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CHALLENGES TO THE LEARNING ORGANIZATION IN THE CONTEXT OF COVID-19 PANDEMIC UNCERTAINTY: CREATIVITY – BASED RESPONSE

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Abstract. The COVID-19 pandemic poses several challenges transforming the learning organization. The retention of sustainability in the context of COVID-19 pandemic uncertainty requires immediate response. Therefore, this paper addresses the following research question: how does organizational creativity contribute to managing challenges in the context of COVID-19 pandemic uncertainty as a precondition for resilience? Thus, the paper offers several contributions. First of all, the research dwells on the conceptual attributes of the learning organization: the object is identified and substantiated, the ways the learning organization's vulnerability manifests itself through are presented; the factors creating the learning organization's COVID-19 pandemic vulnerability are discussed; it is identified what capacities are necessary and in what learning processes they develop to reduce the learning organization's COVID-19 pandemic vulnerability. Secondly, the paper identifies and discusses critical challenges to the learning organization caused by COVID-19 pandemic uncertainty, the ones that the organization must react to immediately to reduce its COVID-19 pandemic vulnerability: rapid social innovation cycle, expansion of organizational learning and optimisation of perceived organizational support for employee trust and commitment. Thirdly, the paper discuss how creativity is important for response.

Keywords: COVID-19 pandemic, learning organization, organizational creativity, resilience, vulnerability, uncertainty.

Introduction

Every object, subject or system is vulnerable, but the vulnerability differs in its general structure, evolution and outcomes (Downing & Bakker, 2000). In conceptual vulnerability and risk models, vulnerability is understood as an element of danger and risk context (Birkmann, 2006) and as the main factor leading to risk (Aven & Renn, 2009; Egbuji, 1999). They also show that vulnerability is created by uncontrollable external factors (Birkmann, 2006) causing external uncertainties which sustainability seeking organizations must confront and adapt to.

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Learning may play a key role in blocking pathways of vulnerability (Smith & Elliott, 2007). Learning organizations are characterized by open communications, risk taking, support and recognition for learning, resources to perform the job, teams, rewards for learning, creativity, training and learning environment and knowledge management (Kontoghiorghes et al., 2005). All of this means having the entrepreneurship phenomenon, talent, insights and change strategies necessary to rise to the unique challenges when facing uncertainties. The learning organization is essentially "programmed" to develop and retain organizational sustainability by synergically creating and ensuring social and environmental sustainability. Yet, even learning organizations are prevented by COVID-19 pandemic crisis context from avoiding transformative challenges.

The new millennium has brought a new type of threat characterized by the fact that disasters run across the nation-states and involve various nets; these types of events are magnified and create an unprecedented panic flight; and traditional responding organization for disasters turn inadequate for these new events (Korstanje, 2011). Organization management during COVID-19 pandemic is exceptionally complex as decision-making to overcome crisis must take into consideration the peculiarities of the virus and its containment and the organization of the system (Therrien et al., 2017). Jamal and Budke (2020) in their analysis of the tourism sector emphasize the lessons of former COVID-19 pandemic to companies – responsibility and care are particularly important; also the fact that service providers and workers must be knowledgeable and prepared, communication channels must remain open between stakeholders and the local and regional public health authorities. COVID-19 pandemic situation also becomes a major challenge to non-health care system organizations requiring transformation of the processes of organization management to achieve a new level of sustainability.

Meanwhile, Elsayed and Abdel-ghani (2020) in addition to resilience, as an essential ability of an organization to expect, design, respond and adapt to progressive alteration and unexpected disturbances, also highlight the ability of creativity. Learning organizations are constantly looking for creative solutions which increase their ability to successfully adapt in the context of COVID-19 pandemic uncertainty. Metzl and Morrell (2008) proposed a model in which the related concepts of resilience and creativity are combined and where resilience is seen as a process of many factors, with creativity having a role in it.

