



Crafting sustainable work: development of personal resources

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Abstract

Purpose – The aim of this paper is to conceptualize employees' sustainable work abilities, or their long-term adaptive and proactive abilities to work, farewell at work, and contribute through working. Sustainable work is defined as to promote the development in personal resources leading to sustainable work ability.

Design/methodology/approach – The conceptual paper distinguishes vital personal resources underlying an employee's sustainable work ability and categorizes these resources with the help of integral theory. Collaborative work crafting was outlined as a tool to promote the development of personal resources and sustainable work ability.

Findings – Sustainable work ability depends on personal resources relating to our human nature as both individual and communal beings with both interior and exterior worlds. Work crafting may create sustainable work in which existing personal resources are benefited from, developed further through learning, or translated into novel resources.

Practical implications – When formal job descriptions and preplanned job design do not work in post-industrial work, traditional job design can be replaced by collaborative work crafting, which allows development in both work and employees.

Originality/value – The paper synthesizes different types of personal resources needed for sustainable working and outlines their development processes, rather than adds one more theory to explain some specific aspect of well-being, development, and functioning. The paper offers one of the first definitions of sustainable work.

Keywords Employee development, Self development, Job design, Workability

Paper type Conceptual paper



The aim of this paper is to outline a conceptual approach to employees' sustainable work abilities, or their long-term adaptive and proactive abilities to work, farewell at work, and contribute through working. Another key concept in the paper is sustainable work; we define work as sustainable when it promotes the development in employees' personal resources underlying their sustainable abilities to work.

Current trends in working life pose challenges for employees' sustainable abilities to work. Increasing and improved automation and ICT-technology, the globalization of markets and competition, organizational innovations and restructuring, and the increasing amount of non-standard work have caused changes in the very nature of work (Ashford *et al.*, 2007; Heckscher and Appelgate, 1994) and created well-being challenges both for those who have lost their jobs in the turmoil of the post-industrial world and for those who have survived downsizing, but ended up with more intense and demanding jobs (Butts, 1997; Kira and Forslin, 2008). Howard (1995) defines emerging post-industrial work as characterized by high-cognitive demands and "invisibility", and by high complexity, fluidity, uncertainty, and social connectivity. Such complex, invisible, and continuously changing work clearly poses challenges for employees' abilities to work in a sustainable manner, if they are not able to develop such personal resources that help in meeting the environmental demands (Karasek and Theorell, 1990). Therefore, today's work experiences should not only create fleeting moments of safety or pleasure, but also promote the development of such personal resources that support in coping with and thriving among challenges and changes invariably emerging during working life (Ryan *et al.*, 2008; Hobfoll, 1988). We contextualize our conceptual paper to the emerging post-industrial work. In other words, we suggest that the approach that we advance for crafting sustainable work is particularly relevant in post-industrial work and workplaces.

Hobfoll (2002) defines resources as entities that are either valuable as such (e.g. self-esteem, health, and inner peace) or can be used in obtaining centrally valued ends external to the individual (e.g. professional skills can be used to earn a livelihood). Antonovsky (1979) recognizes an individual's life experiences as being influenced by such personal resources as, for example, knowledge and intelligence, ego identity, cultural connectedness and stability, a preferred choice of coping strategy, and preventive health orientation. Therefore, personal resources function as sources of strength as such, or allow an individual to achieve further, "external" sources of strength. Personal resources can be mental abilities and states, such as knowledge and self-esteem. They can also be dispositional orientations or habitual behaviors, such as a preferred coping strategy or preventive behavior in maintaining one's health. We adopt this broad definition of personal resources and, as our main contribution, outline the kind of resources that employees need in order to work in a sustainable manner in the post-industrial context. Moreover, we provide a parsimonious model to make sense of the various personal resources, and we recognize two dynamic processes through which personal resources can be developed at work (i.e. learning and the translation of resources). The added value of the paper is that it synthesizes different types of personal resources needed for sustainable working and outlines their general development, rather than adds one more theory to explain some specific aspect of well-being, development, or functioning.

