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SELF-ORGANISED STRUCTURES IN THE FIELD OF ICT - CHALLENGES FOR EMPLOYEES' WORKPLACE LEARNING

Abstract

Purpose – The aim of this study was to identify the challenges of low hierarchy and self-organised structures for employees' learning and competency development at work. In the last decade, interest in employees and organisations' self-directedness has increased. Self-organised structures are perceived as better able to answer to the quickly changing requirements of clients and business environments. Within these structures, employees are expected to take on more responsibility and maintain more control over their workplace learning, which means they must be self-directed and autonomous. An important question for this approach is how can workplace learning and employee competence development be enhanced.

Design/Methodology/Approach – Two self-organised Finnish ICT-companies participated in the study. With the help of data-driven content analysis, 36 interviews were analysed.

Findings – Unclear roles, structures and areas of responsibility caused challenges during the guidance and support of learning, for long-term and sustainable professional development possibilities and in organising and prioritizing work tasks related to learning.

Practical implications – In self-organised structures, there should be a means of better supporting individual- and team-based learning. This will allow learning to have as much value as possible in the future and, therefore, be more sustainable. Our findings are also important to be taken into account in managers' and HR professionals' education and training.

Originality/value – The findings of this study can offer insights in employees' well-being emerging from the possibility to learn and be supported in that learning especially in self-organised structures, which so far has been scarcely studied.

Keywords self-organised structure, workplace learning, ICT

Paper type Research paper

1 Introduction

Due to constant change and competition, companies are forced to develop new organisational models to increase employee development and continuous learning, which are key factors for increasing organisational competitiveness (Power and Waddell, 2004). Consequently, interest in self-directed organisational structures has increased (Kauffeld, 2006; Lee and Edmonson, 2017). Traditional hierarchical organisations, in which the top management (at the top level of the hierarchy) makes decisions and controls employees (Hankinson, 1999) are apparently not able to create new and successful products, services and solutions quickly enough (Lee and Edmonson, 2017). Therefore, it seems that organisations, especially those operating in the field of information and communication technology (ICT) (Ulrich and Mengiste, 2014) are moving from hierarchies to lower and looser structures of work organisation and employee supervision. According to Mintzberg (1980), lower hierarchies function well in versatile and expert work environments, which ICT organisations often are (see, Auvinen et al. 2018; Collin et al., 2018). Although there are many successful practical case examples of organisations with low hierarchies (see, e.g., Salovaara and Bathurst, 2016), there is a lack

of empirical research on the challenges these loose structures face (Lee and Edmondson, 2017) in practice and during employee learning. Thus, in this study, the goal was to increase our understanding of the challenges posed by self-organised structures and their impact on employee learning and competence development. We suspect that, at least some extent, the structure of an organisation determines how the work is divided and coordinated.

In the field of ICT, work is characterised by continuous problem solving and developing new solutions for customers and organisations (Ha, 2015). Learning is embedded in daily work as practices, information retrieval, interaction with others and individual activities (Edwards, 2010). Thus, the framework of informal workplace learning seems to be suitable when talking about learning in ICT work (Lemmetty and Collin, 2019). Learning in the ICT sector most often occurs independently, and sometimes broadens outside employees' office hours (see, Zabusky, 1996). The work itself is mainly problem-driven and requires individual and team autonomy and the employees' control over their own learning processes, which leads them to be more committed to their own self-directed learning (Bell, 2017; Frenkel and Sanders, 2007). In this situation, the responsibility to learn has shifted onto individuals (Ellinger, 2004). However, this kind of learning is especially challenged by various individual- and team-based factors, such as learning support (e.g., Bundersom and Boumgarden, 2010; Kauffeld, 2006). So far, there is too little understanding of self-structured organisations. There is even less research on the possibilities for learning and competence development in self-directed organisational structures (see, Lee and Edmondson, 2017). In this research, we aim to describe the experiences of employees related to those challenges of learning that may originate from organisational structures. To grasp these challenges, we utilised a qualitative research approach and qualitative content analysis (Hsieh and Shannon, 2006) based on the interviews of employees in two ICT organisations in Finland.

2 Self-organised structures and workplace learning in ICT organisations

Self-directedness in an organisational context means empowering an individual or a team by allowing them to have responsibility for their own work (Moe et al., 2008; Tata, 2000). Organisations can implement this, for example, by lowering hierarchies, creating autonomous teams or even allowing non-leadership operations, which are typical in ICT organisations (Auvinen et al., 2018; Collin et al., 2018). In this way, organisations are shifting responsibility for the work, but also for the learning it contains to the employees themselves (Ellinger, 2004; Rigby and Ryan, 2018). As workplace learning becomes more and more a part of the job itself (Lemmetty and Collin, 2019), the practice of realising work and solving problems, organisational frames surrounding it should be further explored in different organisations (Artis and Harris, 2007). Nowadays, this is especially true for self-organised organisations for which empirical research is hardly available (Lee & Edmondson, 2017). Next, we will describe in more detail what a self-organised organisation means and what workplace learning is in the ICT field. Finally, we summarise why and how in this study we looked at the problems of self-organising organisations, especially with regard to workplace learning.

