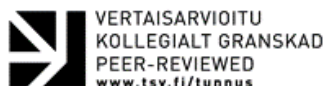Article

Entrepreneurial spirit of knowledge workers as a key asset in strategic change

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Abstract: As economies experience rapid technological transformation, companies are required to innovate, persevere and to excel in managing the changing landscapes effectively. Knowledge workers are practitioners who work at the mid-levels of organizations between top management and personnel at grassroots level and at the nexus of organizations internal and external networks. As yet, the full potential of their functions is little addressed in management research. The present study aims to bridge the gap by demonstrating how the entrepreneurial spirit of these specialists, officers, team leaders, coordinators and assistants with knowledge-oriented activities in HR, communications, IT, office or service management may be one of the greatest assets in navigating the challenges of technological transformation as strategic change. The qualitative research included outlining interviews of 70 multilevel experts, 12 in-depth interviews, a constructivist approach and participative co-creating workshops. The results revealed that the entrepreneurial spirit of the knowledge workers manifests through their three super-competencies, including role-breadth self-efficacy, job crafting and proactive behavior. The outcomes of the research are significant for the managerial support in facilitating and promoting the entrepreneurial spirit in adaptive response to the rapidly changing business environment and for the benefit of future-oriented strategic change.

Keywords: knowledge workers, entrepreneurial spirit, self-efficacy, job crafting, proactive behavior.

1 Introduction

Whether change is internally guided or externally induced, it is certainly inevitable. Gathering and using information and knowledge has changed under the influence of technological transformation (Castells, 1996; Thompson, Warhurst, & Callaghan, 2001) and created needs to learn new skills and abilities in work context. Companies need employees that are entrepreneurial in spirit, that can develop knowledge for the company, help it grow and be in a continuous development (Maier & Iancu, 2016, p. 40).

The potential of business supporting functions is little addressed in management research even though they involve knowledge processes that help the core functions succeed. Since Porter (1985) named support activities

"secondary activities" and Prahalad and Hamel (1990) described the excellence of focusing on 'core competences', supporting functions are considered an administrative necessity rather than a source of competitive advantage. While there is limited understanding and research in the area, some of the recent studies have aimed at connecting the role of knowledge workers to connected to strategic change. Notably, Kärnä (2016) and Jalonen, Kärnä, & Tuomainen (2019) have examined and constructed strategic roles of knowledge workers in strategic change and confronting transformation of work. Practitioners in supporting functions are specialists having good knowledge of the organization and its people; and can, therefore, play a strategic role in organizations' strategy processes (Kärnä, 2016; Mantere, 2003).

The present paper addresses the essential gap in the literature by bringing in the entrepreneurial spirit perspective, as to the date research has focused on employees more as stagnant resources or passive change recipients instead of self-organized change agents. The paper answers to the call for further research on human resource championing identified as valuable and needed (Fox, 2012; Ulrich & Dulebohn, 2015), and on how wide range of organizational actors affect strategic change (Kunisch, Bartunek, Müller, & Huy, 2017).

The present research has investigated knowledge workers contributions in the environment of technological transformation, identified as strategic change. The qualitative inquiry brought to surface the competencies of knowledge workers that constitute their entrepreneurial spirit, including role-breadth self-efficacy, job crafting and proactive behavior.

The value of the present article is in creating micro-level understanding of knowledge worker roles to develop proactive, self-directing and effective practices of practitioners in strategic change. Management research gains on extending the focus to practitioners in supporting functions with a strategic position at the mid-level in organizations.

2 Literature review

Strategic knowledge flows and practices change in the face of developments in the global and automatizing business environment. Transformation of work is caused by the accelerating pace of technological, demographic and socio-economic disruption affecting industries and business and creating the need for continuous learning to keep up with the change. (World Economic Forum, 2018). The second machine age made it possible to create business-applied artificial intelligence, robotics and digital networks, which mold work and jobs (Brynjolfsson & McAfee, 2014). A new view of planning work is needed from the perspectives of human and machine cooperation (Frey & Osborne, 2017; Davenport & Kirby 2016).

Strategic practices in organizations develop towards more knowledge-intensive ways of work and agile, self-organizing processes in large complex networks involving a shift of focus from management to more individual interrelations between people (Eskola, 2017). Processes of knowledge sharing and creating are vital for all organization members in the networks to build common understanding and share the same mission, vision and strategy. Co-creating value in these dynamic processes cannot be managed from the top but demand new perspectives to understand proactive knowledge practices. For management research this means opening up the windows multidisciplinary.

Instead of controlling and directing, the need is with the leadership that enables employee potential, knowledge creation and innovation rising from practical collaboration and learning processes at local level (Brown & Duguid, 2001; Nonaka & Peltokorpi, 2006; Von Krogh, Ichijo, & Nonaka, 2000).

Knowledge is widely considered as the most valuable asset of organizations and the new economy ever since Drucker's statement in the 1950s. However, there are still conflicting ideas of what is perceived as knowledge work and knowledge workers. Too often, knowledge work is addressed narrowly from the perspective of the allocated tasks. In reality, the role-breadth of knowledge workers is extended. Pyöriä (2005) reviewed a range of criteria that have emerged in the literature, such as a higher level of education, interactive skills and the use of information technology as an integral part of knowledge work.

As the world becomes more technical, the importance of human and social capabilities is highlighted. Emerging newer abilities that are needed include higher levels of learning, creativity, innovativeness, problem solving, flexibility and social intelligence (Davenport & Kirby, 2016; Frey & Osborne, 2017; Pyöriä, 2005; Von Krogh et al., 2000). In the same line, Reinhardt, Schmidt, Sloep and Drachsler (2011) suggest a new classification of knowledge worker roles and actions naming these: controller, helper, learner, linker, networker, organizer, retriever, sharer, solver and tracker.

In essence, the role of knowledge workers extends far beyond fulfilling a standard job description, given tasks in a way of an extra-role behavior as Podsakoff et al. (2000) describe the organizational citizenship behaviors, including helping behavior, organizational loyalty and compliance, individual initiative, civic virtue, self-development. These manifest via the entrepreneurial spirit that is investigated closer in this article.