To offer some practical ideas for organizational change management towards sustainable work, we will also discuss work design as a means to promote the

development of personal resources. Work design means articulating and shaping employees' daily work activities and the socio-technical reality that surrounds them in the workplace (Grant, 2007; Grant and Parker, 2009). Therefore, work design is an important tool for achieving employees' well-being and development, and organizational performance. We frame work design as an ongoing and participative crafting process (Wrzesniewski and Dutton, 2001) that starts from the resources and strengths of an individual and looks for further ways to allow these resources to develop. Earlier work design literature has recognized, for example, job satisfaction and motivation (Hackman *et al.*, 1975) or self-efficacy (Clegg and Spencer, 2007) as important outcomes from work design. However, within the dynamic and challenging post-industrial context, we propose an employee's sustainable work ability as also a relevant goal for work design. We also suggest that a new way of conceptualizing work design as a collaborative crafting process, rather than as a top-down planning process, is suitable for the post-industrial context.

With the focus on sustainable work ability and the personal resources that underlie it, our work connects to the sustainability paradigm that seeks to design economic and societal activities that promote the sustainable development in social, economic, and ecological resources (World Commission on Environment and Development, 1987). The recent definitions of sustainability are emphasizing its dynamic nature (Holling, 2001; Newman, 2005): sustainability is not only about maintaining existing resources, but also about resources development cycles and processes that allow a natural or social system to benefit itself and its stakeholders. Based on a content analysis, Gladwin *et al.* (1995, p. 878) define sustainable development as "a process of achieving human development (widening or enlarging the range of people's choices [. . .]) in an inclusive, connected, equitable, prudent, and secure manner". We also perceive an employee's sustainable work ability to be founded on the dynamic development of personal resources: the simultaneous maintenance of personal resources that promote work ability and the development of existing and new resources that the changing work situations or the employee's own developmental goals demand. Moreover, the sustainability of people and social systems differs from ecological sustainability because of people's possibility to both adapt to environmental demands and take proactive actions. Where an ecosystem can only adapt to environmental demands with the help of its resources, people may also develop in advance such personal resources that will help them deal with future challenges (Hobfoll, 1989).

The basic approach for promoting employees' sustainable work abilities is shown in Figure 1. First, we suggest that sustainable work ability grows from rich and dynamically developing personal resources that allow employees to respond to and even thrive among the changing challenges of work, find work as an overall positive

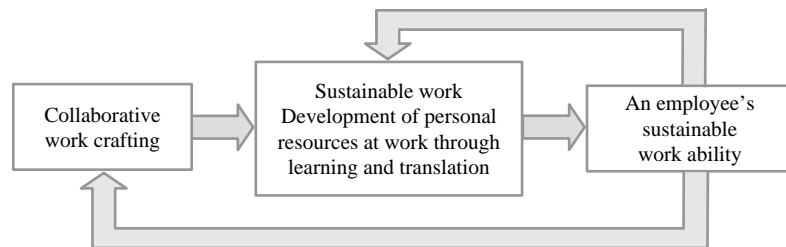


Figure 1.
The basic approach to
crafting sustainable work

experience in their lives, and also contribute positively. To achieve situation- and person-dependent development in employees' personal resources, employees and their closest managers engage in on-going, collaborative work crafting in which the requirements of work and the employee's development needs and potentials are fitted together. Collaborative work crafting offers an alternative way to shape work in the post-industrial context, where static job descriptions designed without consideration for the potentials and strengths of the worker are proving problematic (see below). The outcome from collaborative work crafting is sustainable work in which employees are able to develop their personal resources through learning processes and by translating already existing resources to other valuable assets. Moreover, employees who possess rich arrays of dynamically developing personal resources and are accustomed to crafting their work are more likely to engage in further work crafting activities and be able to pay attention to their resources development. Therefore, a virtuous cycle emerges where employees' sustainable work abilities support them in minding their work abilities also in the future.

Personal resources and sustainable work ability

Psychological well-being and mental health are often equated to the full or optimal functioning of a person (Ryff, 1989; Walsh, 2003). Also, work science sets optimal functioning at work – work ability – as its goal (Ilmarinen *et al.*, 2008). Concepts such as learned helplessness (Martinko and Gardner, 1982) and burnout (Maslach and Leiter, 1997) contain the opposing idea: these negative psychological and physical states show in a lower capacity to function.

Optimal human functioning in terms of health and development depends not only on single variables but (Ryff and Singer, 1998, p. 2) “is best construed as a multidimensional dynamic process rather than a discrete end state.” Ryff (1989) proposes that optimal functioning is a multidimensional construct where (dynamic) factors relating to individuality (i.e. self-acceptance and autonomy) and sociality (i.e. positive relations and environmental mastery) are present. Furthermore, optimal functioning also shows in having a sense of purpose in life and experiencing personal growth (Ryff, 1989). Ilmarinen *et al.* (2008) recognize individual factors (such as general psychophysical functional capacity and health), work-related factors (such as work content and work organization), and social factors (such as family and society) that all influence an individual's work ability.