2.1 Self-organised structures: low hierarchy, autonomous teams and non-leadership operations

Currently, one of the most important and obvious ongoing changes in ICT-organisations is the transformation from hierarchical and bureaucratic organisational structures to low hierarchical ones, in other words, self-organised organisations (Lee and Edmondson, 2017; Holbeche, 2015). In traditional and hierarchical organisations, the top management (at the top level of the hierarchy) makes decisions and controls employees (Puksel and Vyhmeister, 2000; Hankinson, 1999). In these organisations, work is often mass production (Lam and Lundvall, 2007), and employees are sublevel resources in the hierarchy. The traditional hierarchical organisational structure is designed to function in routine job situations, but not in companies with new kinds of problems or changes (Lam and Lundvall, 2007). As routine work increasingly shifts to knowledge-intensive, problem-based work, it is clear that changes in organisational structures are increasingly moving toward self-organised structures. This type of

structural change aims to organise production in a customer-oriented way, to offer shorter delivery times, to reduce waste, to implement continuous improvements and to increase flexibility. At the heart of meeting these goals has been, in addition to the dismantling of hierarchies, the enhancement of teamwork and autonomy and the possibility of learning at work (Abrahamsson, 2014).

Conversely, self-organised organisations (Lee and Edmondson, 2017), also known as organic and decentralised organisations (Burns and Stalker, 1961), are complex social entities with very low or non-existent hierarchies. Personnel are divided into groups based on competency areas (Moe et al., 2008), and power and decision-making are decentralised (Hankinson, 1999; Lee and Edmondson, 2017). Autonomous teams (Tata, 2000; Langfred, 2000) are offered more opportunities to individuals for daily decision-making (Moe et al., 2008). However, the decision-making practices of organisations vary depending on the nature and the context of the work (Mintzberg, 1980; Lee and Edmondson, 2017). For example, in some organisations, employees may have the option to decide on which projects they work. In other organisations, an employer may define projects. However, the goal seems to be the same in all self-organised organisations: to promote employee participation and an open and reliable culture (Hankinson, 1999).

In self-organised structures, the importance of self-directedness of individuals has increased (see, e.g., Collin et al., 2018). This is due to the fact that self-organised organisations do not have named supervisors or managers but usually have only the CEO and, for example, a human resources manager. This structure interacts with the team-based structure described above. Because the managers do not guide the people in the organisation, but rather the progress of the action depends on the individuals themselves, self-directedness is emphasized. In addition, the roles of superiors have been replaced with various electronic support tools and by emphasizing the importance of collaboration between colleagues. Although the idea of organisational structures seeking self-directedness and a low hierarchy is not new, there is little research on such organisations or their challenges (Lee and Edmondson, 2017) from the viewpoint of learning.

2.2 Workplace learning and competence development in ICT organisations

While organisational structures have been seen as essential for control and efficiency, high levels of learning and innovation can instead be accessed with looser and more autonomous organisational models (Bunderson and Boumgarden, 2010). Contemporary non-routine work performances require new kinds of competences, such as problem-solving skills (Sanders et al., 2017) and autonomy during learning (Saks and Leijen, 2014). In the field of ICT, work is continuous problem solving and developing new solutions for customers and organisations (Ha, 2015). Learning is embedded in daily work as practices, information retrieval, interaction with others and individual activities (Edwards, 2010). The concept of the informal workplace learning approach (e.g., Manuti et al., 2015) is that the majority of learning at work has been described and argued to happen informally and to be strongly linked to tasks and work activities (Marsick and Watkins, 1990). Intense and continuous competence development and learning in the ICT sector occurs also independently. Such development entails reading and obtaining information from various sources (e.g., the Internet), familiarising oneself with programming languages and tools and participating in projects (Edwards, 2010; Ha, 2015). Thus, work is highly problem-driven and employees are involved in short-term loops of problem-driven learning (see, Collin, 2006; Havnes and Smeby, 2014).

In terms of opportunities for individual informal learning at work, the concept of self-directed learning (Knowles, 1975; Brookfield, 1986; Ha, 2015), in teams (Moe et al., 2008) is becoming increasingly essential (Wilson and Hartung, 2015). Self-directed learning refers to learning processes and situations in which the learner defines the goals, methods and outcomes of learning (Knowles, 1975). Self-directed learning involves the idea that an adult utilizes his or her previous experiences in his or her learning and is able to control his or her own needs (Knowles, 1975). Particularly, in knowledge-intensive ICT work, individual employees' self-direction seems to an important principle of innovation and collaboration,

because outside control is seen as a negative influence on learning and creativity (Collin et al., 2018). Learning to learn and to structure one's own learning seem to be important abilities for knowledge workers in the future (Milligan et al., 2015; Germain and Grenier, 2015). In self-organised organisations, employees are expected to demonstrate greater autonomy and control over their own learning processes, which leads them to be more committed to their own self-directed learning (Bell, 2017; Frenkel and Sanders, 2007). Therefore, the responsibility to learn has shifted onto individuals (Ellinger, 2004). However, in the literature on self-organised organisations, learning is taken for granted (e.g., Holbeche, 2015) and the organisation of work is seen as an ideal that every organisation should pursue (Collin et al., 2018). Still, a reliance on self-directed learning should not mean leaving individuals without support. Abilities and access to the resources that allow for self-directed and autonomous action can differ among individuals. In addition, there are many studies concerned with team-based factors that affect levels of learning support (e.g., Bunderson and Boumgarden, 2010; Kauffeld, 2006). Learning can become problematic and burdensome if the individual's responsibility is too great and support is not available (Lemmetty & Collin, 2019; Gijbels et al., 2012).