In academic literature, the 2002–2004 SARS outbreak marks the beginning of COVID-19 pandemic crisis theory, when the attention of management and scientific public health discussions was primarily directed to health system optimization due to an increase in health care demand (Hagenaars et al., 2004; Cinti, 2005; Barnes et al., 2007); this is followed by the development of resilience theory (Berkes, 2007; Korstanje, 2011; Faustenhammer & Gössler, 2011; Therrien et al., 2017; Koronis & Ponis, 2018), the focus on the impact of the COVID-19 pandemic on certain business sectors (Lee et al. 2012; Johnson Tew et al., 2008) and business continuity management (Pheng et al., 2010). Whereas COVID-19 pandemic in 2019–2020 has led to such new directions in COVID-19 pandemic crisis research as changes in cognitive abilities of the public (Roy et al., 2020), applicability of technologies and artificial intelligence to coronavirus diagnosis (Vaishya et al., 2020), ongoing macro-level challenges faced in the global control of COVID-19 pandemic (Perez Perez & Talebi Bezmin Abadi, 2020),

etc. At the level of organization management discussions evolve around human resource management practices (Khurana & Bedi, 2020) and digitalisation of the relationship between the organization and employee (Iansiti & Richards, 2020). It is noteworthy that during the COVID-19 pandemic, a scientific discussion was initiated to develop the concept of creative adaptability (Orkibi, 2021); potential pathways leading to creative and innovative outcomes in times of crisis are sought to be identified (Beghetto, 2021); the synergy of creativity and innovation as shaping a response to a COVID-19 pandemic crisis is explored (Cohen & Cromwell, 2021), *etc.*

Presently, COVID-19 pandemic crisis theory is being developed by facing the COVID-19 pandemic directly "here and now", very intensively, yet as a result, in a very fragmented way and inconsistently.

The COVID-19 pandemic poses several challenges transforming the learning organization. The retention of sustainability in the context of COVID-19 pandemic uncertainty requires immediate response. Therefore, this paper addresses the following research question: how does organizational creativity contribute to managing challenges in the context of COVID-19 pandemic uncertainty as a precondition for resilience?

The article seeks out to answer the question by substantiating conceptual attributes of the learning organization; then, on the basis of this, critical challenges to the learning organization caused by COVID-19 pandemic uncertainty are identified. These are the challenges that the organization must react to immediately to reduce its COVID-19 pandemic vulnerability. In addition, the importance of organizational creativity in shaping a response to these challenges is discussed.

1. Conceptual attributes of learning organization's vulnerability

1.1. The object through which learning organization's vulnerability manifests itself

The complexity paradigm specifies that vulnerability is characteristic not only of groups and individuals, but also of complex social relations and processes. This attitude is complemented in community conceptual models of vulnerability and global environmental changes based on sociological view by establishing that vulnerability is also intrinsic to various systems (Vatsa, 2004; Smit & Wandel, 2006).

van Eijnatten and Putnik (2004) rely on fact that all characteristics of a complex system are intrinsic to the learning organization: learning in the learning organization must transfer from individuals to collective, to organizational to inter-organizational level and *vice-versa* (this is confirmed by SECI (socialization, externalization, combination, internalization) model of knowledge dimensions reflecting the idea that individual knowledge in an on-going process is transformed into organizational knowledge) and must result in changes in behaviour.

According to Vatsa (2004), it is right to define the concept of vulnerability as a threat to well-being. Having identified what vulnerability develops through, it can be stated that an individual, their groups, relations, processes and a system can be called vulnerable if there is a probability that they will experience a certain level of well-being. As Downing and Bakker (2000) state, every object, subject or system are vulnerable; however, the vulnerability differs in its general structure, evolution and outcomes.

Senge's perception of the learning organization, viewed as classical in the knowledge management theory, implies that one of the main aims of continuous organizational learning is to retain sustainability by being able to flexibly and effectively adapt to external uncertainties. However, the organization cannot be sustainable if mutually supportive subsystems of the learning organization – organization, people, knowledge, and technology – are non-existent (Serrat, 2017, pp. 57–68). Jamali et al. (2006) present such dimensions of the learning organization identified by Senge (1990) as personal mastery, mental models, shared vision, team learning and systemic thinking. The essence of this viewpoint is that organizations must nurture a positive propensity to learn, adapt and change by weaving in a set of core processes or disciplines that expand the ability of the firm to shape its future (Jamali et al., 2006). The empirical research by Azizi Nejad et al. (2012) show that there is a direct positive link between learning organization's dimensions accentuated by Senge (1990) and the manifestation of the phenomenon of entrepreneurship in the organization.