Entrepreneurial spirit in organizational context

Since the 1970s, the concept of corporate entrepreneurship has been developed through research with some it more recently beginning to address the role of middle-managers in corporate entrepreneurial behavior (see e.g. Kuratko et al., 2005) with product, process and organizational innovations as the outcomes of it. The present research has focused on the elements of corporate entrepreneurial behavior that is not necessarily attached to innovation outcomes, but rather benefits the work and business outcomes in the more implicit, yet impactful way through knowledge workers' attitudes and mindsets that are best addressed as entrepreneurial spirit.

Entrepreneurial spirit may be addressed through personality characteristics, such as risk-taking propensity, persistence, internal locus of control, as well as motivational factors (Ang & Hong, 2001, p. 285). Kirkley's (2016) study brings up the four underlying motivations that cause entrepreneurial behavior: independence, creativity, ambition and daring. More recently, Pawitan, Nawangpalupi and Widyarini (2017) have measured entrepreneurial spirit by entrepreneurial attitudes, such as comprising social value, personal attribute, and goal orientation, and entrepreneurial activities, including total early entrepreneurial activities and established business ownerships (p. 261), and have described the inner process of entrepreneurial spirit resulting from attitudes, activities, and aspiration (p. 262).

Despite the multitude of dimensions and definitions to it, it is proposed in this article that first and foremost entrepreneurial spirit is a mindset, "an attitude

and approach to thinking that actively seeks out change, rather than waiting to adapt to change" (Smith, 2013). Furthermore, according to Keating and Hesling (2015) in their attempt to define the potential role of mindsets in unleashing employee engagement, mindsets are perceived as implicit theories or assumptions that people hold about the plasticity of their abilities.

Managerial support – the desire of management to facilitate or promote the entrepreneurial spirit had been identified as being in the central role in the literature starting from 1980s and 1990s; and the recent research (see e.g. Kreiser et al., 2019; Ireland et al., 2009) has reinforced the perspective that managers are the ones that endorse the entrepreneurial culture within an organization, the entrepreneurial spirit depends heavily on the support received from management. Examples of the ways to stimulate entrepreneurial behavior in organizations include, for example, fostering an encouraging culture, rewarding knowledge and idea sharing within and between teams, empowering teams to innovate and then act, extensive training and the development of a can-do culture (Lyons, 2015).

Recently Fellnhofer (2019) has used the closely related concept of entrepreneurial orientation to be a signal of how entrepreneurially driven a firm's individuals are, which will be beneficial for the firm's performance in the long run. She further refers to "knowledge-based resources as a source for dynamic capabilities to discover and exploit opportunities", demonstrating that entrepreneurial orientation may be used as a strategic tool to evaluate an individual's orientation towards entrepreneurship to facilitate firm performance. Further, an earlier study (Fellnhofer, Puumalainen, & Sjögrén, 2016) pointed towards the potential for deeper understanding by indicating the heterogeneity of entrepreneurial orientation, including the notions that it is not common everywhere in work organizations and not gender-neutral across different organizational levels.

The present article advances that it is critical that, first, the managers are able to recognize the value of the entrepreneurial spirit in knowledge workers; second, identify the key behaviors contributing to it; and third work toward its effective enablement and promotion.

3 Research design and methodology

In selecting the research design, the focus was maintained on the real-world practices, and the participants were considered in a voluntaristic way believing in their potential as strategic actors (Johnson et al., 2003; Whittington, 2006). The practitioners' roles were studied with constructivist intent manifested through appreciative cooperation with practitioners, attempting to understand their point of view and emic constructs of their role in the social processes and giving voice to their lived experiences (Charmaz, 2006; Silverman, 2001).

Research questions

Based on the identified gaps in the literature, the present research was designed to address the following questions:

R1: How can knowledge workers' strategic role in supporting functions be constructed confronting technological transformation of work as strategic change, and what is the value of their entrepreneurial spirit in it?

R2: What are the competencies of knowledge workers that contribute to roles as self-organized change agents?

Data collection and research sample

Data collection aimed at integrating multiple angles and lenses to enhance the richness, creativeness and versatility of the qualitative research (Ellingson, 2011; Van de Ven, 2011). In order to guarantee a variety of perspectives the research sample was chosen using theoretical selection (Charmaz, 2006), including and distributing the sample in the following manner: 1) employers and talent acquisition specialists that needed, hired or employed support personnel, 2) professional practitioners working in supporting functions and identified as multilevel knowledge workers 3) experts of digital transformation of work.

The selected organizations were middle-sized to large as estimated by the number of employees and turnover, growth oriented, modern and knowledge-intensive companies in order to capture the full potential of the new economy. The sample represented multiple industries with emphasis on modern ICT, media, game and entertainment industries. The organizations were situated in Finland, but some of them were part of multinational companies, such as Electronic Arts, JCDecaux, KPMG, Ubisoft, UPM and Warner Music.

Practitioners for the in-depth interviews were chosen to represent various ages and phases of tenure and experience in support roles with advanced knowledge intensive tasks. Based on the distribution of the sample, some of the interviewees held dual or multiple roles, for example, HR-practitioners working as talent acquisition specialists recruiting support personnel. Gender was not regarded a relevant selection criterion. However, mid-level and supporting functions practitioners are often female, which reflected in the fact that mainly women knowledge practitioners participated in the research.

The data was collected in three stages during the period from January 2018 until May 2019 and analyzed via an iterative and abductive research process. First, the research process started with 70 outlining interviews in order to gain understanding of the changes in work tasks and skills needed in the transformation of work. Second, from the first large sample 12 informants were chosen for further research and gaining the profound understanding of the practitioners' roles. Third, the research was continued with participative co-creative workshops with 10 practitioners in order to co-construct knowledge worker roles. The first author carried out and coordinated data collection and analysis, along with a selected and instructed group of interviewers employed for the task.

Data analysis

The focus of the data analysis was on interpreting phenomena in terms of the meanings people bring to them, giving voice to people and co-creating relevant constructs and results together with them in constructivist spirit (see e.g. Charmaz, 2006; Denzin & Lincoln, 2011). The data was not only mechanically coded, but analyzed in a manner appreciative of complexity and variety – the approach recommended by Coffey & Atkinson (1996).