Therefore, we build on the premise that an individual's sustainable work ability is a multidimensional construct founded on the development of personal resources relating to individuality and sociality, and to mental models, emotions, and behavior patterns. It does not depend on some single well-being variable, and is not a stable state. In what follows, we will first provide some central examples of different types of personal resources needed at work. Subsequently, with the help of a meta-theory, we will organize the personal resources into interacting categories that underlie the sustainable work ability.

Earlier literature (Bartunek *et al.*, 1983) has proposed how sustainable work ability depends on an individual's mental resources and especially on the complexity of their cognition, or their ability to differentiate various signals concerning their work, yet also to reconcile and integrate even contradictory signals. Already, Maslow (Huczynski and Buchanan, 1991) emphasized that the satisfaction of all needs

(and thus well-being) depends on people's abilities to know and understand their situations and environments. Indeed, one-dimensional and simplistic ways of perceiving oneself (Linville, 1987) and the surrounding world (Bartunek and Louis, 1988) do not provide enough grounds for dealing with the complexity of the post-industrial work environment and tolerate its ambiguity. Instead, sustainable work ability is promoted when work is perceived in a systemic manner, and its purpose, elements, and interactions with the work of others, and eventual organizational outcomes, are broadly recognized (Senge, 1990). Comprehension of work and an ability to continuously make sense of work also enable the individual to impact positively on the surrounding world (Starik and Rands, 1995), and thus contribute to the development of social, ecological, and economic resources. Work should therefore be designed such that the understanding of the complexities in post-industrial work and workplaces is promoted.

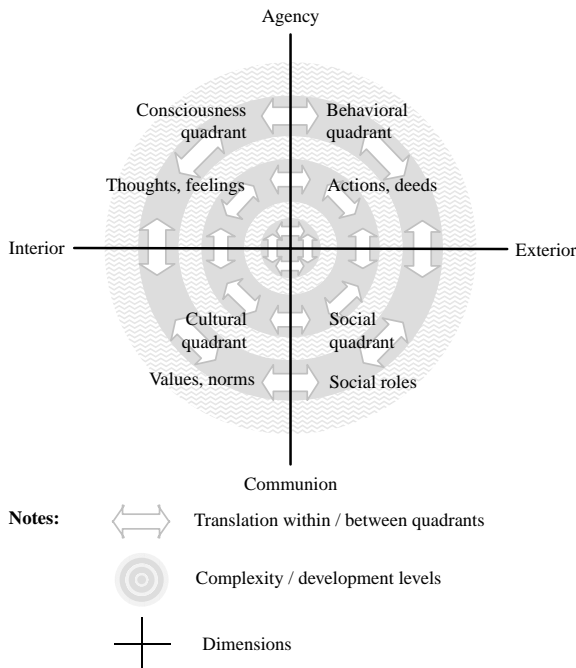
Furthermore, an employee's sustainable work ability depends also on autonomous and social actions founded on the complex understanding of work (Bartunek *et al.*, 1983). The ability to take autonomous actions, to make one's mark on the world, and to impact concretely the way one's life proceeds is an important personal resource (Deci and Ryan, 2000). Equally important is the ability to don social roles that allow people to engage in collaboration with others with the purpose of sustaining themselves (Heaphy and Dutton, 2008), but also with the purpose of making a positive contribution at work and in its wider environment (Grant, 2007). Work design should therefore provide chances for autonomous actions and social roles in which employees are able to demonstrate their comprehension of work to benefit themselves and the whole organization.

Finally, we recognize social connectivity and embeddedness in a culture as important personal resources for sustainable working. For good or bad, cultures provide people with ready answers that make life easier to live (Antonovsky, 1979). Ryff and Singer (1998) recognize quality connections to others as an antecedent to positive human health. Similarly, Deci and Ryan (2000) outline social relatedness and autonomy as basic human needs that both have to be satisfied for optimal functioning. Work design may promote the development of such human interactions that allow an individual to both impact others in a positive way and receive social support and esteem from others as well (Emery and Thorsrud, 1969).