2.3 Investigating the problems of a self-organised organisation and their impact on learning

This study was interested in how self-organised structures challenge employees in their learning. Previous studies have demonstrated different organization structure related issues to be influential for learning. For example, manager support is identified to be important for employee motivation to learn (Collin et al., 2018) and participate in developmental activities. Studies have also shown that the attitudes and behaviours of line managers in particular have an important role in the acquisition of information and the interpretation of organisational life. Therefore, they also have a role in the support of learning (Ashton, 2004). However, supervisors and line managers do not necessarily know how learning should be supported. Another important element within learning is a clear team structure (Bunderson and Boumgarden, 2010). Clear structures and roles show who has certain competencies and the information necessary to complete a job. This kind of formal distribution allows teams to analyse and attain knowledge based on its members' roles and responsibilities and to ease the flow of information. These are important elements to avoid conflict, create a sense of psychological safety in a team and, therefore, enhance learning (Ashton, 2004). It has also been suggested that members of autonomous teams are not uncontrolled, but too rigid control may impair employee creativity and spontaneity (Takeuchi and Nonaka, 1986).

From an individual learners' point of view, it has also been evidenced that a clear career path allows them to augment the long-term progress of their competency. This also enhances learning within the entire organisation. Therefore, managing the work performance, distribution of resources and feedback given by employees are all vitally important to the efficiency of self-organised organisations (Lee and Edmonson, 2017; Turner et al., 2008). Consequently, the job and tasks should be connected to employee vocational aims, so they ultimately support the employee's developmental goals. Because of this, some kind of support for employees are necessary in self-organised organisations, even if the employees do not have adequate levels of knowledge and competency (Ashton, 2004). The idea is also supported by the fact that self-directedness should not mean leaving individuals alone and without support, because both the individuals and the organisational development would suffer (see Collin et al., 2018). Because of increased employee responsibility and autonomy, challenges regarding learning have arisen (Bell, 2017). Though it is difficult to find a solution for every individual and situation, it is essential to find a balance between autonomy and support. Based on recent studies, understanding of the meaning of different organisational structures for learning seems contradictory. It has been suggested that low-hierarchies produce freedom that allows individual learning when appropriate (e.g. Mintzberg, 1980). However, it has also noticed that clear structures are needed to ensure enough support for learning from colleagues and supervisors (Bunderson & Boumgarden, 2010). Therefore, the aim of this study was to identify the challenges of low hierarchy and self-organised structures for employees' learning and competency development at work

3 Research aim and questions

The aim of this study was to identify how self-organised structures challenge employee learning and competency development at work. In particular, this study was interested in the consequences of self-organised organisations for employee learning. More specific questions were as follows:

1. What learning-related challenges or problematic features are described in self-organised structures?
2. What are the consequences of these problematic features on employee learning?

4 Method

4.1 Participants and data

This study's data was comprised of 36 *thematic interviews* collected between 2015 and 2018 as part of the larger research projects CREANCY (Collin et al., 2018) and HeRMO (hermohanke.com). The aims of these research projects were to investigate the relationship between professional agency and creativity as well as identify structures and practices of ethical leadership that enhance creativity and self-directed learning. The interviewees were selected from all personnel groups as representatively as possible; they were software designers, client services, experts and leaders including CEOs. All interviewees were male, 23-63 years of age, and their work experience varied from few months to over 35 years. Seven organisations participated in these projects; however, interviews from two ICT organisations were selected for this study. The first reason for selecting these organisations was that low-hierarchy, self-organised and non-leadership structures are typical within this professional field. The second reason is that the participating organisations referred to themselves as low hierarchical and self-organised.

The target organisations were different in terms of size. In one organisation, there were approximately 250 employees, and in the other smaller organisation, there were 12 employees at the time of the data collection. For more detailed descriptions, see the vignettes described later in the 'Findings' section. The interviews included themes such as, leadership, supervisor practices, personnel, support, work community, inequality, creativity and competence development. Specific questions were for instance: What are the biggest challenges in your work now? From whom can you have support for your work when needed? How do you learn and develop? How is your learning supported and constrained? How do your supervisor/manager support your and your colleagues' learning?