The first round of the data analysis was completed immediately after the data gathering by the first author working together with project colleagues. The data was collected and transcribed in Finnish language, with parts of it translated to

English. 70 interviews were analyzed looking at the changes in tasks and competencies in the transformation of work. Furthermore, 12 interviews were transcribed and written into informative memos, which then were checked and discussed with the participants benefiting from narrative methodology emphasizing researcher working closely with individuals and their stories; the method described by e.g. Chase (2011, p. 423). The memos were analyzed thematically listing out changes in work context, practices and competencies needed in the transformation of work. In the third phase workshops, the participants and the first author working together with a colleague participating in the workshop organization co-constructed and analyzed the strategic role of the active knowledge worker in the transformation of work. As the result of this process, the following was identified: 1) knowledge workers' experienced strategic role in the transformation of work, and 2) competencies of knowledge workers that contribute to roles as strategic self-organized change agents. Portions of the text for these interviews were placed under these broad themes and allowed various codes to emerge. The goal of this first stage was to attain what Kvale termed "dialogical intersubjectivity" (1994, p. 152), the form of reliability is achieved by discussing complex phenomena.

The second round of the data analysis followed, as the authors of the present article reiterated the collected data following the inductive approach, flexible and reflexive narrative process of interpreting data. This made it possible for the key aspects of the entrepreneurial spirit to emerge from the data, describing and constructing the roles from new perspectives of the knowledge workers' entrepreneurial spirit. The main focus of the narrative analysis was on the meaning, i.e. the content of the narrative (Eriksson & Kovalainen, 2008, p. 218).

Three repeating dimensions were identified from the data through the emerging and interpretative process of the multilevel data analysis: 1) confidence to carry out a broader and proactive role in the workplace beyond traditional and prescribed requirements, 2) knowledge workers' ability to redesigning jobs in ways that can foster positive outcomes, including job performance, and 3) knowledge workers' forward-thinking and change-oriented mindset at work. Subsequently, these were summarized as the three key competencies of the knowledge workers' entrepreneurial spirit: role-breadth self-efficacy, job crafting and proactive behavior.

4 Research results and analysis

The research results support the view of knowledge workers as self-organized change agents, whose entrepreneurial mindset makes them a unique asset in the context of rapidly changing organizational settings. The entrepreneurial mindset manifests via three main competencies, each of which is presented in detail herewith.

Role-breadth self-efficacy

The data visibly points towards the changed role of knowledge workers beyond an old-time background assistant and towards multitalented, global communicator with the valuable combination of technological and people skills. The interviewees demonstrated confidence to carry out a broader and proactive role in the workplace beyond traditional and prescribed requirements, which is defined as role-breadth self-efficacy (Lavallee & Coffee, 2016).

"[My experience is that] the roles in the work community are more flexible and shape up based on personal strengths of the employees. Assistant is the confidant of the work community who has the 'helper'-attitude, which is appreciated in the work community."

HR coordinator, medium-sized video game company in a global group

At the same time, the meaning of confidence has evoked vivid discussion among research participants and proposes an interpretation that is specific for supporting practitioners: confidence for them arises from their aim for perfection in the background rather than standing out in the spotlight. Supporting their role-breadth self-efficacy, all the interviewees emphasized the importance of understanding the big picture of their employing organization's business. They place a special effort in understanding the business processes from the customers' perspective – and translate that understanding into the development of their own work. The knowledge workers highlighted that in addition to advancing their own grasp of the organization's strategy, they cross-functionally assisted other personnel in the company to adjust their work to it, helping to prioritize and manage work and at the same time giving meaning to the work, and that way increasing self-efficacy of self and others:

"Business is and always will be the most important thing in the work life. Understanding the whole and linking your own work to the company's strategy is the cornerstone of self-directed work and creates a sense of meaning in the work. I feel strongly that as part of my personnel work, I must be able to further the whole, the self-governing corporate culture, in order to strengthen the employees' experiences of the meaning and importance of their work."

HR Specialist, recruiter, e-learning, concept owner, large multinational company in forest industry

From the perspective of the work tasks, a broad range of functions and skills emerge, including, but not limited to, time and project management, ability to work with others in the co-operative spirit, participate effectively in team work. A wide scope of competencies were perceived to accompany the daily work activities of the knowledge workers, including both "hard" competences, such as understanding new technology, and "soft" ones, such as social skills and emotional intelligence.

The role-breadth self-efficacy was directly connected and supported by the dimension of communication, work interaction and inter-relational skills of the knowledge workers. The importance of all communication in work was highlighted; face-to-face and virtual, written and spoken, in social media and online platforms. All interviewees shared a strong idea of helping and understanding different kinds of people as characterizing the way of work – contributing to their wide and confident reach with company internal and external stakeholders. Interaction, people skills, emotional intelligence and empathy were seen as especially important. An essential interrelated part of work was cooperation in multicultural teams and projects often at global level. Language skills, cultural knowledge and managing interactive communication channels were needed. In particular, HR practitioners and assistants needed to be approachable, reachable and available, also online. In tandem with multilevel communication, characteristic for supporting practices were time and project management, organizing, coordinating, scheduling and developing processes.

From the theoretical standpoint, the presented results give support to the role of knowledge workers as boundary-spanning practitioners at the interface of the internal and external units. In a way, knowledge workers represent nodes in networked organizations. The results clearly suggest that knowledge workers are critical for knowledge flows, learning, and innovation in complex organization structures. These individuals have the ability to recognize the value of new internal and external information, assimilate and exploit it. Thus, they have absorptive capacities like Cohen and Levinthal (1990) put it. Similarly, to the discoveries of Pappas and Wooldridge (2002; 2007), and Schilke and Cook (2013), the results identify middle managers' boundary-spanning positions central to strategic management research, as they mediate strategic knowledge in social networks. The present research validates that practitioners in supporting functions can have even more strategic position and boundary-spanning roles crossing the business units. In particular, management assistants working intensively with top management teams can have active boundary-spanning roles communicating formal and informal strategic knowledge in organizations' networks.

In the analysis of the results, the role-breadth correlates with the knowledge workers' participation in the communication processes as related to strategic aims.

"Understanding business priorities is important also outside of my own work field. It's important to grasp how things come together. It brings the ability to prioritize. Everything has to be based on the company's strategy."

Head of HR Group, Employee Engagement and Well-being, a large multinational retail company.