Integral theory (Cacioppe and Edwards, 2005a, b; Edwards, 2005a, b; Wilber, 1996) offers a convenient meta-theory to make sense of and organize such varied personal resources needed for sustainable working in post-industrial work. The model was originally suggested by Wilber (1996), and further adapted by Edwards (2003b). According to integral theory, a complete or integral understanding and development of any humane or social phenomenon requires that two dimensions are paid attention to: agency-communion and interior-exterior. Agency refers to characteristics stemming from individuality; communion refers to characteristics relating to social and cultural connectedness. Thus, integral theory covers the simultaneous consideration for the individual and socio-cultural dimensions of optimal human functioning so central to the well-being theories of Ryff (1989) and Deci and Ryan (2000). When it comes to the second dimension, interior means the individuals' interpretable mental worlds, while exterior has to do with their observable actions and presence in personal and social realms. Integral theory thus covers the simultaneous consideration for the mental and actionable dimensions of optimal functioning; it points out that cognitions and mental models,

norms and values need to develop hand in hand with the autonomous performance of skills and behavior, or the performance in social roles.

The two dimensions form the four quadrants shown in Figure 2. The upper left-hand quadrant deals with interior aspects of agency or individuality: it is the “consciousness” quadrant where the intentions of an individual reside. Comprehension, cognitions, emotions, meanings, and reflexes – those agentic resources of a person that only can be interpreted rather than perceived – are classified into the consciousness quadrant. For instance, the cognitive complexity and the systemic view to one’s work discussed above as personal resources can be placed in this quadrant. The upper right-hand quadrant deals with exterior, perceivable, resources of individuality, such as actions, behaviors, or physical being, and is called the behavioral quadrant. The lower right-hand quadrant is a social quadrant illustrating the observable social resources of people; their social roles and activities belong to this quadrant. The behavioral and social quadrants thus cover individuals’ visible, actionable resources – what they are able to do and how they do it. Finally, the lower left-hand quadrant is about a person’s cultural resources. Cultural values to which people have been socialized, shared myths and beliefs all reside in this quadrant. Quality connections to others or positive work relationships (Dutton and Ragins, 2007) can also be seen as cultural resources possessed by someone. Our proposition is that sustainable work ability stems from diverse resources belonging to all four categories: to consciousness, behavior, social roles, and cultural groundings.



Sources: Adapted from Wilber (1996), Edwards (2003a,b, 2005a) and Kira and Van Eijnatten (2008)

Figure 2. Two dimensions of employees’ resources that result in four quadrants

The dynamic development of personal resources

Various personal resources creating the foundation for sustainable work ability emerge and develop through two processes: learning and translation of resources.

In the first place, personal resources such as comprehension of work, autonomous and socially-actionable competence, and resources deriving from belongingness to a socio-cultural community can be seen as outcomes of learning processes. Through workplace learning or learning originating from everyday work experiences (Billett, 2001), a resource can be developed and may become more distinct and unique. In addition, learning also entails integration that connects emerging resources to old ones, accommodates existing resources to new ones, or transforms them along with the adoption of new resources (Cacioppe and Edwards, 2005b; Illeris, 2003). In this sense, the development of personal resources at work is a gradual development process where new insights and experiences are reflected upon, digested, and internalized. Therefore, we speak of the development of resources rather than of their growth, for growth would denote only accumulation and expansion, and therefore potential additional strain on an employee, whereas development emphasizes also the elaboration and deepening of already existing resources (Laszlo *et al.*, 2010) and the possibility for learning that generates resources. In Figure 2, the concentric circles represent the developing, more inclusive, forms of resources in each quadrant, and we perceive learning processes taking place within each quadrant.

Workplace learning as a source of personal resources can be exemplified by looking at novice employees. They may reside in the innermost circle (Figure 2) in terms of their comprehension of work (in the consciousness quadrant) and social roles that can be taken on at work (the social quadrant). Similarly, novices may be able to engage only in basic work actions (the behavioral quadrant), and enjoy only budding social contacts and cultural connections to others. Gradually, as employees learn more about the work, surrounding organization, and business environment, their comprehension of work and work actions grow more complex (Bartunek and Louis, 1988; Kanfer and Ackermann, 2004). Moreover, employees learn to function in several social roles at the workplace, and grow a more complex sense of cultural norms and values related to work while also growing socio-cultural capital from relations with others. Workplace learning is thus vital for the development of personal resources, but it necessitates both organizational affordances and employee engagement to take place (Billett, 2001). For instance, organizational culture that is supportive of workplace learning and organizational arrangements inviting employees to participate broadly in various work and social activities (Kira, 2010) are antecedents for workplace learning to take place.