4.2 Analysis

The data were transcribed before beginning the actual analysis. The interviews in both research projects included certain themes, such as work environment and atmosphere, competency development, workplace learning, creativity, leadership and experienced organisational unfairness. During analysis, focus was placed on themes related to workplace learning, competency development, leadership and organisational atmosphere. Interviews were analysed with data-driven content analysis (Hsieh and Shannon, 2005) by two researchers of this study. The aim of the analysis was to reveal the challenges of self-organised structure regarding workplace learning. To answer the first research question, all descriptions of challenges related to organisational structure were compiled. We looked for negative, problematic and challenging insights and experiences employees described related to structures. Based on these, we first wrote vignettes describing organisations through a self-organised structure and through which the challenges we interpreted became visible. For the second research question, the consequences of the reported challenges for learning were the focus. The problems identified by the structures in the previous phase were examined in greater depth with a focus on staff descriptions of

how these challenges affected their learning and competence development. The descriptions were divided into three themes, which form the answers to the second research question of this study.

5 Findings

In accordance with the research questions, this section contains the study's findings in two parts. First, we will introduce two vignettes that will answer the first research question: what kinds of problematic features did the self-organised organisations include in general. Second, we highlight the effects that these problematic features produced for employees' learning and competence development at work. All the findings are summarised in Figure 1.

5.1 Problems of self-organised organisations: Unclear organisational structures and roles as well as a lack of responsibility

First, the structure of both organisations will be described in two vignettes/stories. These vignettes/stories concentrate on the challenges that resulted from the structures or absence of them. Following this will be an illustration of the consequences of unclear structures, roles and responsibilities on employee workplace learning.

The vignette of Organisation A

Organisation A is a small ICT-company that has rejected all management titles apart from the CEO. The organisation of tasks takes place through client projects, which are led 'organically' by a project lead and based on daily work. Therefore, in everyday practice, project leads and other more experienced workers have various, unofficial responsibilities. For example, workers with a great deal of expertise may be asked for help or advice, but these workers do not act in supervisory positions officially, nor do they have any compensation for this role. These unofficial responsibilities are vitally important for the fluency of the organisation. However, when these responsibilities are not recognised and awarded the learning needs related to these are in the offer either. Due to the small size of the company, the overall management of the organisation has so far been quite unproblematic. For example, most of employees know what colleagues are doing at the grand scale. Usually, a project lead understands their own projects but not necessarily other projects.

Due to a general lack of understanding of all ongoing projects, and how they relate to each other, there is a lack of awareness of worker competency and required learning. Learning is guided by the requirements of the client project at hand. Workers react to different requirements by training themselves and developing their own skills alongside their current project. Workers are responsible for their own development and learning goals, and from the perspective of the company, this requires self-directed workers. The current organisation does not have an overall structure for employee competency development and learning. Instead, client assignments and the employee's own interests guide it. Therefore, no one in the organisation has the overall responsibility for personnel development and learning, even though it might also be important for the organisation's development. Although the need for continuous learning was obvious to the employees, this concern was not acknowledged at the organisational level or by CEO.

The vignette of Organisation B

Organisation B is officially self-structured with no official leaders apart from the CEO, HR-manager and other HR-related positions. For years, the company has invested in employee conformability and high customer satisfaction. Work is project- and customer-based; therefore, project leads have the responsibility of running day-to-day project work and customer relations. However, project leads do not necessarily act as leaders. This is especially true for responsibilities related to everyday HR

supervision, such as feedback, training, learning and support, which are largely not considered part of their responsibility. However, employees have the opportunity to discuss various issues of concern, for example related to their learning needs, with outside coaches. This is a purposeful choice of the company because project leads do not want to take responsibility of HR duties. To lead a project is to take care of technical aspects, make things happen and have a larger view of the project at hand. Therefore, it is every employee's own responsibility to take care of their own learning and competency development. Alternatively, outside coaches and sales people should know what employees working on their teams and projects need to learn to manage their projects. However, these people are not present often enough during the employee's daily practices to be able to support their professional career path and continual learning. Therefore, no one is responsible for personnel competency development overall.

Despite the apparent absence of an official structure, it is possible that Organisation B has some quality that keeps the company running. For example, it is possible that project leads have a 'hidden' responsibility to take care of their colleagues. These are not often discussed, however, because the organisation wishes to appear as non-managerial as possible. For these organisations, the most important elements are cosy working conditions, high-quality work for clients, meaningful tasks and making a profit. Individual career or competency development is not taken care of at the organisational level. Instead, it is left to individual employees and outside coaches. Though the lack of a shared organisational and official structure for learning does not currently worry employees, some see the situation as problematic. According to one employee, 'An organisation without managers is like winning the lottery for the owners and a defeat for the employees.' If an organisation continues to grow, and the experienced employees become unsatisfied with their career development opportunities, then 'we must have bigger changes, I guess, because this is not sustainable at all, that people are not really taken care of.'

5.2 Consequences of unclear structures, responsibilities and roles on employee workplace learning

As can be seen in the vignettes above, one challenge of a self-organised structure is a lack of clear roles and responsibilities. With regard to employee learning, a lack of holistic structure and responsibility is particularly challenging. This emerges in organisations through the absence of clear roles and responsibilities and through the outsourcing of competency development. These unclear roles, structures and areas of responsibility can be seen to pose three types of learning challenges: 1) guidance and support for learning, 2) long-term, sustainable opportunities for professional development, and 3) organisation and prioritization of work tasks related to learning. These categories are described in Figure 1 below and presented in more detail in the following section.

