**Senior managers’ reflections on learning in project-based organizations: A sensemaking perspective**

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**Abstract**

The literature has increasingly recognized the relevance of sensemaking in relation to learning. However, limited research has specifically explored learning in project-based organizations from a sensemaking perspective. This article adopts a sensemaking perspective to understand learning in the context of project-based organizations based on reflections of project leaders. Twenty seven semi-structured interviews have been conducted with senior managers from large construction, engineering and infrastructure firms. It is argued that sensemaking provides an insightful perspective through which to understand learning.

**Keywords:** learning, project-based organizations, project leaders, reflections, sensemaking

**Introduction**

Over the past decade, researchers have expressed an interest both in learning theory and practice (Bresnen, Edelman, Newell, Scarbrough, & Swan, 2003; Jarzabkowski, 2004; Scarbrough et al., 2004; Tennant & Fernie, 2013). Much research consistently highlights the difficulties (Gann & Salter, 2000; Winch, 2014) as well as the opportunities (Brady & Davies, 2004; Bresnen, Goussevskaia, & Swan, 2004) associated with capturing and sharing learning across projects and organizations. Additionally, research has strongly emphasizes individual learning as a key performance driver in project-based firms because prior projects offer potentially valuable individual experiences that can be captured and transferred to future projects or generate new knowledge that could lead to new business opportunities (Bartsch, Ebers, & Maurer, 2013; Söderlund, 2004). There is hence a rationale to explore the nature of individual learning in the context of project-based organizations, examining how lessons learnt can be captured and transferred based on reflections of project leaders. Project-based organizations are commonly seen as the prevalent mode of organizations in a variety of industries, including engineering (Schenhar & Dvir, 1996), construction (Winch, 1998), and infrastructure (Gann & Salter, 2000).

There is a lively debate in the literature about the meaning of learning. Learning has been viewed as a rational repetitive practice, represented through concepts and/or models, being applicable across contexts (March, 1995). This perspective has been widely critiqued for not recognising possible changes in work practices. From an alternative perspective, learning can be understood as a dynamic process embedded within specific contexts (Prencipe & Tell, 2001; Holt & Cornelissen, 2013). One of the theoretical issues emerging from this perspective is that learning process relates to sensemaking (Thomas, Sussman, & Henderson, 2001; Colville, Hennestad, & Thoner, 2014). The argument is that individuals enact meanings from new, ambiguous experiences and develop shared understandings of both current and future practices. While this school of thought has increasingly recognized the relevance of sensemaking in relation to learning, limited research has specifically examined this connection.

The aim of this paper is to explore the nuances of individual learning in project-based organizations based on reflections of project leaders. It is proposed that a sensemaking perspective (Weick, 1995; Weick, Sutcliffe, & Obstfield, 2005) opens new possibilities in understanding learning through sensemaking processes such as noticing and labelling events, meaning-making and storytelling. More specifically, the research objectives are:

1. To examine senior managers’ reflections on learning in project-based organizations
2. To explore the extent to which conceptual ideas of sensemaking could provide an explanation of learning in project-based organizations.

The paper begins by reviewing the organizational and project-specific literatures on learning. This provides a necessary background before introducing a sensemaking as an influential perspective through which learning can be understood. An interpretive research methodology section is then outlined, detailing the rationale for semi-structured interview method. Drawing on Weick’s ideas of sensemaking and the empirical findings, a model of individual learning in project-based organizations is then proposed. The empirical findings are then discussed, reflecting back to the reviewed literature. A closing section draws together the key arguments of the paper and suggests some future research directions.

**Understanding learning**

Historically, organizational learning has been defined as a rational repetitive practice, represented through models focusing on exploiting emergent local routines and processes (Levitt and March, 1988), and learning from outcome, creativity and exploration (March, 1995) applicable across different contexts. Argyris and Schön (1978) argued that learning takes place only when new knowledge is translated into different behaviour that is replicable. Foil and Lyles (1985) further contended that there are different levels of learning, each having a different impact on the management of the firm. The argument is that learning encourages multiple viewpoints and debate, necessitates experimentation and unlearning of past methods. The guidance of this process is seen an essential element of the executive function. Kim (1993) further argued that organizational learning can be understood as a metaphor derived from our understanding of individual learning. Organizations ultimately learn through the experience and actions of their individual members. Ayas and Zaniuk (2001) reinforce that learning models are very difficult to study in any systematic manner. Key constructs that might define such models are “sensemaking” and “organizational memory” that involve dynamic, nonlinear processes and complex interactions across multiple units, people, and even organizations.