Over the last decade, scientific papers have begun to develop the concept of sustainable entrepreneurship (İyigün, 2015; Ren & Jackson, 2020; Terán-Yépez et al., 2020). The understanding of conventional entrepreneurship involves identification of opportunities and their exploitation to generate economic benefit to the organization (Terán-Yépez et al., 2020), whereas sustainable entrepreneurship is oriented to both a social and environmental mission as well as the need to create economic value similar to conventional entrepreneurship (Schaefer et al., 2015). Social mission of sustainable entrepreneurship focuses on creation of social values for people and their communities, while environmental mission on the conservation and improvement of natural environment.

The essence of ensuring well-being of the learning organization which comes through as creation and retention of sustainability by being able to flexibly and effectively adapt to the external uncertainties is people whose knowledge and competence development the organization's knowledge management decisions are targeted at and whose continuous learning ensures the organization's sustainability. Additionally, it is in the context of the learning organization that preconditions arise for the evolvement of sustainable entrepreneurship phenomenon ensuring not only economic well-being for the learning organization, but also creating social and ecological value for society. Thus, *the vulnerability of the learning organization manifests itself through the entrepreneur and the organization's employees as the threat of losing them, would mean the threat of losing organization's economic sustainability and not increasing the level of social and ecological well-being.*

In the conceptual vulnerability, threat and risk model, vulnerability is understood as an element of threat and risk context (Birkmann, 2006) and as the essential factor leading to risk. Risk can be defined as a unit measuring projected discrepancy between expectations and reality and describing the effect of change on unfavourable prospective outcomes (Egbuji, 1999). Such conception reveals three factors of concrete situations leading to risk – choice, outcome and probability. Aven and Renn (2009) support this opinion and state that the essential qualities of risk are outcomes (most frequently damage) and the probability of certain outcomes.

If the learning organization's vulnerability showed through the sustainability-oriented entrepreneur and their team, the risk as a probability of losing the ability to flexibly adapt to external

conditions would develop. In the context of the learning organization, the loss of this ability can be related to barriers to organizational learning which can be define as those systems and behaviours that prevent or inhibit organizations from adapting to the main decision-making challenges that they face (D. Fischbacher-Smith & M. Fischbacher-Smith, 2012). The authors emphasise that processes of identifying and adopting new behaviours and practices by assessing cases of success or failure can create barriers including individual and group processes and behaviours. In times of different crises organizations begin to apply various defensive mechanisms which block the organization's learning processes; this reduces possibilities to reactively adapt to the challenges and to learn lessons from crisis (Elliott et al., 2000). Yet, the entrepreneurship phenomenon functioning in the light of the learning organization should not be rejected as, following the classical approach, entrepreneurship also involves noticing opportunities in different extreme/critical situations (Devece et al., 2016). Research by Doern (2016), Devece et al. (2016) has shown that organization's entrepreneurship can reduce the impact of economic crisis on organization's sustainability. However, so far, no research identifying a link between sustainable entrepreneurship and the consequences of environmental crises has been conducted.

The COVID-19 pandemic can be regarded as a very indefinite environmental event having great detrimental impact on the organizations affected; a situation when the organization faces sudden, unpredictable, catastrophic changes it can hardly control; events when few executives have immediate knowledge and practical experience of how to behave in a certain situation (Parsons, 1996). Faulkner (2001) states that the pandemic of flue (not only severe acute respiratory syndrome) meets the definition of disaster. The concept of disaster implies creation of certain dangers that exceed any society's capacity to react actively to alleviate their consequences (Korstanje, 2011). These consequences are often described as breaking the routine of a community. COVID-19 pandemic as one type of disaster is external and arises due to the risk outside organization (Stafford et al., 2002).