"Everything starts with the strategy, the understanding of this is the alpha and omega for me working in the expert role. It gives me the opportunity to talk the elements of the strategy through with others, to emphasize it more in internal communication."

Senior Office Manager, medium-sized video game company, part of a global group.

For strategic management research, a better understanding of strategic change practices, processes and agents through which sustainable competitive advantage can be created is an imperative in complex business environment (Kunisch et al., 2017). Especially critical are the informal communication processes (Balogun & Johnson, 2005; Rouleau, 2005) and implementation processes as they often fail (e.g. Balogun & Johnson, 2005; Hrebiniak, 2006; Kaplan & Norton, 1996, p. 2008; Mintzberg, 1994). In the multicultural and virtual cooperation of the new economy, strategy processes and implementation of strategies become even more challenging. The present research establishes the extensive role of knowledge workers in internal and external communications, participation in the work of local and international partners and teams. In these ways, the research strengthens the existing body of knowledge in finding middle-managers to play a significant role in strategy processes (Balogun & Johnson, 2005; Burgelman et al., 2018; Floyd & Wooldridge, 1992), which implies role-breadth beyond traditional and prescribed framework.

The present study found that the knowledge workers role and impact is extended also in tacit ways, most notably through the processes of

communication. Knowing and learning build common understanding in the organization and thus, have the potential to lead to organizational knowledge and collective intelligence (Davenport & Prusak, 1998; Small & Sage, 2005) and the organization's knowledge capital, created in socially complex systems by individuals (Grant, 1996; Brown & Duguid, 2001; Nonaka, 1994; Stenberg, 2012). Social relationships of individuals are critical in learning processes, as well as the mechanisms through which people learn and solve problems with other people (Cohen & Levinthal, 1990; Cross, Parker, Prusak, & Borgatti, 2001; Pyöriä, 2007). Informal interaction of people and building trust are more essential than the formal processes or technology (Blackler, 1995; Cross et al., 2001; Davenport & Prusak, 1998; Nonaka, 1994; Pyöriä, 2007). The research outcomes of this study reveal the knowledge workers' individual extended roles in co-operation, co-creation, networking and building of trust that are especially critical for the social and cultural dimensions of knowledge capital.

Job crafting

The present research shows that knowledge workers excel in redesigning their jobs in ways that can foster positive outcomes, including job performance – defined as job crafting (Lavallee & Coffee, 2016; Wrzesniewski, LoBuglio, Dutton, & Berg, 2013).

Conceptually, Lyons (2008) found three variables representing individual differences of employees – self-image, perceived control, and readiness for change – that are related to actual job crafting activity. The principles of job crafting – crafting tasks, altering with whom to interact at work, and modifying the way how to interpret the tasks and the work – are more and more relevant in a world where job structure is rapidly changing (Dutton & Wrzesniewski, 2020). Echoing them, job crafting puts more responsibility on the individual for the experience and engagement in their creating both challenges and bringing meaning to work. There is a strong research evidence that job crafting specifically influences work engagement positively (Hakanen & Kaltiainen, 2020).

Job crafting abilities of the knowledge workers are supported in the interviewees' descriptions of the work in the supporting functions as characterized with adaption to constant change:

"Ability to adapt is important, because truly the only constant is change, and you need to have the ability to adjust. It is helped by curiosity and that you search for information and stay ahead of things and on track about what is happening. It is also essential to have an interest in things that are not in my own skillset or knowledge, and then to have the desire to learn more and update my competencies."

HR coordinator, medium-sized video game company in a global group

Supporting functions are strategically positioned between top management and the operating personnel, making it possible for the practitioners to have a wide perspective on business, systems and people in the organization – and at the same time be at the front-line of experiencing, sensing and adapting to the changing company internal and external processes.

The interviews highlighted that knowledge workers in support functions adjust flexibly to the changes and are highly self-directed. The great influence on this

are their underlining attitudes that indicate service orientation, adaptability to change, proactivity, positivity and flexibility.

"My work is very much so self-directed. As far as possible, I am increasingly making myself redundant in administrative work and freeing up lanes for development, human encounters and presence. I feel that an essential part of my work is in facing and working with people. Almost 90% of my work is project and development work at some level. 99% of work is teamwork to some extent, meaning that the goal of each job and project is shared by more than one person. Cooperation achieves better results than doing alone."

HR Specialist, Recruiter, e-learning, concept owner, large multinational company in forest industry

"I have rather a free hand in creating my own work profile. However, a strong proactive grip is needed; it is up to me in which all the projects I'm involved. There is an ongoing effort to develop operations and to come up with solutions together. The work is very independent, but you can get support from the team when you need it. Self-governance and responsibility are particularly important."

Trading Coordinator, middle-sized digital engineering company

Most interviewees perceived their work as knowledge work, including such functions as searching, sharing, producing, coordinating, documenting knowledge. In these practices using and managing digital software and devices was seen as essential. Furthermore, the interviewees who did not use the term "knowledge work", described similar practices as a major part of their work. The knowledge they worked with concerned comprehensively the business, organization, teams as well as the industry, legislation and technology:

"The work is strongly knowledge work, the production, editing and dissemination of texts and materials. The work requires the search and processing of information from different forums and the use of research data. Things must be well documented and in the right place preserved and available. Information processing is essential. It's important that information isn't just in one person's head. I use different communication channels."

HR Team Leader, Employee Engagement and Wellbeing, large multinational retail company

The interviewees perceived that the development of technology already decreased the amount of routine work and increased the meaningfulness of their work. As processes have become more effective, this has pushed toward redesign of work and work roles, reflected in the changes towards developing, counselling and controlling.

"We need people who understand automation and know how to harness it for business development. Automation leads and will continue to lead to the growth of the expert role. For example, the knowledge and know-how of algorithms and big data is in increasing demand for businesses, and understanding how to use them effectively."

HR partner and Director, small company in digital assistant services

The jobs of the knowledge workers are continuously revised, with the current trend towards the focus on quality, expertise and development. Autonomy of work was perceived as increased, but at the same time they needed to keep

recrafting their jobs and adapting the work to the management's or teams' work. This is highlighted in response to the changing work environment and the increase of the remote working:

"As the importance of remote work increases, the employer emphasizes self-management and confidence. Organizational skills, project management and prioritization skills are the top requirements."