There is a growing stream of research arguing that learning can be understood as an ongoing process, acknowledging the role of social contexts within which project actors operate. Dodgson (1993), for example, defined learning as a dynamic organizational capability, placing an emphasis on continually changing nature of organizations. Argote and Ophir (2005) further contend that organizational learning involves changes in organizational actors’ knowledge and/or their actions that are informed by the modified knowledge. Hernes and Irgens (2012:2) consider learning under continuity at organizational level defined as “mindfully engaging in opportunities while simultaneously keeping things on track”. This implies re-interpreting of past courses of actions, searching for understanding of the broader implications of present activities and exploring future course of actions. Their work builds on the arguments developed by Weick (1996: 738) that “When people equate learning with change, they strip the learning process of much of the constancy, continuity, and focus that are necessary for adaptation”. Hernes and Irgens (2012) reinforce that an area of individual and collective learning would benefit from further development in the organizational learning literature.

***Learning in project-based organizations***

It is commonly understood that organizational learning in project-based organizations refers to the process of making newly created knowledge through sharing, transferring, retaining and using it. Argyris and Schön (1978) argued that learning in projects necessitates a context where project team members can question institutional norms. At the individual level, there is a connection between action strategies and anti-learning consequences. Prencipe and Tell (2001) propose that mechanisms for inter-project learning draw upon these learning processes and can be found at various levels of the project-based firm, providing some examples of learning at the individual, group/project and organizational levels. Ayas and Zaniuk (2001) argue that project-based learning is about using projects as means for setting the stage for reflective practices and inquiry at all levels within the organization, to reveal deeper aspiration and construct shared understanding. Garrick and Clegg (2001) also stress the role of reflection and personal experience in relation to project-based learning. Their review suggests that while the literature offers insights into dynamic nature of project-based learning, it does not adequately addresses how knowledge workers reflect on their experiences. There is hence a rationale to explore project leaders’ reflections on learning in project-based organizations.

It is commonly understood that project-based organizations struggle to learn between projects, and often have weak internal processes (Gann, 2001; Ivory, 2005). A number of recent studies focus on the ways of overcoming barriers to project-based learning. Bartsch, Ebers, and Maurer (2013) define learning in project-based organizations as the process of integrating project knowledge, recognizing many learning opportunities through the projects they conduct with other partners. These authors demonstrate that project teams’ social capital, i.e. the intra-organizational social ties of project teams with their colleagues outside the project, contributes to overcoming barriers to learning in project-based organizations. Scarbrough et al. (2004) adopt a broad perspective clarifying that while some strands in the literature view all forms of learning as individual in nature, the practice-based perspective distinguish between individual and collective (group, community) learning. They argue that the nature, scope and applicability of project-based learning is shaped by ongoing organizational activities. Building upon the above studies, the current research aims to explore project leaders’ own perspectives on learning in the context of project-based organizations.

**Sensemaking**

Sensemaking is commonly understood as a dynamic process by which people interpret and construct meanings (Maitlis, 2005; Weick, 1995). Sensemaking process is social because even individuals making sense on their own are embedded in a socio-material context where their thoughts, feelings, and actions are shaped by others (Maitlis & Christianson, 2014). Sensemaking is about noticing and labelling in that an organizational actors begins to notice some organizational activities over others; some of these activities may become labelled (e.g. “innovation”, “opportunity”, “mistake”). Activities become labelled in ways that predispose to find common sense (Weick et al., 2005). Most sources understand sensemaking as retrospective, but some more recent work assumes that it can also be a prospective process (Gephart, Topal, & Zhang, 2010). Future-oriented sensemaking uses past and present temporal orientations to provide contexts for a proposed future. Sensemaking is hence an ongoing process of meaning making and interpreting situations.