Personal resources may also be “translated” at work when one type of resource contributes to the development of another resource (Edwards, 2003a). The translation of employees’ resources deals with a horizontal movement within and between the quadrants in Figure 2. Translation of resources is important as it creates the foundation for a balanced development in various quadrants in Figure 2; it allows, for example, a developing comprehension of work, or a person’s values to be expressed in autonomous and social actions. This kind of psycho-physical translation dynamics is not as well-defined and studied as learning; often it is taken for granted. Our everyday life experiences show how, for instance, thoughts can be realized in actions or that social exchange can create new thoughts and values in an individual. Nevertheless, such dynamics are also recognized in research. For instance, the build-and-broaden

theory (Fredrickson, 2005) has shown how positive emotions translate into a broader set of alternative thoughts and actions than negative ones. Therefore, in addition to learning processes that address how experiences are acquired and integrated into existing mental models and behaviors, personal resources at work also develop through rather spontaneous translation processes between various resources. A practical implication is that gaining a certain valuable personal resource can lead to a cascade of new personal resources to emerge through translation. Here, too, organizational structure and culture encouraging personal development at work (Ashton, 2004) and practical organizational affordances enabling employees to experiment with new ways of working (Billett, 2001) are vital for personal development to actually take place.

The interrelated development of various resources

Personal resources at work therefore develop through learning in each quadrant of Figure 2, and through translation processes within and between the quadrants. In addition to such dynamics, it is likely that sustainable work ability depends also on how the quadrants take part in the learning and translation processes. As indicated above, the existing literature encourages balanced, simultaneous development in all quadrants. For instance, according to Edwards (2005a), a balanced development in the agency-communion dimension and in the interior-exterior dimension is needed for “developmental health”. Harter (2005) emphasizes that authenticity involves expressing oneself (in exterior) in ways that are consistent with one’s inner thoughts and feelings, and such authenticity is associated with positive benefits, such as high self-esteem. In line with Deci and Ryan (2000) and Ryff (1989), Harter (2005, p. 389) also noted that “a healthy combination of autonomy with connectedness is most conducive to healthy outcomes”, thus confirming that a balanced development in agency and in communion is needed for optimal functioning.

Based on this view, sustainable work abilities grow from employees’ possibilities to apply and develop personal resources from every quadrant in Figure 2. Empirical research seems to back this normative statement. For instance, Kira and Frieling (2007) studied workplace learning in manufacturing settings, and detected how employees were often able to create a more complex understanding of their work and the whole manufacturing process they were parts of. Nonetheless, they had much fewer opportunities to share their learning with colleagues and, consequently, they had few opportunities to translate the development in their thoughts into autonomous and social actions. The employees felt frustrated with not being able to share their thoughts, while the work organization missed a chance for spontaneous development in shared ways of working (cultural resources) originating from the shop floor. Without the translation process, the cognitive learning processes offered a possibility only for partial development both for the employees and the work organization as whole.

The timeframe for such balanced resources development may, however, vary. Sometimes, the need to express thoughts in corresponding work actions or social roles is experienced as urgent, or the need to comprehend the newly demanded work actions becomes pressing. In addition, balanced resources development may take place in longer waves, over the lifespan of a career. Kanfer and Ackerman (2004) reported that, in the longer time span, as people age, they tend to move from self-centrality to communality. As a consequence, more mature people may consider it important to translate their

agent resources into communal resources; for instance, to move from performing a certain task to teaching it to others. As people age, they also tend to move towards seeing things more broadly, in their complexity and in their complicated context (Kanfer and Ackerman, 2004). Thus, optimal functioning for younger persons may mean solitary work and focusing on single aspects of their work, while mature persons may prefer to take more communal roles to engage the whole complexity in their work. Therefore, sustainable work ability can be promoted by supporting people to translate their resources into novel areas on a daily basis or as their careers progress. This creates the need for work design that starts from the existing strengths and resources of a person rather than aims at formulating generally good and satisfying work.