1.2. The factors creating the learning organization's vulnerability during COVID-19 pandemic

To stop the spread of COVID-19 pandemic, decision-makers have several options including pharmaceutical and non-pharmaceutical interventions (Lee et al., 2012). In the case of COVID-19 pandemic, non-pharmaceutical intervention in a form of mitigating measures implemented to contain the spread of the disease and softening its impact on inhabitants is particularly important (Aledort et al., 2007). The most frequently applied measures are quarantine, isolation, sheltering, and social distancing, such as event cancellation and "snow days" (Department of Health and Human Services, USA, Community Mitigation Guidance, 2007; Lee et al., 2012). Application of these measures can cause catastrophic outbreaks disrupting global and national, social, economic, and governmental structures (Department of Health and Human Services, USA, Community Mitigation Guidance, 2007) and become an immense challenge to organizations. Feeling pressured to apply non-pharmaceutical intervention measures many organizations are forced to have employees work from home, and this results in the physical and digital divide, affects the nature of

work and leads to most rapid organizational transformation in the history of the modern firm (Iansiti & Richards, 2020).

In general, organizations, even the established ones, find it challenging to adopt the digital scale, scope, and learning paradigm. This is made even more complicated by the COVID-19 pandemic as it adds a fourth dimension of growing importance, that of virtual work, which, apart from digitalisation of company-customer relationship, involves digitalisation of the company-employee relationship. Consequently, working from home, rather than office, is viewed as not only achievable but also preferable (Iansiti & Richards, 2020).

Organization – employees and organization – market relationships are disturbed, according to Korstanje (2011), by panic and fear typical of COVID-19 pandemic situation. At the beginning of a COVID-19 pandemic a sense of uncontrollability emerges publicly (Chuo, 2007).

During the COVID-19 pandemic a lot of misinformation is being spread, especially on social networks; they also draw attention to the fact that fear and concerns arising because of the current coronavirus outbreak manifest themselves as discrimination and xenophobia (Jamal & Budke, 2020).

Brahmbhatt and Dutta (2008) from the Office of the Chief Economist, East Asia and Pacific, note that COVID-19 pandemic can cause serious economic disruptions. The current COVID-19 pandemic started by bans on certain types of personal consumption and activities for medical reasons by the order of the United States (Grigoryev, 2020). In the developed countries several large sectors were stopped: retail trade (except food and pharmacies), air transport, a significant part of road and sea transport. The entire world system of mass recreation came to a halt. The spread of the crisis by a chain of industries in the world goes from final personal consumption and has already caused a reduction in production, consumption, exports (Grigoryev, 2020). The COVID-19 pandemic obstructs international supply chains due to halted work, disrupted manufacturing processes and move towards more expensive procedures, disrupted transportation, especially, with borders closed (Delivorias & Scholz, 2020). However, entrepreneurial approach can help discover new business opportunities.

COVID-19 pandemic crisis poses an immense challenge to the leaders and executives of the organization as continuous learning processes are disrupted and a threat of losing the qualities of a learning organization which make it sustainable arises. COVID-19 pandemic hit hardest at an organization's most important asset, its people.

1.3. Reduction of detrimental effect of the learning organization's vulnerability through components of organizational creativity

Organizational resilience is one of the latest trends in management theory, integrating insights from both coping and contingency theories and being developed as an integral part of organizational crisis context (Koronis & Ponis, 2018; Therrien et al., 2017; Faustenhammer & Gössler, 2011). According to Koronis and Ponis (2018), the definition of organizational resilience reflects the organization's ability to "absorb strain and preserve (or improve) functioning despite the presence of adversity", to reach the certain level of flexibility and to adapt to influences of the external environment. Lundberg and Rankin (2014) state that resilience

includes the factors that enable the organization to adapt, balance resilience and stability and to survive against adverse forces. Meanwhile, the analysis of conceptual vulnerability and risk models has revealed that organizational resilience can be viewed as a whole of adaptation and coping capacities: object's/subject's/system's coping and adaptation capacities reduce vulnerability to external threats, while sensitivity and exposure increases it. Bohle (2001), who developed and substantiated the model of dual vulnerability, asserts that it must be regarded as having internal and external sides. According to the author, the internal side of vulnerability is related to coping capacity due to which the system can resist hazards and recover after them. Coping capacity in vulnerability theory is defined as abilities of objects, subjects and systems to face and manage adverse and (or) unfavourable conditions, critical situations and disasters using the skills and resources available to reduce the level of vulnerability (Preston & Stafford-Smith, 2009), whereas the external side of vulnerability expresses exposure to risk. Thus, the impact of vulnerability can be reduced when the system, object or subject acquires coping and adaptation capacities. It should be noted that International Strategy for Disaster Reduction system hazards and risk reduction vulnerability and risk conceptual model support the view that reduction in vulnerability means reduction in risk, yet vulnerability and risk cannot be reduced directly.