Sensemaking concerns the actions that people make to understand the environment within which they operate. People are seen to be very conscious of how they are perceived by others, and hence create stories for the purposes of influencing target audiences. Sensemaking is seen as incomplete without sensegiving (Gioia & Chittipeddi, 1991). Sensegiving is understood as a related process through which individuals attempt to shape the sensemaking processes of others (Weick et al., 2005). Social actors use different resources such as stories to achieve shared understandings and provide thoughtful explanations (Garud, Gehman, & Giuliani, 2014). It is proposed that sensemaking may help to shed light on project leaders’ own individual reflections on learning from past experiences, present activities and future imaginings. It would also provide insights into sensemaking processes such as noticing some activities or events over others and labelling activities in order to find common sense, telling stories about personal experiences to others to capture and transfer lessons learnt.

***Learning and sensemaking***

Weick’s conceptual ideas shed some light on the connection between sensemaking and learning, suggesting that components of sensemaking rise to relevance when guided by the underpinnings of learning:

“Only with ambivalent use of previous knowledge are systems able both to benefit from lessons learned and to update either their actions or meanings in ways that adapt to changes in the system and its context”. (Weick et al., 2005: 414)

The above quotation, in some sense, connects retrospective learning with future changes, with emphasis being placed on the importance of context and meaning making process.

Limited empirical research has specifically explored learning from a sensemaking perspective. Gavetti and Levinthal (2000) argue that “experiential learning” offers a form of backward-looking sensemaking process. They examine both a backward-looking logic premised on experiential wisdom and a forward-looking logic premised on simplified representations of the actors’ world. The forward-looking logic is seen to dramatically enhance so-called “adaptive learning” which refers to shifting cognitive representations (mental models) depending on the role of experiential knowledge. Colville et al. (2014) reinforce that sensemaking opens a possibility of reframing organizational learning as a process of organizing in which people make sense of the ongoing stream of events. Organizational learning can be understood as an ongoing process in time.

Thomas et al. (2001) attempt to link organizational learning, knowledge management and sensemaking, proposing that learning involves sensemaking: strategic learning organizations enact meanings from new, ambiguous experiences, and create shared understandings of both current and future activities. They indicate some potential implications for a relationship between backward-looking and future-oriented learning, proposing that change is the role of sensemaking components such as scanning, interpretation and action. Drawing on Structuration Theory (Giddens, 1979), Bresnen et al. (2004) touch upon the connection between sensemaking and organizational learning, arguing that the development of new project management practice derives not only from structural conditions, but also how actors make sense of, interpret and re-interpret the system or practice. Inspired by process metaphysics, Koskinen (2012) reinforces that sensemaking and negotiation of meaning processes play major roles in project-based learning. Of particular note the author highlights “recursivity” of learning between past, present, and future, learning being defined as an ongoing process in the context of continually changing nature of project-based firms. Drawing from the above studies, it can hence be argued that sensemaking can provide insights into learning as an ongoing social process that connects retrospection with prospection.

***Learning and sensegiving***

The role of sensegiving in relation to learning in projects and organizations has been increasingly recognized in the literature. Snell (2002) highlights the role of narratives in leader sensegiving when a company attempts to become a ‘learning organization’. Clegg, Kornberger, and Rhodes (2005) consider learning as a discursive process that implies a change of established rules. They argue that although learning often implies material transformation of practices, it might be useful to consider learning from multiple perspectives:

“Learning is a way of organizing the complex and supplementary interrelation between implosion and explosion. Learning is a journey on the edge, on the fringe, a way of exploring time and space; it cannot be measured by the old standards, because it is the very process of inventing and establishing them anew”. (Clegg et al., 2005: 162)

Clegg et al. (2005) call for further research into the ways stories are used as sensegiving devices in transferring knowledge in organizations. Koskinen (2012) also calls for further research into the interactive processes necessary to enhance and facilitate organizational learning. This refers to the way sensemakers socially construct meanings and negotiate them with others.