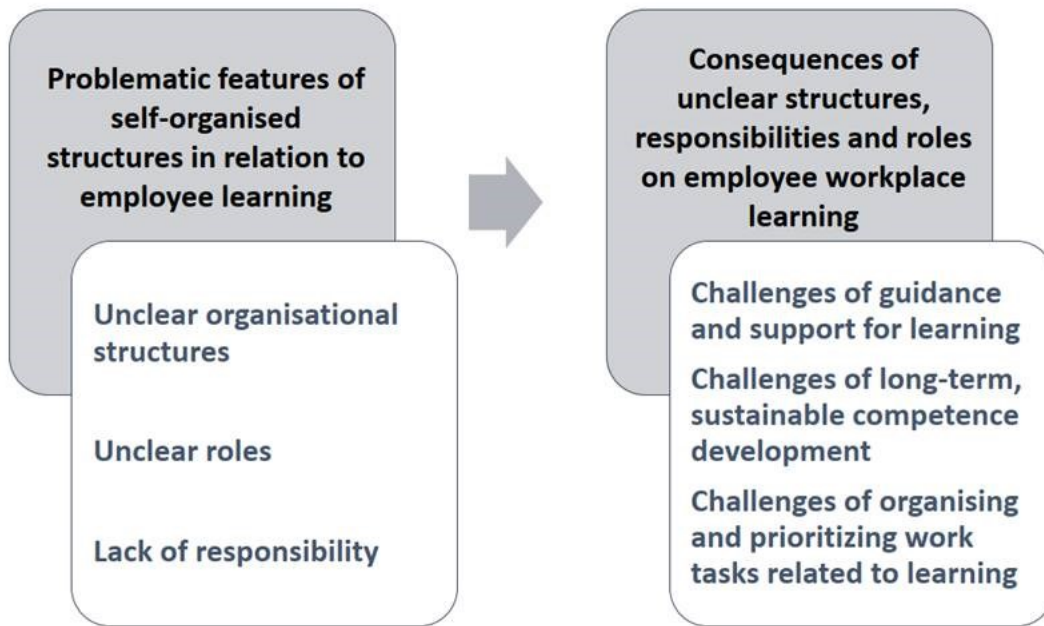


Figure 1: Summary of findings.

Challenges of guidance and support for learning

Due to unclear structures, roles and responsibilities, there are challenges related to how employee learning is supported and supervised. Employees define requirements for their own learning and supervision when they indicate their learning needs during their current project. In the self-organised organisations used in this study, it was assumed that employees, including even leaders and managers, operated through self-directed working and learning. This was the cultural norm. There was a prevailing assumption that all employees were capable of recognising their developmental needs and required resources. Self-directed learning as the cultural norm meant that employees themselves had to speak up about their developmental needs, even if they did not know precisely which forms of expertise or skills were necessary. In these situations, challenges emerged because there were no official leaders to guide and support employee learning:

‘This [competence development] is really hard and challenging. There is not a system for it, we just hope that people here want to develop themselves. We have independent and spontaneous people here.’

Organisation A, CEO

Challenges also emerged due to the absence of care and support. Due to the self-organised structure, there were no employees responsible for the well-being and education of personnel. However, there seemed to be an obvious need for this kind of employee:

‘There is no person here who takes care of the employees like in classic organisations. There is always someone taking care of and helping, typically, for example, team lead or the like. It’s their job to do these kinds of things, but now, in principle, we don’t have anything like that, you are just thrown somewhere.’

Organisation B, software designer

Challenges of long-term, sustainable competence development

The lack of professionals responsible for employee learning was also reflected in employee long term goals, in employee opportunities to develop their competences and in organisational goals. Due to the lack of a clear structure, employees experienced difficulty understanding various projects that did not have a clear connection to their expertise development and their organisation's competitiveness enhancement. There was also a lack of holistic understanding of the organisation's forms of expertise and competencies. These challenges were particularly related to vagueness surrounding employee futures and long-term career development within their organisation.

'The invisibility of future visions, how would you say it, it is quite frustrating, perhaps you have been working in the help desk for half a year and start thinking that there might be something else that you want to do, but what it might be you don't know.'

Organisation A, IT expert

A lack of understanding of organisational competencies may secretly allow for 'outsourcing' to marketing organisations, because competency requirements are quickly visible within these functions. Salesmen and coaches were not present often enough during the day-to-day practices of employees to be aware of their learning needs. Often, employees cannot speak up because of the different available resources and power structures. The following extract depicted a situation in which an employee had neither the support of coaches to pursue his developmental goals nor the necessarily skills to appropriately disclose his goals:

'If you are quiet, and you don't want to tell everybody your goals, I mean where *everybody's* goals are shared, and you don't know any of those mentors to talk to, it is a difficult situation, you just don't know what to do and who you can turn to.'

