respondents also noted that if they don't know something they usually resort to calling or asking a colleague from their personal network indicating that systematic collection, transfer or dissemination is not present. These findings support the literature that suggest that there is a lack of formal structures to support the high amount of informal learning in projects (Grabher, 2002; Swan *et al.*, 2010) and that most people in construction projects learn from the knowledge and experience of other people (Swan *et al.*, 2010; Wasif *et al.*, 2010). Even though individual and team learning are considered important prerequisites of OL (Crossan *et al.*, 1999), the research highlights that it does not necessarily mean OL takes place. Like other studies on (construction) projects (Carrillo *et al.*, 2004; Swan *et al.*, 2010), the results suggest the usage, transfer, and dissemination of evaluations is not systematically pursued, which also confirms that institutionalisation in the framework of Crossan *et al.* (1999) is not effectively achieved. Respondents also gave more intangible reasons as to why OL is not effectively practiced, such as defensive behaviour towards negative feedback and failures, stubborn 'know it all' attitude (proudness) of colleagues towards learning and lack of perceived value in learning.

Furthermore, the results indicate that the people working in projects are very much focussed on the project-objectives, however, they do not seem to perceive the same priority and value to achieve the longer-term learning goals of the organisation, suggesting a lack of commitment to the organisation. Grabher (2002) also suggests the long- term processes of learning are conflicted with the short-term objectives of projects. A lack of perceived value on learning was also found by Carrillo *et al.*, (2013) due to the unique and highly contextual nature of construction projects The unwillingness to learn from other projects was attributed to the organisational culture and the attitudes of the wider project team members who purport that: "construction contractors we have the excuse that every project is unique and different" inferring that there is no benefit from learning from other projects. Perhaps in relationship to these factors is the stated unwillingness to learn and negative attitude towards feedback of individuals, which are cited to impede learning moments. Similarly, Duffield and Whitty (2015) also identified the people and culture factor possibly to be the most detrimental factor in organisational learning.

(Sub-question 2) "What are the perceived barriers to organisational learning from construction projects?" the main contributing factor was the uniqueness of projects

and that as a result people do not value the learnings as being applicable to the next project. Similar findings were found by Carrillo *et al.*, 2013 and Newell *et al.*, 2006, which resulted in a lack of priority given to learning tasks. Secondly, geographical dispersion is indicated to result in reduced opportunities for interaction between knowledgeable individuals, thus meaning people miss out on opportunities to learn. This confirms findings from Kasvi *et al.*, (2003), Wiewiora *et al.*, (2009a) and Wiewiora *et al.*, (2009b), as project-based working inhibits opportunities for social interactions. This is especially obstructive in the light of construction projects, where most learning happens through informal social moments between individuals (Styhre *et al.*, 2004; Swan *et al.*, 2010).

Thirdly, in accordance with Carrillo *et al.*, 2013 and Wasif *et al.*, 2010, the dissolution of project teams because of the temporary and phased nature of projects are indicated to impede OL. The results show that after closure of a particular phase or at the end of a project, teams dissolve, move on to a new project, and 'forget' to reflect or evaluate.

Contradictory to some of the literature (Swan *et al.*, 2010; Wiewiora *et al.*, 2009a), the results indicate time pressure does not act as a barrier to OL. Carrillo *et al.*, (2013) suggests time is always a challenge that hides other issues, which resonates with answers of various respondents. What the results indicate is that instead of issues with time, people do not prioritise learning practices enough. The project results are prioritised by project teams above learning, like findings from Hartmann and Doreé (2015). If tasks do not contribute directly to the progress of a project it prompts people to abandon these activities (Swan *et al.*, 2010).

Lastly, the organisational structure of the PBO is indicated to be a barrier to OL. Respondent 6 explained to have difficulties with implementing systems to generate 'objective' feedback from projects. Like findings from Bresnen *et al.*, (2004), the decentralised organisational structure seems to have an impact on embedding new management practices. Contradictory to the findings, Nonaka, and Takeuchi (1995) explain project team autonomy as a prerequisite to learning, because teams have the freedom and ability to pursue new knowledge. However, the results and Bresnen *et al.*, (2004) indicate high autonomy can have implications when new management practices are introduced, because project managers could resist these changes or interpret and incorporate them differently.

(Sub-question 3): What conditions constitute towards successful organisational learning from construction projects? Like Lipshitz *et al.*, (2002) and Mahdiptura (2007), culture and a safe environment, expressed through the ability to speak freely and admit mistakes, openness, transparency, and the willingness of people to learn were identified as enabling conditions. The results indicate that if mistakes are not allowed to be made or talked about, reflection and evaluation seems unlikely to be productive. The possibility to speak openly and have discussions is important in facilitating the process of interpreting and integrating to create shared understandings and take coordinated actions (Crossan *et al.*, 1999). In accordance with the findings, Lipshitz *et al.*, (2002) notes organisational commitment as an important enabling condition. Respondents frequently noted people's unwillingness to learn and focus on short-term results. Additionally, this is exacerbated due to the project-based way of working and lack of organisational commitment created by the PBO itself, with personal goals being put before that of the organisation (Lipshitz *et al.*, 2002).