**Research methodology**

Academics lively debate how to explore learning. Easterby-Smith, Crossan, and Nikolini (2000) suggest the individual unit of analysis, where data can be gathered in the forms of both informal conversations and formal interviews. These methods are related to the growing interest in storytelling which is frequently used to make sense of organizational phenomena (Boje, Luhman, & Baack, 2010). Individual stories grasp complexity and richness of the real settings, going back to retrospective experiences of individuals, and allowing to reconstruct the past, make sense of the present and imagine the future. Retrospective stories help activate an organizational memory to inform current and future generation of employees. Real-time stories, “antenarratives” according to Boje (2001), enable organizational members to generate action nets around people and organizations. An action net approach permits us to notice that “actors” and “organizations” are in a continuous flux of organizing process (Czarniawska, 2004). Prospective stories are creative imaginations which are linked to an understanding of relevant organizational resources and industry trends (Garud, Dunbar, & Bartel, 2011). It is proposed that learning can be explored as a sensemaking process of individuals, linking their retrospective, real-time and prospective stories.

Semi-structured interviews are widely used in qualitative research (Langley, 1999; Denzin & Lincoln, 2013). The flexibility of the semi-structured type of interview is important in that it allows the interviewer to pursue areas spontaneously, in addition to asking a series of pre-determined questions. Twenty seven semi-structured interviews were conducted with project leaders between the period of February 2015 and May 2015. Table 1 presents background information about interviewees.

Table 1 Interviewees’ characteristics

|  |  |  |
| --- | --- | --- |
| Project leader formal position | Career stage | Nature of enterprise |
| Executive | Late | Leading network-type construction organisation |
| Managerial | Mid | International engineering and construction corporation |
| Executive | Late | International construction engineering enterprise |
| Executive | Late | Global engineering, construction, and operations organisation |
| Executive | Late | Public client infrastructure organisation |
| Executive | Late | Public infrastructure enterprise |
| Executive | Late | Public client infrastructure organisation |
| Executive | Late | Multinational construction and development company |
| Managerial | Mid | Multinational construction and development company |
| Executive | Late | Public contractor infrastructure organisation |
| Managerial | Mid | Public client infrastructure organisation |
| Executive | Late | Public infrastructure firm |
| Managerial | Late | Public contractor infrastructure organisation |
| Managerial | Mid | Public contractor infrastructure organisation |
| Managerial | Mid | Construction and maintenance corporation |
| Executive | Late | Property services provider |
| Managerial | Late | Construction and engineering corporation |
| Executive | Late | Construction and maintenance organisation |
| Executive | Late | Construction and engineering organisation |
| Managerial | Mid | Construction and engineering organisation |
| Executive | Late | Leading network-type construction organisation |
| Managerial | Late | Global building and civil engineering business |
| Managerial | Late | Public client infrastructure organisation |
| Executive | Late | Global construction engineering organisation |
| Executive | Late | Architecture, planning and construction management services provider |
| Executive | Late | Construction project management consultancy |
| Managerial | Late | Construction buildings organisation |

The interviews were one-to-one and were typically held in practitioners’ offices. The duration of the interviews varied from approximately one-hour through to two hours. Most interviews were a little over an hour long. Indicative questions included:

* Do past experiences influence present and future learning?
* How learning can be transferred across generations and through time?
* Are there any other important issues you would like to take a note of?

The above questions are open in nature and are likely to generate rich, in-depth insights and elicit stories. Eliciting stories is important in order to understand personal and organizational experiences of practitioners (Denzin & Lincoln, 2013). A thematic analysis was conducted, commencing with a detailed reading of the transcripts several times over with a focus on past, present and future stories of learning. The researcher started with noticing and looking for patterns of meaning and potential interests in the stories. The analysis involved a continuous moving back and forward between the entire dataset (Alvesson and Kärreman, 2007). The analysis of the empirical material involved identifying the link between retrospective, real-time and prospective stories.

**Project leaders’ reflection on learning**

***Learning as a social activity***

There was a consensus among senior managers that learning can be understood as a social activity. The common tendency was to highlight the role of integration between multiple stakeholders involved in a project with different levels of expertise in order to generate and share learning. For example, the CEO of a leading infrastructure firm suggested that “when working as an integrated team, more people learn than if you just problem solving on site”. The CEO from another infrastructure organization reinforced that “there are lots of different people with lots of different expertise and that learning can be shared in an informal personal way.” Personalised stories about past events and present situations were seen important to share with others to capture and transfer learning. The emphasis was also given to the importance of learning transformational activities, such as providing freedom to individuals and rewarding and recognizing those who suggest new ideas in projects.