Organisation B, project lead

Challenges of organising and prioritizing work tasks related to learning

Challenges caused by unclear structures, roles and responsibilities in self-structured companies also relate to the organising and prioritizing of work. For example, a lack of clarity surrounding roles and which employees are responsible for deciding task order makes detecting the learning needs of employees difficult. It is necessary to have a description of the overall process and people who are designated as responsible. This ensures fluent work, despite constant and non-effective transfers of tasks and chaos. What occurs when no one has a holistic picture of the ongoing projects and tasks is described in the following:

'In situations where someone asks which one of the work tasks should I do, when they are asked to do two tasks, and there is a need to have someone say in which order to do those tasks, then it is complicated, you are asked to ask someone and others ask you to ask someone else, zigzagging between people.'

Organisation B, project lead

'This is some kind of chaos, hassle. I don't even know if anyone has a holistic picture of this.'

Organisation B, HR assistant

The above extract suggests that if tasks, duties and responsibilities are varying learning cannot concentrate and focus on relevant issues either from the individual or organisation point of view. Tasks are highly complex offering many opportunities for learning, but also a heavy workload of routine tasks. Therefore, routine workload may also hinder learning.

When the larger picture and learning needs and related responsibilities were unclear, employees also felt that they were not adequately taken care of. The following is a description of how the pure documentation of working hours did not guide and motivate employee work and professional development:

‘I haven’t seen that anyone is really interested in how are you feeling or something, how is it going or something else, as long as you document your working hours on projects everything is fine.’

Organisation B, software designer

This is a representative example especially from the organisation B in which HR, including competence development and learning, is outsourced to outside coaches. In such a situation, the requirements of personnel development as a whole are unclear, and employees are unsure of what can and should be developed. This can also lead to the feeling of being left alone.

6 Discussion

Our findings suggest that in self-organised organisations, the lack of clear structures may result in challenges for employee learning and development (Bell, 2017). This can be seen through the presence of unclear responsibilities, the outsourcing of responsibility or the absence of responsibility. From the employees’ point of view, the lack of holistic understanding and organisation of tasks, lack of understanding of how to support employees in their work and lack of holistic responsibility to support employee learning have become challenging. An obvious challenge to the support of workplace learning is that organisations often adore self-organisation and autonomy. Therefore, expectations regarding self-organisation may become cultural norms. For example, structures can have an effect on how autonomy is approached in the organisation and through structures can also create culture. If assistance with employee competency and learning requirements are not offered, responsibility for that development and learning falls primarily on the employees themselves (Ellinger, 2004; Bell, 2017) or is outsourced. This may result in pressure on individual workers to autonomously find their own ways of increasing their learning potential, even if they do not know precisely what they should develop. In the end, organisations cannot sustainably offer employees the opportunity to learn only through the form of meaningful and motivating tasks on individual projects (Turner et al., 2008). This is especially true in situations in which no one knows how or no one is able to take responsibility for guiding learning. Support and leadership are needed now more than ever (Lee and Edmondson, 2017; Collin et al., 2018).

Clear organisational aims seem to relate to clear developmental aims, both individually and organisationally. For example, in this study’s interviews, the need for learning was not often discussed and its importance was not understood at the organisational level. However, those interviewees who were aware of their learning needs found it important to take care of long-term individual- and organisational-level learning for different career paths. If employees do not know what they should learn, the organisation does not benefit from the situation either. In the long run, this is not effective, may cause motivational and well-being problems for individuals and may deteriorate employee commitment (Wall et al., 1986). Therefore, it is important that learning is a vital part of a company’s organisational strategy.

The findings of this study can offer insights in employees’ well-being emerging from the possibility to learn and be supported in that learning. From the perspective of employee well-being, sustainability in learning (Brandt and Christensen, 2018) should be considered. It has been studied that bureaucracy, malfunctioned systems and unclear responsibilities predict employee stress and burden even more than hurry or work overload (Hakanen et al., 2019). Consequently, companies should consider how extensively lessons can be applied now and into the future (Collin et al., 2018). If organisations do not have developmental aims, this is not possible. In addition, due to digitalization, both the importance

and strain of learning will increase (Lemmetty and Collin, 2020). Therefore, organisations, and especially self-organised organisations, should support the setting of learning goals and the learning of individuals and teams. This learning will have even more value in the future. In this way, sustainability, learning and employee well-being can be supported (Pfeffer, 2010). Consequently, it will be important to investigate self-organised organisations from the perspectives of sustainable learning and employee well-being.