HR Expert, medium-sized entertainment company

Technology was identified as the one key factor enabling the job crafting, both pushing for it and opening up new opportunities for knowledge workers. The interviewees found that the level of challenge in the knowledge workers' requirement levels are increased as the demands for more technological skills grow. Interestingly, the new technologies (emerging technologies included, such as artificial intelligence and robotics) were positively perceived as additional opportunities for the job crafting of knowledge workers.

"Analytics, robotics, artificial intelligence and other futuristic technologies are already here, they allow me to develop my own work and reduce errors. ICT skills are important, and having them handled well allows to place more emphasis on other skills that cannot be replaced by automation. In the end, the attitude towards learning and new skill development are more important than IT skills."

HR, Talent Acquisition Specialist, ICT consulting company

The position of knowledge workers between the top management and the operating personnel enables them to understand how technology can support the business in an optimal way. Therefore, there might be added value in having these practitioners take part in the processes of obtaining and testing new technology in organizations. The roles of support function allow to grasp and learn new technologies as pioneers within organizations and then to teach and help other employees in their adaptation as part of strategic change and work transformation.

Proactive behavior

Knowledge workers demonstrate their proactive behavior by being forward-thinking and change-oriented at work.

"Future skills depend on how the work is changing, and my work is shaping along with it. All work is increasingly carried out as project work. Self-management and proactivity are important to stay one step ahead before anyone will even ask you to."

Executive Assistant, middle-sized organization, occupational health

"The importance of developing business activities is high in my work. I have to question continuously: Is there something that can be done better than it is currently done?"

HR specialist, medium-sized organization, public transport

Solving ad hoc problems for the internal and external stakeholders was seen by the interviewees as the everyday task for the knowledge workers. The skills the interviewees perceived they needed were multilevel and included such aspects as prioritizing, self-management, social and cooperation skills, language skills

and cultural understanding, problem solving and creativity – all of which essentially tied to the proactive mindset.

"Forecasting brings the ability to manage and lead your own work. The responsibility lies strongly with yourself. You have to stay on the map with developments and trends in your responsibility area, inside and outside the company."

HR Team Leader, Employee Engagement and Wellbeing, large multinational retail company

"The work is becoming more and more self-directed. Personal proactiveness is important. You can make the most difference in a lot of things and much is up to me personally. Development proposals must be brought up and without the unnecessary complaints. Getting to it and getting things done is what matters."

HR Consultant, a large company in international logistics

The research showed that the proactivity is the great supporting factor, both necessary and required for the smooth daily work of the knowledge workers. As an example, supporting practitioners work is knowledge-centered: they search, manage, produce, share, learn, coordinate, translate and document knowledge. There is an overflow of information and it is important to prioritize. It is essential to know the strategy, processes and people of the organization. Simultaneously, knowledge work is also project work; one needs to get things done and strategies implemented, in the close cooperation and interaction with people – while maintaining the proactive grasp:

"It is important to know how to lead yourself and this is something to learn in interacting with colleagues. Teamwork and networking are important, because together you get better results than alone. Developing your own work is already in my personal goals. Managers want for the employees to figure out on their own and propose what can be developed and how to measure it."

Executive Assistant, middle-sized organization, occupational health

The interviewees have referred to the role of supporting functions or assistants as significantly central, with the use of such terms as "interpreter", "glue", "bridge", "coach" or "consultant" between management and personnel, functions, teams or business units, as well as between individual persons and experts. As a result, their proactive role and actions are in the direct link with the organization at large and embedded in the daily functions. For example:

"Knowledge work continues to increase. The information is plentiful and the assistants are used as filters so that they are tasked with crystallizing the essential. There is a lot of this type of work and having experience with it is helpful. Forecasting of the work is not always possible, it is dependent on the supervisor and the team. Of course, it is good to always try to anticipate, because then it is easier for yourself."

Executive Assistant, middle-sized organization, occupational health

As the role of supporting functions develops towards project-oriented knowledge work, it calls for a multitalented professional identity and understanding both of the larger context and deeper levels of the business. The interviewees found that it is vital for the knowledge workers to hold a strategic view while being proactive, self-directed and interested in constant self-

development. It was perceived as increasingly significant to take responsibility and ownership, along with the self-initiative:

"It is important to create and maintain a sense of togetherness, as the assistant is often the first contact of new employees. Genuine enthusiasm shows and impacts. Related terms that go hand-in-hand are: 'ownership', 'pride' and 'empowerment'."

HR coordinator, medium-sized video game company in a global group
In the interviewing process, knowledge workers demonstrated forward-thinking in respect to their work. The innate readiness of knowledge workers for the job crafting and open-mindedness was reflected in their positive attitudes for robotics and artificial intelligence, they were not afraid of these emerging digital trends, but they already used or understood how to utilize the latest technology in their work environments in the near future. The interviewed practitioners stressed the importance of constantly learning new technology in their work environment. The knowledge workers found that digitalization would not make them replaceable, instead they believed in their abilities to develop their own expertise with the help of it – ready to make the necessary change-oriented work to make it happen:

"It's absolutely essential to keep developing yourself and your skills all the time. It's about my own initiative, how much responsibility I'll have."

Senior Office Manager, medium-sized video game company, part of a large global group

"Self-directed work brings with it the obligation to take responsibility for making things happen. The experience of being trusted always leads to the desire to be worthy of trust."

HR Expert, Recruiter, electronic learning, concept owner, multinational company

Conceptually, the existing body of knowledge points towards the trend of the proactive behaviors having transitioned from novelty to necessity in many organizations (e.g. Parker, Bindl, & Strauss, 2010; Thomas, Whitman, & Viswesvaran, 2010). Some of the recent studies show that employees can engage in a wide scope of proactive behaviors, including, for example, proactive socialization (Wang & Kim, 2013), asking for feedback (e.g. Ashford, Blatt, & VandeWalle, 2003), or voice (Van Dyne & LePine, 1998).

The analysis on the results of the present research brings forward the close link between the proactive behavior of knowledge workers and the fact that knowledge enables empowerment and activity (Alavi & Leidner, 2001; Foucault, 1977; Nonaka, 1994) which are imperative for successful strategy processes. Knowledge becomes productive only when shared, applied and integrated into a task (Drucker, 1992; Small & Sage, 2005). In the context of the present research the proactivity translated to knowledge workers' daily work through organizing, coordinating, communicating and supporting in the social networks of an organization.