Crafting sustainable work

Work design may promote an employee's sustainable work ability when the aim is to shape work such that the existing resources can be benefited from, developed further through learning, or translated into novel resources. Traditional job design approaches do not, however, start from an employee's resources but rather seek to create good jobs by satisfying general psychological needs (Emery and Thorsrud, 1969), or by promoting job characteristics conducive to such critical psychological states as a sense of meaningfulness and responsibility (Hackman *et al.*, 1975). Recently, critique towards these traditional job-design approaches has been raised. It has been noted that they perceive work and jobs as rather stable constructs; they suggest design cycles of relatively long duration and with an aim to create "good jobs" that remain stable once they have been designed (Sanchez, 1994; Singh, 2008). Post-industrial work, by definition, is in constant change. Consequently, new kinds of dynamic and contextualized work-design approaches are presently being suggested. Furthermore, due to the constant change and complexity of post-industrial work, it can no longer be defined as a semi-permanent set of tasks forming a job but instead as a responsibility for certain outcomes – and within this responsibility, necessary task actions and relations keep on changing (Kira and Forslin, 2008). That is why it may be more accurate to discuss work design and work crafting rather than job design and job crafting (Sanchez, 1994). The traditional job design approaches also address work separate from its performer (Clegg and Spencer, 2007), even though research indicates that people do shape their work (Sandberg, 2000). Research also indicates that when people perceive that they can utilize their talents – their existing resources – at work, better organizational outcomes may be achieved. For instance, Clifton and Harter (2003) report that work units scoring above the median on employees' perceptions on their possibilities to apply personal strengths at work had about a 1.4 times higher probability of success on customer loyalty and productivity measures. Framing work design as an activity through which managers and employees continuously and collaboratively seek the best possible ways for employees to apply and develop their resources thus respects the facts that people shape their work and that work is in constant transformation. Adopting such an approach is also encouraged by research findings indicating that employees' opportunity to apply and develop their strengths at work may lead to better organizational outcomes.

We find Wrzesniewski and Dutton's (2001) job crafting approach inspiring for how to promote sustainable work ability in the context of post-industrial work. Wrzesniewski and Dutton (2001, p. 179) define job crafting as "the physical and

cognitive changes individuals make in the task or relational boundaries of their work.” They note that employees may engage in on-going, spontaneous crafting of their work so that the work better satisfies their needs for control and meaningfulness at work, positive self-image, and positive human connections. Wrzesniewski and Dutton’s research indicates that, quite intuitively, people seem to craft their work to meet their unique needs for the utilization of various personal resources. People craft their work to change their action opportunities in the behavioral quadrant (agency-exterior); they craft their task activities or the number and scope of the tasks they carry out. People also craft their own understanding of their work and thereby develop in the consciousness quadrant (agency-interior); the comprehension of work (its purpose and priorities) is crafted. In addition, Wrzesniewski and Dutton document work crafting taking place in communion-exterior: social roles and relationships are crafted. Employees may also seek to craft communion-interior or the values and norms regulating their work and organizational operations. For instance, in Berg *et al.*’s (2010) study, lower ranking employees sought to build a climate of trust and strengthen positive relationships in the workplace as a part of their job-crafting activities.

Wrzesniewski and Dutton (2001) propose job crafting as an individual activity that people do to satisfy their needs and realize their preferences at work. More recently, Leana *et al.* (2009, p. 1172) proposed that job crafting can take place spontaneously in “informal groups of employees – ‘communities of practice’ – in which members jointly determine how to alter the work to meet their shared objectives.” In addition to such spontaneous individual and collaborative job crafting, we would like to advance the idea of collaborative work crafting as an organizational practice for shaping employees’ work with an aim to promote the application and development of employees’ personal resources at work, and to promote the achievement of organizational objectives. Berg *et al.* (2010) offer support for such a collaborative work crafting approach in an empirical paper. Their study indicates that both low- and high-ranking employees are likely to encounter obstacles in crafting their work because crafting one’s work alone often means going against the established norms and expectations. Therefore, Berg *et al.* (2010, p. 181) propose that: “[...] one possible intervention organizations could offer would involve the facilitation of direct communication between employees and managers about what kinds of changes to their jobs each would want.”