The data suggests, aside from the existence of OLMs, they need to be well-designed in order to be effective. A systematic approach, the timing, frequency, and early usage of OLMs are indicated to be important to enhance their usage. The correct use of OLMs is necessary to link learning in organisations to learning by organisations (Lipshitz *et al.*, 2002), and to be able to reach the organisational level described by Crossan *et al.*, (1999). Incentives were suggested by the respondents to help stimulate more reluctant individuals to take part in the learning processes. Supported by the literature, incentives, can motivate and help tie individuals to the goals of the organisation, increasing organisational commitment (Carrillo, 2004; Swan *et al.*, 2010). Additionally, the results indicate a plan is required to increase the urgency to take part in learning activities and thus increase organisational commitment (Hartmann and Doreé, 2015). Respondents frequently state the overload of information and impracticality of databases as detrimental to its effectiveness, like findings from Carrillo *et al.*, (2013).

(Main research question): How can organisational learning from construction projects be improved in Dutch Project-Based Organisations?

The results indicate the need for an integrative holistic approach to OL, that aims to establish and facilitate the processes proposed in the framework of Crossan *et al.*, (1999). The need to consider the facets proposed by Lipshitz *et al.*, (2002) in the context of PBOs in the construction industry is especially highlighted by the barriers that are identified. The results suggest there is a distance between the central organisation and the people working in projects. The people in projects are indicated to lack organisational commitment to the central organisation, because of the low prioritisation towards learning, and the focus on the short-term goals. The focus point of improvements is therefore suggested to be best aimed at increasing organisational commitment and the priority towards OL. To achieve this and to overcome the barriers imposed on project-based working, consideration for improvements surrounding the structural, psychological, cultural and policy facets are likely to be the most effective solution.

CONCLUSIONS

The aim of this research was to explore and establish how organisational learning within Dutch construction PBOs can be improved. The analysis reveals that increasing organisational commitment of project team members and priority towards learning can improve OL from construction projects. An integrative holistic approach is necessary that addresses the existing short-term, project-centred culture in the PBO and moves towards longer-term goals and processes of learning set out by the central organisation. Like findings from other studies, results indicate that OL in PBOs is reliant on informal non-integrated mechanisms, which lack the step towards institutionalisation in the organisation. In addition, focus on short-term goals in projects seem to aid the of lack of perceived value in learning and unwillingness to learn. The combination of these factors seems to conflict with the long-term processes of learning.

From the results the following perceived barriers are concluded as most significant to OL in construction projects: the uniqueness of each project, geographical dispersion, fragmentation, the dissolvment of project teams, the temporary nature of projects and decentralised organisational structure. Results suggest that, to overcome the barriers imposed on project-based working, considering improvements surrounding the structural, psychological, cultural and policy facets are likely most effective.

Integrated formal OLMs that establish feedback loops and institutionalise learnings, the involvement of project members in earlier phases, senior management support, and leadership are indicated by the results as part of these facets to be conducive to organisational commitment and the priority allocated to learning. Both rhetoric and actions that increase the priority towards learning and that express the need for learning are required to become a learning organisation. Project teams should identify more with the organisation when working on projects, aligning with the organisation's goals and values and making no distinction between promoting its interests and their own personal ones (Lipshitz *et al.*, 2002).

Practical Implications, Limitations and Recommendations

The research has three practical implications to improve OL from construction projects. First, structural changes should be aimed at establishing feedback loops between projects and the central organisation to achieve institutionalisation. OLMs (such as post-project reviews) need to become a part of the ongoing work processes and conducted more frequently to overcome team dissolution. Furthermore, the lessons from the OLMs should be embedded in existing institutionalised documents used at the start of new projects or phases in the project, which could increase the priority and perceived value of conducting learning tasks. Additionally, involving people earlier from later phases in the project could further strengthen the feedback loops due to overcoming the difficulties with storing tacit knowledge.

Secondly, management support should focus on aiding the proposed structural changes and create motivational factors through policies. Creating incentives, allocating resources to learning initiatives and evaluating longer-term learning goals over short-term goals are suggested to have a positive effect on increasing organisational commitment. Additionally, creating a vision and strategy towards learning can potentially increase ownership, organisational commitment and shift the focus from short-term to longer-term goals. Lastly, the research shows leadership from managers in projects is required to tackle the existing culture and psychological environment in projects. Leaders are frequently cited to have the ability to influence existing cultures, and the beliefs and behaviour of individuals. Without an environment that is open and transparent and in which mistakes are not allowed to be made OL is unlikely to be productive.

It is recognised that using a case study research approach and smaller sample size limits the generalisability of the results. Further research using a similar approach is suggested to validate that the results are not unique to the used organisational context. Another limitation is the focus on the temporary organisation (project team), which influenced the perspective of the research. Further research should examine the different phases before and after the realisation of the construction project, as it could provide different insights on establishing more effective OL.

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