***Learning as an ongoing process***

Learning was commonly viewed as an ongoing process. Referring back to past periods of time, senior managers described learning as a continuous process over time. The principal program supply chain manager of a public infrastructure firm shared his personal experience, describing learning as a continuous process:

“The reason I love what I am doing is because I am learning something every day. I do not pretend to know...30 years in industry and I am still learning. And I still will be learning for the next 20 years. That is why I love what I do. That is innovation for me. I am always learning.”

In the above quotation, the emphasis is given to looking backward at the past thirty years of personal experience and looking forward for the next twenty years. Many interviewees employed a broader perspective perceiving the construction sector as slow process of learning:

“Egan is a bit outdated in terms of his report. He did a lot of ‘start-kick’ things to change. I think, generally, there is an incentive to do something differently, to learn. I think the construction industry has still a long way to go.” (Property services director, Independent social business)

Adopting a critical perspective, the above quotation highlights slow but ongoing process of learning in the construction sector. There is a positive sense of incentives and desire to change and move forward in the future.

***Learning and labelling***

Labelling of completed activities was strongly emphasized as important means for achieving shared understandings and capturing learning. Labelling process was seen helpful and useful in order to transfer information among practitioners:

“Giving an activity a label I think convey a message. You can sort of give that a brand and then it is easier to talk about it”. (Supply chain manager, Leading infrastructure firm)

The CEO from large international engineering corporation reinforced that common labels help to capture information in consistent way and to transfer learning across people, projects and organizations, providing insightful explanation and examples:

“I think we can help people with data, having conventions that are common. Someone who is looking for an answer do recognise it if you call things the same. Just an example: we have five businesses working on one project doing different things. If you look at management codes, sometimes they call the projects by street names; sometimes they call them by the client; sometimes by the type of building it is. How do you go and retrieve the whole data if people call things differently? You can start with dataset, how you call your data, then you can pass onto next generation. I think we could capture information and data in a much more robust, consistent way and then allow people to access it; and then train them what the data mean, what is it included.”

Organizational activities become labelled in order to find common sense. It becomes easier to have conversations when labels are common and consistent. Of further note is that the role of “saying” in relation to learning was also seen as important by senior managers. For example, the business improvement manager from a contractor firm highlighted that “how do you capture it in a meaningful way and talk about learning - I think that is absolutely crucial to do.” This view resonates strongly with the established concepts of making sense of learning not only for themselves, but more importantly for others. Stories of learning are described as a means to transfer learning across individuals, groups, projects and organizations:

“We can write case studies. We can create share points sites. We can put staff in our web-pages. I think there is a place for cataloguing experiences. People can go and read it. My experience is that people do not go and read that staff. Increasingly, the way we are going to do it in our business is to create a very connected, organic workforce, a sustainable workforce where Jim knows Paul works in that job; Sue knows Susan did that. Before we are going to do this one let’s go and have that conversation because it is in their heads. Yes, it is written down, but I want to go and talk to that person. Learning, I think, is more organic in a company. We only have in our business is our people. We do not own any building, we rent it all. We can store staff online, share point. But we need to think and make sure we capture and we connect people.” (Regional Managing Director, Global Engineering, Construction, and Operations Organisation)

Of particular importance is that people are seen as the most important asset in the organization, and hence organizational learning should be understood through individual learning.

**Learning and storytelling**

A few senior managers also emphasized the role of network and communication as important ways of sharing learning. Examples or stories were seen as a powerful way to share learning. Stories enable an exchange of the contextual knowledge that can help to solve challenges and difficult problems. The CEO of the multinational construction company described how people in the business meet together and share knowledge:

“We have networks across the business that are focused around chosen areas of excellence or chosen priorities if you like. People meet and collaborate. They feel comfortable with one another, so that they can share staff quite easily. They use examples or stories to share. Eventually, network and communication become the most powerful, strongest way of sharing the learning. So, you found people become very comfortable with one another. And if they want an answer to something they just say: “Hey, I have got this problem”, “I have got this opportunity”. “Has anyone come across anything like this?” “Have you remembered you talked about this?” “Can I apply it?” “Can I come over?” When I go around our business I see a lot of little clusters of people meeting to share that knowledge. It comes down to leadership and culture to create a platform for these things to happen.”