Our research experiences with American and European post-industrial organizations indicate that some organizations find formal and traditional job descriptions problematic. In post-industrial work, the goals of work, activities needed to perform the work, and its social relations keep on changing. Once job descriptions fail to represent the actual performance requirements in an employee’s work, organizations may find it difficult to define an employee’s work in any manner. As a result, work is in danger of spinning out of control; it becomes a boundaryless set of tasks piling on top of each other (Kira and Forslin, 2008), and work intensity is likely to increase when the employee’s work and its boundaries are left to evolve on their own. Therefore, in some companies that we have studied, on-going work crafting (building on an initial agreement of the employee’s position in the organization) has been integrated into, for example, regular development discussions, during which the employee and the closest supervisor discuss and seek agreement on what belongs within the domain of the employee’s work, what social contacts are needed, and how work should be understood. Collaborative work crafting may thus replace or enliven

the formal job descriptions, and become the way to dynamically specify an employee's tasks and collaborations in the transforming post-industrial context where any formal job description quickly becomes outdated. However, collaborative work crafting may also offer benefits for more traditional – stable and predictable – work. Even if the work does not change, employees certainly do. They learn from their work experiences, they age, and their interests, needs, and health status may change. In such a situation, a formal job description may periodically be updated through collaborative work crafting to seek ways to enrich or focus an employee's work to correspond to his/her transforming resources better.

In practice, work can be crafted in collaboration between an employee, peers, supervisors, and other stakeholders to include tasks and relations that allow for such cognitive and physical work experiences that optimally develop the employee's personal resources further, translate them to other kinds of resources, or proactively encourage an emergence of a new kind of personal resource. To promote an employee's sustainable work ability, work can be crafted to promote learning or, in other words, to provide chances for employees to develop their resources in various quadrants through workplace learning. For instance, new social connections may be crafted to employees' roles in such a way that they are able to adopt and learn new social roles and gain further positive work relationships. Similarly, new tasks may be crafted into employees' work to allow them to develop both their comprehension of and actionable competence at work (Leana *et al.*, 2009). Work can, therefore, be crafted such that it offers person-specific challenges for work actions and social roles, and it gradually pushes forward the comprehension of work and its social, economic, and ecological environments. Moreover, work can be crafted to support translation dynamics or, in other words, to allow employees to develop further resources in various quadrants based on some newly emerged resource. As an example, employees may – through experience – become more aware of the various stakeholders affected by their work, and perceive their work in a more complex manner. Re-crafting the task and relational boundaries of work such that this more complex comprehension can be applied in work performance may encourage the further development of behavioral and social resources as well.

We emphasize the collaborative aspect of work crafting due to the fact that post-industrial work is, by its nature, interconnected (Howard, 1995). It makes sense to formally include managers and colleagues to work crafting. Wrezesniweski and Dutton (2001) predict that task interdependence delimits employees' possibility to craft their work when crafting is a solitary activity. The study by Leana *et al.* (2009) offers support to this prediction, but also indicates how collaborative work crafting is actually supported by task interdependence. Moreover, in the study by Berg *et al.* (2010), employees with autonomous, yet highly responsible and interconnected work[1], found it difficult to craft their work alone to correspond to their views of what their work should be and what is important in it in the long run. Instead, they shaped their work to respond to urgent tasks needed to keep their organizations going. This also emphasizes the need for social, rather than individual, crafting processes. Managers, mentors, and colleagues may support post-industrial workers to craft their work such that time and space is also made for work activities that enable personal development. This may benefit the organization in the long run as well, when the post-industrial employees find ways to de-prioritize or even delegate and share some

“fire-fighting” tasks, and instead focus on how they personally are best equipped to contribute to the long-term personal and organizational development.

Both Berg *et al.* (2010) and Leana *et al.* (2009) found that a low degree of discretion at work hinders job crafting. One can conclude that authoritative leadership approaches and strict job descriptions obstruct people from shaping their work to correspond their personal needs and strengths, or the changing demands of work. One may assume that also the collaborative work crafting of post-industrial work necessitates leadership support and backing. Additionally, collaborative work crafting seeks to promote authentic and engaged working, and therefore necessitates open and trusting relationships among various stakeholders. For instance, Kahn (2007, p. 190) defines such positive relationships as exactly “those [relationships] that enable individuals to personally engage in their work – that is, to be authentic, present, and intellectually and emotionally available as they go about their work”. Furthermore, collaborative work crafting necessitates general tolerance for ambiguity from organizational members who, rather than relying on predetermined plans concerning work, embrace its changing nature and are always willing to jointly seek new ways to work.