The proactive behaviours reflect on the knowledge work and supporting functions that develop rapidly in line with economic and technological changes. By spanning the boundaries of teams and communities, the knowledge activist coordinates knowledge creation initiatives and ensures that teams are informed

about the results of knowledge creation throughout the organization (Nonaka & Peltokorpi, 2006). As employees can be change leaders (Kunisch et al., 2017) that solve together the biggest challenge of strategic management – the strategy implementation, empowered knowledge workers in strategic facilitating roles can play a notable part in the organizations' strategic success.

5 Implications and conclusions

The research yielded several important discoveries. First, the knowledge workers' strategic role in the transformation of work was established, and the authors demonstrated the value of knowledge workers as self-organized change agents, as opposed to passive change recipients. Second, three main competencies of knowledge workers emerged from the data as contributing to their roles as self-organized change agents, with entrepreneurial mindset.

The knowledge workers were found to have 1) role-breadth self-efficacy and confidence to carry out a broader and proactive role in the workplace beyond their traditional and prescribed requirements, 2) readiness for job crafting demonstrated through knowledge workers' ability to redesigning jobs in ways that can foster positive outcomes, including job performance, and 3) proactive behavior by adapting forward-thinking and change-oriented mindset at work.

Furthermore, the research through its entrepreneurial mindset perspective has uncovered the potential of knowledge workers to act as self-organized change agents. This is in line and building upon the discovery by Von Krogh et al. (2000, p. 10) that mobilizing knowledge activists or change agents can trigger knowledge processes in organizations.

Figure 1. illustrates the three key competencies that contribute to the knowledge worker's role as self-organized change agents.

Interestingly, it is not only these separate dimensions that create the greatest value, but their interplay and interconnectedness in the daily work lives of knowledge workers. Some recent research has aimed at this cross-conceptual examination, including, for example, Rofcanina, Rofcanina, Berberb, Kochc and Sevincd (2016) and examining the role of proactive behaviors in today's ever-changing business settings through the lens of job crafting and a closely related concept of I-deals; or Nguyen, Johnson, Collins and Parker, (2017) and linking proactive role behaviors with self-efficacy.

In the present research, role-breadth self-efficacy is demonstrated in their readiness to embrace the broadened scope of work, with the respective practice and advancement of "hard" and "soft" skills. Working in between top management and operational level, knowledge workers' self-efficacy was reinforced by their boundary-spanning positions. The knowledge workers recognized the meaningful connection of their work to organization's strategy in advancing their own grasp on it and cross-functionally assisting other employees to adjust their work to it, helping to prioritize and manage work. It was noted that extra-role behavior was typical to support function employees, perceived not as a spillover outside the support function boundaries, but an organic part of it.

Job crafting keenness of knowledge workers by their sensitivity to and the readiness to adapt to changing and transforming work conditions. Technological advancements were perceived in the positive light, giving the

opportunity to decreased the amount of routine work and increase the meaningfulness of it, pushing for and allowing to redesign the work and work roles. This forward-thinking behavior combined with the routine skills in solving ad hoc problems are supported with the proactive behavior demonstrated by knowledge workers. Everyday work lives of knowledge workers and their contributions are colored with prioritizing, self-management, active use of social and cooperation skills, language skills and cultural understanding, problem solving and creativity.

The research expanded the body on knowledge by exploring and broadening the understanding of the potential of business supporting functions, which is previously little addressed in management research. The entrepreneurial mindset perspective brings notable value in helping managers and organizational leaders to identify and harness the key competencies of knowledge workers that are linked to strategic outcomes.

Despite its geographical limitations, the sample was well-representative of the knowledge workers in international organizations, and its discoveries may be further explored through different business sectors nationally and globally, more focused organizational contexts, varied functional roles of knowledge workers, and more data collected from male respondents. The collected data befits from cooperation and integration of multiple lenses in the analysis, however, the multitude and diversity of interviewers and participants contributing to the research increases challenges with management of the data. Additional depth of understanding may be reached through qualitative methods, more accurate coding and longitudinal research, and through validating the three key identified dimensions through quantitative research. Future research will benefit from observing more closely the connections and outcomes of the combination of concepts of self-efficacy, job crafting and proactivity of knowledge workers in from the strategic change or new technology implementation perspectives. The present research offers a glimpse and an overall picture into the knowledge workers' value and role from the position of being strategic actor in organizational settings; further qualitative investigations are needed to grasp the interaction patterns leading to the positive organizational outcomes. For exploring more specific perspectives of the knowledge workers' roles and values, the research could focus separately e.g. on HR, communication or IT workers.

The results are valuable to management in leading, recruiting and training knowledge workers, facilitating and promoting the entrepreneurial mindset of knowledge workers, focusing their efforts on the key behaviors that contribute to strategic change. The results enable managers and entrepreneurs to highlight the concrete three key competencies in training their knowledge workers to reach their role as self-organized change agents, and at the same time advance equality in working life. The findings may also help knowledge workers in better understanding their progressive work roles and adapting the kind of entrepreneurial spirit that will put their work and that of their organizations at the forefront of sustainable success.

References

Alavi, M., & Leidner, D. E. (2001). Review: Knowledge management and knowledge management systems: conceptual foundations and research issues. *MIS Quarterly*, *25*(1), 107–136.

Ang, S. H., & Hong, D. G. P. (2001). Entrepreneurial spirit among East Asian Chinese. *Thunderbird International Business Review*, *42*(3), 285–309.

Ashford, S. J., Blatt, R., & VandeWalle, D. (2003). Reflections on the looking glass: A review of research on feedback-seeking behavior in organizations. *Journal of Management*, 29, 773–799.

Balogun, J., & Johnson, G. (2005). From intended strategies to unintended outcomes: The impact of change recipient sensemaking. *Organization Studies*, *26*(11), 1573–1601.

Blackler, F. (1995). Knowledge, knowledge work and organizations: An overview and interpretation. *Organization Studies*, *16*(6).

Brown, J. S., & Duguid, P. (2001) Knowledge & organization: A social-practice perspective. *Organization Science*, *12*(2), 198–213.