The learning organization can acquire and develop coping and adaptation capacity through the components of organizational creativity and their interactions. The component theory of organizational creativity and innovation, formulated by Amabile (1997), suggests that specific managerial actions (expertise), allocation of resources (skills and processes) for innovation development and implementation and internal motivation of the organization to adapt and cope are important for organizations to create and develop social innovation as a result of an organization's creative response to COVID-19 pandemic vulnerabilities. The components of organizational creativity are affected by the external environment of the organization, from which arises the need to cope and adapt in order to survive. It involves all of the external motivators having a negative effect on internal motivation and some other environmental factors by which internal motivation and creativity can either be damaged or improved (Amabile, 2012).

Thus the context of entrepreneurial phenomenon creates preconditions for coping or/ and adaptation to the changes caused by COVID-19 pandemic crisis; however, parallel and synergic processes of adapting organizational creativity components to a COVID-19 pandemic crisis and strengthening them is another significant precondition for the development of these capacities.

2. Transforming challenges to the learning organization and organizational creativity response in the context of COVID-19 pandemic uncertainty

As revealed above, the uncertainty created by a COVID-19 pandemic in the external environment of the organization primarily affects the organization's resources – human resources – and shapes the organization's motivation to cope and adapt to the external uncertainty caused by the COVID-19 pandemic. Both human resources and organizational motivation interact with each other and with organizational management practices when the result of this inter-

action is social innovations (see Figure 1). The learning organization, acting in the context of a COVID-19 pandemic crisis, has an intrinsic motivation to adapt and cope with emerging challenges in order to survive in the market by meeting the social needs of society via the creation and development of social innovations. One of the essential management practices of a learning organization that ensures a creative solution to a problem *i.e.* the discovery and development of an idea that meets the social needs of society are learning practices illustrated by 4I organizational learning model developed by Crossan et al. (1999). The learning organization can acquire and develop coping and adaptation capacity in the continuous knowledge management process. There is a close link between learning and entrepreneurial achievement because learning, as a dynamic process, enables authentic behaviour (Rae & Carswell, 2001). The context of entrepreneurial phenomenon creates preconditions for coping or/and adaptation to the changes caused by COVID-19 pandemic crisis; however, parallel and synergic processes of organization learning is yet another significant precondition for the development of these capacities.

For learning organizations operating in the context of COVID-19 pandemic uncertainty, transformational challenges manifest themselves through the components of organizational creativity, requiring an organizational resilience-enhancing response arising from a specific component of organizational creativity.

The analysis of research papers has revealed three transformative challenges for learning organizations potentially arising in the context of a COVID-19 pandemic that weaken organizational resilience capacity; however, with a creativity-based response to emerging challenges, their negative impact potentially translates into unexploited opportunities.
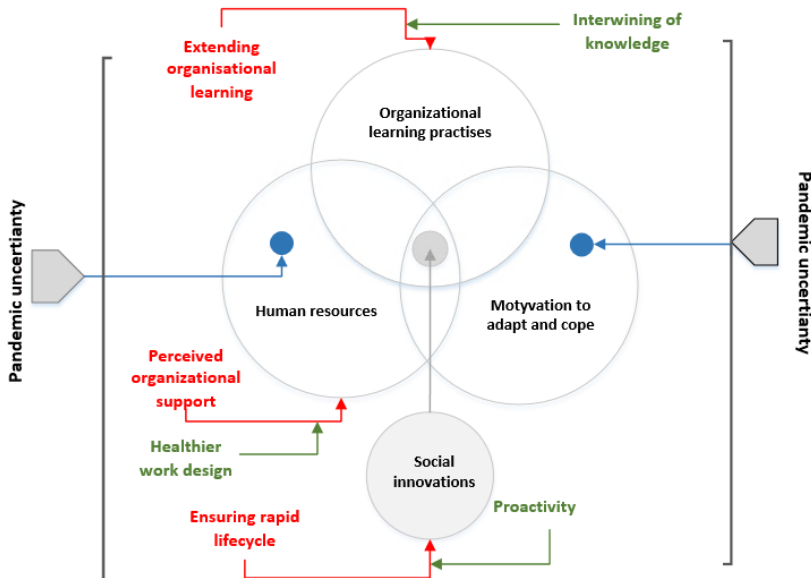