Collaborative work crafting requires also some concrete investments in terms of time from both employees and managers. These working time investments may seem considerable; each manager and each employee needs to take time off from the usual work for the crafting discussions and for the joint considerations of work’s task, relational, and cognitive boundaries. These investments may, however, be well founded and generate returns when, on the one hand, employees’ possibility to apply their strengths and develop their competence at work is improved, and the potential for individual and collective performance increases. On the other hand, the costs of mental strain and burnout resulting from the high work intensity in the poorly shaped and uncontrolled post-industrial work may be reduced. A proverb notes how people sometimes are too busy chopping the wood to take some time to sharpen their axes. To invest time and resources in collaborative work crafting means sharpening the axe so that chopping the wood will go more smoothly in future.

Conclusion and implications for research

The concept of sustainable work has gained interest recently (e.g. there was a symposium on sustainable work at the 2009 Academy of Management Annual Meeting), but it is still seeking an established definition. This paper develops the idea of work that supports sustainable work ability by promoting development in employees’ personal resources. Through learning, specific resources develop and integrate with other resources. Furthermore, sustainable work also allows employees to translate their resources – to recombine them, rely on them in different manners, and find new ways to make a positive contribution for themselves, their workplace, and the wider environment. An important characteristic of sustainable work is that it does not only cause positive momentary experiences of needs satisfaction or motivation. An employee may sometimes be taxed by work and resources-developing learning, but the final outcome is the development in resources. Indeed, where traditional job design focuses on the psychological health of employees and high organizational performance, the process of crafting sustainable work is aimed at attaining the development and translation of various personal resources that underlie an individual’s sustainable ability to work, i.e. the ability to keep on working,

to experience work as a positive factor in life, and to keep on making positive contributions in the lives of colleagues, customers, and other stakeholders.

Work can also consume employees' resources. Resources consumption takes place when work does not, in the short or long term, allow employees to translate their resources and develop in a balanced manner between the quadrants of Figure 2. For instance, work that encourages cognitive and cultural development but offers few chances to translate this development into personal and social actions is sure to undermine an employee's ability to work. Therefore, we propose collaborative work crafting as a dynamic way to achieve work that, in changing situations, is able to allow employees to develop their individuality-communality and interior-exterior resources in a balanced manner. Such approach focuses on the dynamic and longitudinal work experiences of individuals instead of on static and snapshot job characteristics.

Furthermore, we have proposed that traditional manager-led job-design processes should be expanded to dynamic and contextualized work crafting, where not only single jobs or tasks are shaped, but also the entire work processes of employees are addressed by multiple organizational actors, including the employees themselves. Earlier literature (Leana *et al.*, 2009; Wrezesniewski and Dutton, 2001) has addressed work crafting as an employee-driven activity, but we propose that also supervisors can take part in it as work crafting starts to replace traditional job design processes and job descriptions. However, it is vital that work crafting remains a collaborative activity between an employee, supervisors, and other stakeholders, and that the development needs of the employee and demands of work have equal weight; we are not proposing turning work crafting into the next tool for manager-led job design.

Limitations in the present work and implications for future research

We have provided some preliminary ideas and conceptualizations for a work design supporting the development of personal resources with the aim to support sustainable work ability. The paper is conceptual, and we are relying on earlier literature and our preliminary research experiences rather than being able to build on empirical research. The concepts proposed in the paper need to be operationalized further, and the idea of work crafting as a tool to promote development in personal resources needs to be tested in empirical studies and in practice. Moreover, we call for new approaches to work-design studies and practices that take a longitudinal perspective to capture the dynamic processes of resources development through learning and translation along an employee's career. Another research implication is that work design needs to be studied interactively with the research subjects. This is necessary to access the interior resources of employees as well as the long-term processes through which employees may develop as whole beings.

In this paper, we have offered collaborative work crafting as an organizational practice to promote employees' sustainable work ability in post-industrial work. However, temporary work contracts along with standardized and confined jobs still abound, especially in the expanding service sector. In the context of such standardized or short-term work, it may be more difficult to envision ways to craft work to encourage the utilization and development of employees' personal resources. Similarly, in such a context, finding the time to "sharpen the axe", or to seek more sustainable ways of working, may be even more challenging than in the post-industrial context.

Therefore, employees' sustainable work ability and collaborative work crafting in standardized and short-term work is an important research topic for further studies.

Finally, this paper has focused on the interaction between an employee and work, and an employee and the immediate work organization. Further research will be needed to include more comprehensively further social aggregation levels and ecological factors to studies addressing sustainable work.

Note

1. In the study by Berg *et al.* (2010) employees with such work were higher ranking employees. However, such features as simultaneous autonomy and interconnectedness do characterize also the work of post-industrial workers more broadly (Howard, 1995).

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