Stories can communicate the competencies of one and others. Telling stories can signal one’s trust and commitment. The role of leadership in creating a “culture” for people being comfortable to tell stories is highlighted.

Many senior managers find themselves asking questions about how learning can be captured and transferred, struggling to find possible suggestions and solutions. Learning is seen of high importance for many practitioners who try to find the answers in their organizational journeys:

How do you take the learning and present it in such a way that people want it? Or does it just become a dusty papers on someone book shelf? How does it become a demonstration of how you can deliver value or even become more value if you apply in somewhere else? I do not know the answer. One is to move people to the next big project. The most efficient is to move people forward. Maybe you can take 60-70% of your learning with you. If you write things down you can probably get 10%-15%. If you put things on digital website maybe it is another 10-15%. There is no one medium, I think, that is yet proven to be the best way. Creating curiosity in your next organisation, when the first thing you do is go and ask what other people do. There is a push how you presented and there is a pull how you want to receive it. It is information plus, I think, experience that creates value and you have wisdom. Wisdom is not something that you write down, wisdom comes with experience. (CEO, Large Client Infrastructure Organisation)

Stories of learning are thoughtful in nature, self-reflective and self-critical in nature. It is evident though practitioners’ questioning themselves and trying to find potential solutions. Wisdom which comes from experience is increasingly emphasized as important in order to capture and transfer learning across generations and through time.

***Stories of learning from mistakes***

A few senior managers argued that through learning from mistakes committed over the course of projects, organizations tend to improve their new development projects. An example of learning from a mistake was demonstrated by the group innovation knowledge manager from a contractor firm:

“We actually learned from failures, and then say what went wrong, what went well... We have learned from that process. Something went wrong, and we have learned from it.”

It is argued that learning from problems and mistakes helps an organization to become more dynamic in response to continuous change. Similarly, the important role of learning from a success was articulated by the principal program supply chain manager of a public contractor firm, who argued that:

“You can learn as much from failure as from succeeding. In fact you may learn more as long as you make sure you learn. The biggest mistake in failure it is not learning. “

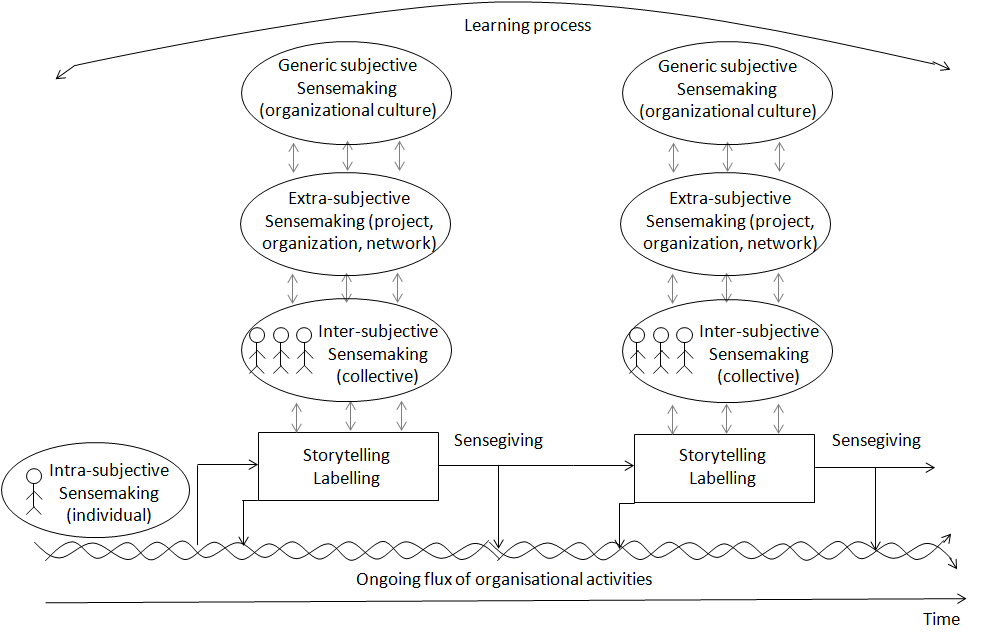
The tendency of viewing the process of learning from experience in a dynamic way was reinforced by the structural manager of Building Information Modelling (BIM) from a specialist contractor firm:

“Every company will have lessons learnt. Simply, for financial reasons. If you lost a fortune on a project because it was innovative you want to take as much knowledge and put it in the next project do not make the same mistakes twice.”

It is argued that firms continuously learn with the aim to perform the next projects without the previous mistakes. This view points towards the need to learn from past experiences, regardless of whether these experiences were a success or a failure.

**Propositional model of learning**

Drawing on Weick’s ideas of sensemaking and the findings derived from the empirical material, a propositional model of a learning process is presented in Fig. 1, which is explained in detail below. It should be noted that the model does not represent a “reality”, but is a useful device to debate the “reality” (Checkland & Scholes, 2005). It should also be noted that the model does not specifically address the contradictory views of social actors regarding learning.

Figure 1 Learning as a sensemaking process

It is proposed that learning can be understood as a sensemaking process. Following Weick (1995), sensemaking begins by an organizational actor interpreting and making sense of activities that have already occurred during an organizing process. An individual (intra-subjective) activity of meaning making becomes a collective (inter-subjective level) exercise. Intra-subjective sensemaking and actions include individual thoughts, beliefs, assumptions, intentions and the actual actions that enable him or her to interpret and make sense of their own and others’ actions, and the broader social environment. Inter-subjectivity is viewed as a social interaction between two or more actors at which they create shared understandings. As most interviewees argued, shared meanings emerge through social interactions between actors and telling stories.

By being engaged with particular project activities or organizational practices, an individual notices some activities more than others. Some activities become labelled in order to find common sense. The labels follow afterwards and name the completed acts (Weick et al., 2005). Labels are socially constructed, because they have to be adapted to local circumstances. As an individual learns, he or she interacts with other actors across projects and organizations. The empirical data demonstrate that labels help practitioners to talk about organizational practices and to transfer their messages to other actors (sensegiving) in other contexts.

The views expressed by the interviewees are consistent with Weick’s (1995) arguments that intra- and inter-subjectivity are shaped by generic and extra-subjectivity. Generic subjectivity is formed and maintained by broader social contexts (e.g. the nature of projects, organizations and networks within which practitioners operate). Extra-subjectivity refers to organizational culture. Senior managers increasingly emphasise the role of “culture” in creating a platform for people to meet and share knowledge. These distinctions should not be understood as a simple sequence of levels, but as multiple constructions of meanings (Weick et al., 2005). Consequently, constructed meanings may emerge at multiple levels of the analysis. It is argued that particular contexts are crucial in shaping learning process.

Although models carry a risk of making a dynamic process static, the process of learning (arrow) included in the model points towards its dynamic and ongoing nature Dionysiou and Tsoukas, 2013). The interview material demonstrate that stories may be recalled at the later periods of time and propagated further. As stories may be re-constructed over time, project and organizational activities may change/drop their labels. Individual and collective sensemaking processes are understood as ongoing: social actors continuously look backward and look forward, generating learning over time (Maitlis and Christianson, 2014).

**Discussion**

The relevance of sensemaking in understanding of learning in project-based organizations is evident in the empirical material. The interviews with project leaders indicate the important connection between retrospection (looking back), present time and prospection (looking forward). The interviewees described the ways they reflect on their past experiences, present situations and future imaginings, viewing learning as an ongoing social process. Past experiences were seemingly used by practitioners to make sense of the present and future. Future-oriented learning through training, workshops and conversations with experienced practitioners, who may be retired, were strongly emphasized as important activities by many interviewees. If sensemaking is indeed grounded in retrospection and is incomplete without prospection (Weick et al., 2005), this would go some way towards explaining the ongoing process of learning. The empirical findings are keeping with the work of Colville et al. (2014) who explore a backward- and forward-looking logic in learning processes. This is also in keeping with authors such as Gavetti and Levinthal (2000) and Thomas et al. (2001) who explain learning process through a sensemaking perspective. Consistent with these authors, the argument developed in this paper is that social actors enact (create) meanings from new experiences and socially construct shared understandings.