Two ICT organisations represented the field at hand in this study. They were purposefully selected as non-hierarchical or non-leadership organisations. Despite the relatively small size of the empirical data sample, we suggest that our findings are transferable to ICT work in low-hierarchy, self-organising enterprises. However, it should be remembered that any challenges or problems related to organisational structure and practices are very context-bound (see, e.g., Collin et al., 2018). For this reason, more comparative approaches among self-organised organisations would be useful and needed for instance in terms of size of the organisation. It might be the case that large size company is be more bureaucratic but be especially low hierarchy on the level of the department. Because working life is increasingly demanding, particularly in terms of continuous learning, organisations and its leaders should be ever more interested in ensuring its employees' possibilities for learning and the support of learning in a sustainable way. For sustaining employees' well-being, this is equally important and line managers will have an especially important role in this. Low hierarchy structures does not mean that these organisations do not need to structure the affordances for learning. This is why monitoring competences, electronic portfolio for competence development and self-directed learning, workplace curricula and clearer roles of line managers as facilitators of learning might be the practical solutions for offering these affordances. Our findings are also important to be taken into account in managers' and HR professionals' education and training.

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References

- Artis, A.B., and Harris, E.G. (2007). "Self-directed learning and sales force performance: An integrated framework". *Journal of Personal Selling and Sales Management*, Vol. 27 No. 1, pp. 9–24.
- Abrahamsson, L. (2014). "Gender and the modern organisations, ten years after". *Nordic Journal of Working Life Studies*, Vol. 4 No. 4, pp. 109-134.
- Ashton, D.N. (2004). "The impact of organisational structure and practices on learning in the workplace". *International Journal of Training and Development*, Vol. 8 No. 1, pp. 43-53.
- Auvinen, T., Riivari, E., and Sajasalo, P. (2018). "Lessons learned from traditional and 'new-age' leadership". In: Eskola, A. (Ed.) *Navigating Through Changing Times*, Routledge, pp. 95-112.
- Bell, B.S. (2017). "Strategies for supporting self-regulation during self-directed learning in the workplace". In: Noe, R.A. and Ellingson, J.E. (Eds.), *Autonomous Learning in the Workplace*. Routledge, pp. 117-134.
- Brandi, U. and Christensen, P. (2018). "Sustainable organisational learning—a lite tool for implementing learning in enterprises". *Industrial and Commercial Training*, Vol. 50 No. 6, pp. 356-362.
- Brookfield, S. (1986). *Understanding and Facilitating Adult Learning*. Jossey Bass.
- Bunderson, J.S. and Boumgarden, P. (2010). "Structure and learning in self-managed teams: Why 'bureaucratic' teams can be better learners". *Organization Science*, Vol. 21 No. 3, pp. 609-624.

- Burns, T. and Stalker, G.M. (1961). "Mechanistic and organise systems". In: Shafritz, J.M. and Ott, J.S. (Eds.) (1992) *Classics of Organization Theory*. Wadsworth Publishing, pp. 214 – 225.
- Collin, K. (2006). "Connecting work and learning. Design engineers' learning at work". *Journal of Workplace Learning*, Vol. 18 No. 7/8, pp. 403 - 413.
- Collin, K., Herranen, S., Auvinen, T., Riivari, E., Paloniemi, S., and Sintonen, T. (2018). "Leadership as an enabler of professional agency and creativity in information technology organisations". *International Journal of Training and Development*, Vol. 22 No. 3, pp. 222-232. doi:10.1111/ijtd.12130.
- Edwards, A. (2010). *Being an expert professional practitioner: The relational turn in expertise*. Springer.
- Ellinger, A.D. (2004). "The concept of self-directed learning and its implications for human resource development". *Advances in Developing Human Resources*, Vol. 6 No. 2, pp. 158-177. doi:10.1177/1523422304263327
- Frenkel, S.J. and Sanders, K. (2007). "Explaining variations in co-worker assistance in organisations". *Organization Studies*, Vol. 28 No. 6, pp. 797-823.
- Germain, M-L. and Grenier, R. S. (2015). Facilitating workplace learning and change. *Journal of Workplace Learning*, Vol. 27 No. 5, pp. 366–386. Available from <https://doi.org/10.1108/JWL-03-2013-0017>
- Gijbels, D., Raemdonck, I., Vervecken, D. and Van Herck, J. 2012. Understanding work-related learning: The case of ICT workers. *Journal of Workplace Learning*, Vol. 24 No. 6, pp. 416-429.
- Ha, T. (2015). "Learning stories from IT workers - development of professional expertise". *Studies in Continuing Education*, Vol. 37 No. 1, pp. 79-98.
- Hakanen, J., Hakanen, A., Seppälä, P. and Viitala R. (2019). *Uudistu ja onnistu hyvällä henkilöstöjohtamisella*. Suomen Kuntaliitto.
- Hankinson, P. (1999). "An empirical study which compares the organisational structures of companies managing the world's top 100 brands with those managing outsider brands". *Journal of Product and Brand Management*, Vol. 8 No. 5, pp. 402-414.
- Havnes, A. and Smeby, J-C. (2014). "Professional development and profession", In: Billett, S., Harteis, C. and Gruber, H. (Eds). *International Handbook of Research in Professional and Practice-based Learning*. Springer, pp. 915 - 986.
- Holbeche, L. (2017). *The Agile Organization: How to Build an Innovative, Sustainable and Resilient Business*. Kogan.
- Hsieh, H.F. and Shannon, S.E. (2005). "Three approaches to qualitative content analysis". *Qualitative Health Research*, Vol. 15 No. 9, pp. 1277-1288.
- Kauffeld, S. (2006). "Self-directed work groups and team competence". *Journal of Occupational and Organizational Psychology*, Vol. 79 No. 1, pp. 1-21.
- Knowles, M. (1975). *Self-directed Learning*. Follet.
- Lam, A. and Lundvall, B.A. 2006. "The learning and national systems of competence building and innovation", In: Lorenz, N. and Lundvall, B-A (Eds.) *How Europe's Economies Learn: Coordinating Competing models*. Oxford University, pp. 110-139.
- Langfred, C.W. (2000). "The paradox of self-management: Individual and group autonomy in work groups". *Journal of Organizational Behavior*, Vol. 21, pp. 563-585.
- Lee, M.Y. and Edmondson, A.C. (2017). "Self-managing organisations: Exploring the limits of less-hierarchical organising". *Research in Organizational Behavior*, Vol. 37, pp. 35-58.
- Lemmetty, S. and Collin, K. (2019). "Self-directed learning as a practice of workplace learning: Interpretative repertoires of self-directed learning in ICT work". *Vocations and Learning*. <http://doi.org/10.1007/s12186-019-09228-x>
- Lemmetty, S. and Collin, K. (2020). "Self-directed learning in creative activity: Ethnographic research from technology organisations". *Journal of Creative Behavior*, Early online. DOI: 10.1002/jocb.438
- Manuti, A., Pastore, S., Scardingo, A.F. & Morciano, D. (2015). "Formal and informal learning in the workplace: A research review". *International Journal of Training and Development*, Vol. 19 No. 1, pp. 1 - 17.