Brynjolfsson, E., & McAfee, A. (2014). *The second machine age: Work, progress, and prosperity in a time of brilliant technologies*. W. W. Norton & Co.

Burgelman, R. A., Floyd, S. W., Laamanen T., Mantere, S., Vaara, E., & Whittington, R. (2018). Strategy processes and practices: Dialogues and intersections. *Strategic Management Journal*, 1, 1–28.

Castells, M. (1996). *The rise of the networking society*. T. J. International Limited.

Charmaz, C. (2006). *Constructing grounded theory: A practical guide through qualitative research*. Sage Publications. Chase, S. E. (2011). Narrative inquiry: Still in the field in the making. In N. K. Denzin & Y. S. Lincoln (eds.), *The Sage Handbook of Qualitative Research*. Sage Publications.

Coffey, A., & Atkinson, P. (1996). *Making Sense of Qualitative Data: Complementary Research Strategies*. Sage Publications.

Cohen, W. M., & Levinthal, D. A. (1990). Absorptive capacity: A new perspective on learning and innovation. *Administrative Science Quarterly*, *35*(1), 128–152.

Cross, R., Parker, A., Prusak, L., & Borgatti, S. (2001). Knowing what we know: Supporting knowledge creation and sharing in social networks. *Organizational Dynamics*, *3*(2), 100–120.

Davenport, T. H., & Prusak, L. (1998). Working knowledge. *Executive Excellence*, 15(9).

Davenport, T. H., & Kirby, J. (2016). Just how smart are smart machines? *MIT Sloan Management Review*, 57(3).

Denzin, N. K., & Lincoln, Y. S. (2011). *The Sage Handbook of Qualitative Research*. Sage Publications.

Drucker, P. F. (1992). The new society of organizations. *Harvard Business Review, 70*(5), 95–104.

Dutton, J. E., & Wrzesniewski, A. (2020). What job crafting looks like. *Harvard Business Review*, March 12.

Ellingson, L. (2011). Analysis and representation across the continuum. In N. K. Denzin, & Y. S- Lincoln (eds.). *The Sage Handbook of Qualitative Research*. Sage Publications.

Eriksson, P., & Kovalainen, A. (2008). *Qualitative methods in business research*. Sage Publications.

Eskola, A. (ed.) (2017). *Navigating through changing times: Knowledge work in complex environments*. Routledge. Fellnhofer, K. (2019). Entrepreneurially oriented employees and firm performance: Mediating effects. *Management Research Review*, *42*(1), 25–48.

Fellnhofer, K., Puumalainen, K., & Sjögrén, H. (2016). Entrepreneurial orientation and performance – are sexes equal? *International Journal of Entrepreneurial Behavior & Research*, 22(3), 346–374.

Floyd, S. W., & Wooldridge, B. (1992). Middle management involvement in strategy and its association with strategic type: A research note. *Strategic Management Journal*, 13, 153–167.

Foucault, M. (1977). Power and strategies. In C. Gordon (ed.), *Power/knowledge: Selected interviews and other writings 1972–1977*. Pantheon Books.

Fox, A. (2012). Reach new heights: The best HR business partners connect human resources with business strategies. *SHRM Magazine*, 57(6), 34–39.

Frey, C. B., & Osborne, M. A. (2017). The future of employment: How susceptible are jobs to computerisation? *Technological Forecasting and Social Change*, 114, issue C, 254–280.

Grant, R. M. (1996). Toward a knowledge-based theory of the firm. *Strategic Management Journal*, 17, 109–122.
Hakanen, J., & Kaltiainen, J. (2020). Työn imu – parasta hyvinvointia työssä? *Työpoliittinen aikakauskirja*, 63(2), 41–56.

Hrebiniak, L. (2006). Obstacles to effective strategy implementation. *Organizational Dynamics*, 35, 12–31.

Ireland, R. D., Covin, J. G., & Kuratko, D. F. (2009). Conceptualizing corporate entrepreneurship strategy. *Entrepreneurship Theory and Practice*, 33(1), 19–46.

Jalonen, V., Kärnä, E., & Tuomainen, T. (2019). *From a multi-specialist to a self-developing hybrid expert*. Haaga-Helia Publications.

Johnson, G., Melin, L., & Whittington, R. (2003). Micro strategy and strategizing: Towards an activity-based view. *Journal of Management Studies*, 40, 1–22.

Kaplan, R. S., & Norton, D. P. (2008). *The execution premium: Linking strategy to operations for competitive advantage*. Harvard Business School Press.

Keating, L. A., & Heslin, P. A. (2015). The potential role of mindsets in unleashing employee engagement. *Human Resource Management Review*, 25(4), 329–341.

Kirkley, W. W. (2016). Entrepreneurial behaviour: the role of values. *International Journal of Entrepreneurial Behavior & Research*, 22(3), 290–328.

Kreiser, P. M., Kuratko, D. F., Covin, J. G., Ireland, R. D., & Hornsby, J. S. (2019). Corporate entrepreneurship strategy: extending our knowledge boundaries through configuration theory. *Small Business Economics*, May 2019, 1–20.

Kunisch, S., Bartunek, J. M., Müller, J., & Huy, Q. N. (2017). Time in strategic change research. *Academy of Management Annals*, 11, 1–60.

Kuratko, D. F., Ireland, R., Covin, J. G., & Hornsby, J. S. (2005). A Model of Middle-Level Managers' Entrepreneurial Behavior. *Entrepreneurship: Theory & Practice*, 29(6), 699–716.

Kvale, S. (1994). Ten standard objections to qualitative research interviews. *Journal of Phenomenological Psychology*, 25, 147–173.

Kärnä, E. (2016). Strategy: From managers' toy to practitioners' tool to successful implementation (Doctoral thesis). University of Jyväskylä.

Lavallee, D., & Coffee, P. (2016). More than medals. Retrieved from Dame Kelly Holmes Trust website: https://www.damekellyholmestrust.org/Handlers/Download.ashx?IDMF=a5aa39a0-71b4-496f-b7f9-1790402f6b46.

Lyons, P. (2008). The crafting of jobs and individual differences. *Journal of Business Psychology*, *23*(1), 25–36.