The proposed conceptual model in Fig. 1 provides one possible way of understanding learning in project-based organisations based on reflections of project leaders. Learning is seen as a social and ongoing process: experiences from past projects are brought forward in order to make sense of the present and future projects. This has important implications of the role of individual sensemaking processes, including noticing and labelling activities, storytelling and sharing experiences with others. Projects, organisations and networks within which practitioners operate influence practitioners’ reflections on learning. This is consistent with the project management literature such as Ayas and Zaniuk (2001) who increasingly emphasize sensemaking and organizational memory as key constructs related to learning as a dynamic process of complex interactions between multiple actors in the context of projects and organizations. Hernes and Irgens (2012) also consider learning under continuity at organizational level, where actors are engaging in opportunities, interpreting and re-interpreting the past, the present and the future.

Of further note is an important role of “saying” in learning processes. The interviewees demonstrated making sense not only for themselves, but more importantly for others, i.e. storytelling. These activities indicate the relevance of the conceptual ideas of sensegiving (“saying”) in relation to learning. Of further note is the use of different resources to transfer knowledge across stakeholders, projects and organizations. These resources can be seen as verbal (e.g. stories, conversations, metaphors) and non-verbal (e.g. brochures, government reports, published strategies, written case studies). Perhaps, at least partly, they are used in order to spread messages across multiple contexts. As Snell (2002), Clegg et al. (2005), and Holt and Cornelissen (2013) strongly contend, narratives play important roles in the processes of transformation of practices across projects and firms. As narratives can be repeated and recalled, storytelling could lead to evolving learning processes.

**Conclusions**

This paper provides a contribution to growing body of research which utilizes a sensemaking perspective to understand organizational learning (Gavetti & Levinthal, 2000; Thomas et al., 2001; Holt & Cornelissen, 2013; Colville et al., 2014). More specifically, learning in project-based organizations is explored based on reflections of project leaders, contributing to the construction and project management literatures (Bartsch et al., 2013; Garrick and Clegg, 2001). Understanding of learning from a sensemaking perspective has significant theoretical implications. Sensemaking provides useful explanations into the ways project and organizational activities become labelled to find common sense, capture and transfer learning experiences through stories. This perspective points towards the need to examine further the underlying social processes through which learning emerges. Drawing on Weick’s (1995) sensemaking and the empirical findings, a model has been proposed to address the recursiveness of learning (see Fig. 1). More specifically, the model emphasizes: (1) intra- and inter-subjective sensemaking in learning processes; (2) the way contexts shape learning processes and (3) the ongoing learning process.

Empirical material indicate that learning involves looking retrospectively at past projects and looking prospectively to new practices. Of particular importance is the role of contexts in shaping past, present and new practices. Of further note is an important connection between learning and sensegiving: as stories can be shared, learning processes continue to emerge over time. These contributions have significant practical implications. This paper provides some potentially useful insights into learning from practitioners’ individual perspectives. Practising managers continuously make sense of their experienced reality and seek to learn various practices inside and outside their firms.

The paper presents empirical material derived from twenty seven interviews conducted over a few months period of time. Further, more longitudinal (ethnographical, action research) research into exploring learning process in projects and organizations may deepen our understanding of how learning is translated into processes of organizing. Sensemaking perspective discussed is not the only possible way of understanding learning. This paper points towards a need to examine further the ways in which learning process emerges at other contexts. The sensegiving of business actors within the contexts of politicised processes and power relationships merit further attention. Further research may explore the use of different discursive resources (spoken and written stories, metaphors) in relation to learning by stakeholders, projects and organizations. This may deepen our understanding of the role of storytelling in relation to learning in terms of the ways practising managers continuously make sense and share their stories with new generations of managers.

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