- Marsick, V.J. & Watkins, K.E. (1990). *Informal and Incidental Learning in the Workplace*. Routledge.
- Milligan, C., Fontana, R.P., Littlejohn, A., and Margaryan, A. (2015). "Self-regulated learning behaviour in the finance industry". *Journal of Workplace Learning*, Vol. 27 No. 5, pp. 387–402. Available from <https://doi.org/10.1108/JWL-02-2014-0011>
- Mintzberg, H. (1980). "Structure in 5's: A synthesis of the research on organisation design". *Management Science*, Vol. 26 No. 3, pp. 322-341.
- Moe, N.B., Dingsøy, T., and Dypa, T. (2008). "Understanding self-organising teams in agile software development". *19th Australian Conference on Software Engineering (ASWEC 2008)*, pp. 76-85.
- Pfeffer, J. (2010). "Building sustainable organisations: The human factor". *The Academy of Management Perspectives*, Vol. 24 No. 1, pp. 34-45.
- Power, J. and Waddell, D. (2004). "The link between self-managed work teams and learning organisations using performance indicators". *The Learning Organization*, Vol. 11 No. 3, pp. 244-259.
- Rigby, C.S., and Ryan, R.M. (2018) 'Self-determination theory in human resource development: New directions and practical consideration'. *Advances of Developing Human Resources*, Vol. 20 No. 2, pp. 133–147. doi:<https://doi.org/10.1177/1523422318756954>
- Saks, K. and Leijen, Å. (2014). "Distinguishing self-directed and self-regulated learning and measuring them in the e-learning context". *Procedia-Social and Behavioral Sciences*, Vol. 112, pp. 190-198.
- Salovaara, P. and Bathurst, R. (2016). "Power-with leadership practices: An unfinished business". *Leadership*, Vol. 14 No. 2, pp. 1-24.
- Sanders, K., Yang, H., Shipton, H., and Bednall, T. (2017). "Effects of human resource management on informal learning", In: Noe, R.A. and Ellingson, J.E. (Eds.), *Autonomous Learning in the Workplace*. Routledge, pp. 162-178.
- Takeuchi, H., and Nonaka, I. (1986). "The new product development game". *Harvard Business Review*, Vol. 64 No. 1, pp. 137-146.
- Tata, J. (2000). "Autonomous work teams: An examination of cultural and structural constraints". *Work Study*, Vol. 49 No. 5, pp. 187-193.
- Turner, R., Huemann, M. and Keegan, A. (2008). "Human resource management in the project-oriented organisation: Employee well-being and ethical treatment". *International Journal of Project Management*, Vol. 26 No. 5, pp. 577-585.
- Ulrich, F. and Mengiste, S.A. (2014). "The challenges of creativity in software organisations", In: Bergvall-Kåreborn, B. and Nielsen, P.A. (Eds.) *Creating Value for All through IT*. Springer, pp. 16-34.
- Wall, T.D., Kemp, N.J., Jackson, P.R. and Clegg, C.W. (1986). "Outcomes of autonomous workgroups: A long-term field experiment". *Academy of Management Journal*, Vol. 29 No. 2, pp. 280-304.
- Wilson, D.G. and Hartung, K. (2015). Types of informal learning in cross-organisational collegial conversations. *Journal of Workplace Learning*, Vol. 27 No. 8, pp. 596–610.
- Zabusky, S.E. (1996). *Computers, Clients and Expertise: Negotiating Technical Identities in a Nontechnical World*. Princeton University Press.