Lyons, P. R. (2015). The keys that unlock entrepreneurialism in employees: … And some examples of firms that use them successfully. *Human Resource Management International Digest*, *23*(2), 1–4.

Maier, V., & Iancu, A. L. (2016). The impact of incentives upon the entrepreneurial spirit of employees: Study within the North-Western region of Romania. *Managerial Challenges of the Contemporary Society*, *9*(2), 40–45.

Mantere, S. (2003). *Champion, citizen, cynic: Social positions in the strategy process* (Doctoral thesis). Helsinki University of Technology.

Mintzberg, H. (1994). The fall and rise of strategic planning. *Harvard Business Review*, January-February, 107–114.

Nguyen, H., Johnson, A., Collins, C., & Parker, S. K. (2017). Confidence matters: Self-efficacy moderates the credit that supervisors give to adaptive and proactive role behaviours. *British Journal of Management*, 28, 315–330.

Nonaka, I. (1994). A dynamic theory of organization knowledge creation. *Organization Science*, *5*(1), 14–37.

Nonaka, I., & Peltokorpi, V. (2006). Objectivity and subjectivity in knowledge management: A review of 20 top Articles. *Knowledge and Process Management*, *13*(2), 73–82.

Pappas, J. M., & Wooldridge, B. (2002). Social networks and strategic knowledge: A study of strategic renewal from a mid-level perspective. *Academy of Management Proceedings*, (1), F1–F6.

Pappas, J. M., & Wooldridge, B. (2007). Middle managers' divergent strategic activity: An investigation of multiple measures of network centrality. *Journal of Management Studies*, *44*(3), 323–341.

Parker, S. K., Bindl, U. K., & Strauss, K. (2010). Making things happen: A model of proactive motivation. *Journal of Management*, 36, 827–856.

Pawitan, G., Nawangpalupi, C. B., & Widyarini, M. (2017). Understanding the relationship between entrepreneurial spirit and global competitiveness: implications for Indonesia. *International Journal of Business & Society*, 18, 261–278.

Podsakoff, P. M., MacKenzie, S. B., Paine, J. B., & Bachrach, D. G. (2000). Organizational citizenship behaviors: A critical review of the theoretical and empirical literature and suggestions for future research. *Journal of Management*, *26*(3), 513–563.

Porter, M. E. (1985). *Competitive advantage: Creating and sustaining superior performance*. Free Press.
Prahalad, C. K., & Hamel, G. (1990). The core competence of the corporation. *Harvard Business Review*, *68*(3), 79–91.

Pyöriä, P. (2005). The concept of knowledge work revisited. *Journal of Knowledge Management*, *9*(3), 116–127.

Pyöriä, P. (2007). Informal organizational culture: The foundation of knowledge workers' performance. *Journal of Knowledge Management*, *11*(3), 16–30.

Reinhardt, W., Schmidt, B., Sloep, P., & Drachsler, H. (2011). Knowledge worker roles and actions: Results of two empirical studies. *Knowledge and Process Management.*

Rofcanina, Y., Berberb, A., Kochc, S., & Sevincd, L. (2016). Job crafting and I-deals: A study testing the nomological network of proactive behaviors. *The International Journal of Human Resource Management*, *27*(22), 2695–2726.

Rouleau, L. (2005). Micro-practices of strategic sensemaking and sensegiving: How middle managers interpret and sell change every day. *Journal of Management Studies*, *42*(7), 1413–1441.

Schilke, O., & Cook, K. S. (2013). A cross-level process theory of trust development in interorganizational organizations. *Strategic Organization*, 11, 281.

Silverman, D. (2001, 2010). *Interpreting qualitative data: Methods for analysing talk, text and interaction*. 2nd and 4th ed. Sage Publications.

Small, C. T., & Sage, A. P. (2005). Knowledge management and knowledge sharing: A review. *Information Knowledge Systems Management*, 5, 153–169.

Smith, J. (2013, October 22). How to keep your entrepreneurial spirit alive as the company you work for grows. [Blog post]. Retrieved from https://www.forbes.com/sites/jacquelynsmith/2013/10/22/how-to-keep-your-entrepreneurial-spirit-alive-as-the-company-you-work-for-grows/

Stenberg, M. (2012). *Tiedon jakaminen organisaatiossa: kuinka aineetonta pääoma kasvatetaan* (Väitöskirja). Tampere University Press.

Thomas, J. P., Whitman, D. S., & Viswesvaran, C. (2010). Employee proactivity in organizations: A comparative meta-analysis of emergent proactive constructs. *Journal of Occupational and Organizational Psychology*, *83*, 275–300.

Thompson, P., Warhurst, C., & Callaghan, G. (2001). Ignorant theory and knowledgeable workers: Interrogating the connections between knowledge, skills and services. *Journal of Management Studies*, *38*(7), 923–942.
Ulrich, D., & Dulebohn, J. H. (2015). Are we there yet? What's Next for HR? *Human Resource Management Review*, 25, 188–204.

van de Ven, A. H. (2011). Reflections on research for theory and practice: From engaged scholarship perspective. In S. A. Mohrman, E. E. Lawler III, & Associates (Eds.). Useful research: Advancing theory and practice. Berrett-Koehler Publishers.

Van Dyne, L., & LePine, J. A. (1998). Helping and voice extra-role behaviors: Evidence of construct and predictive validity. *Academy of Management Journal*, 41, 108–119.

Von Krogh, G., Ichijo, K., & Nonaka, I. (2000). *Enabling knowledge creation: How to unlock the mystery of tacit knowledge and release the power of innovation*. Oxford University Press.

Wang, J., & Kim, T.-Y. (2013). Proactive socialization behavior in China: The mediating role of perceived insider status and the moderating role of supervisors' traditionality. *Journal of Organizational Behavior*, 34, 389–406.

Whittington, R. (2006). Completing the practice turn in strategy research. *Organization Studies*, *27*(5), 613–634.
World Economic Forum (2018). The Future of Jobs Report 2018. Retrieved from:
http://www3.weforum.org/docs/WEF_Future_of_Jobs_2018.pdf.

Wrzesniewski, A., LoBuglio, N., Dutton, J. E., & Berg, J. M. (2013). Job crafting and cultivating positive meaning and identity in work. *Advances in Positive Organizational Psychology*, 1, 281–302.