Figure 1. Transforming challenges to the learning organization and organizational creativity response in the context of COVID-19 pandemic uncertainty (source: created by authors)

3. Human resources challenge: perceived organizational support to gain employees' trust and commitment

When the organization faces COVID-19 pandemic its employees experience physical, digital and social divide. This affects the way how employees interact at their workplace, what they expect from their employer and their career as well as when, where and how the job is done. From this point of view, expanded digitalisation has impact on organizations at multiple levels because this requires adaptation and development of new knowledge and new ways of working (Bondarouk & Ruël, 2009). Bell et al. (2006) assert that work digitalisation and the use of technologies affect the role of human resources in an organization, their capabilities and capacities even more.

Managers and teams are required to create a new revolutionary human resources management practice and innovative decisions not only to survive but also to sustain the overall health of the organization by primarily concentrating on emotional well-being of the employees to keep them healthy, motivated and to ensure that they can continue working and contribute to the improvement of the organization's operation (Khurana & Bedi, 2020).

The role of perceived organizational support (POS) which is defined as an understanding that the organization takes care of its employees' social and emotional needs, effort, commitment and loyalty (Shukla & Rai, 2015) is important. POS is positively related with the sense of fairness, maintenance of care, positive mood, satisfaction, organizational awards, work conditions, with organizational commitment and public spirit; also, it is negatively related with stress and other challenges at work (Shukla & Rai, 2015).

Dirks and Ferrin (2002) have established that POS can be effective in recreating organizational trust by creating a favourable environment which improves the trust of the organization with its top management.

Employees who perceive a supportive organizational environment (*e.g.*, organizational support) actively change their internal and synergistic external motivations (*e.g.*, purpose, meaningfulness, and prosocial orientations) to perform the task. This affects individual creativity of the employee (Duan et al., 2020). Employees with high perceived organizational support show greater creativity (Shantz et al., 2016) and commitment (Gupta et al., 2016).

The COVID-19 outbreak has created a unique context. This context has posed many challenges for both employees and employers (touching on aspects such as the content and organization of tasks, activities, relationships, and responsibilities). All this requires reviewing the work design – all organizations will need to make substantive design changes going forward to protect the health, wellness, and ultimately trust, commitment and productivity of workers. Apart from that, organizations can adapt by redesigning employee's workspace, basic operations in the workplace, the operation of organization's networks and team arrangements as well as providing technologies indispensable for new working practices.

4. Social innovation challenge: rapid lifecycle of social innovation

Society's confrontation with COVID-19 pandemic suddenly and dramatically changes and re-orientates people's attitudes, habits, vulnerable areas, health care system, political decisions, *etc.* and redirects business organizations to solving problems related to the COVID-19

pandemic and preparing for any of them in the future. From the perspective of sustainable entrepreneurship, the COVID-19 pandemic increases the need for social innovation to help and focusing on those most vulnerable. Social innovation has a major role to play in over-coming and resolving COVID-19 pandemic challenges. Hall and Wagner (2012) suggest that sustainability-improving innovation requires both radical and incremental innovations, pointing out that the former can significantly improve the environmental or social perfor-mance of goods or production processes while not detrimentally affecting consumer benefits and utility levels. In the context of COVID-19 pandemic, it is important to offer product/ process social innovation decisions to the most vulnerable groups proactively, *i.e.* promptly. However, due to the context's resistance (social, institutional, economic, cultural resistance, *etc.*) (Castro Spila et al., 2016; Vasin et al., 2017) it takes time for social innovation to go through the lifecycle from idea-generation to the last stage of the life of social innovation – systemic change. Thus, the possibilities and abilities of the learning organization to flexibly adapt to the uncertainties posed by the COVID-19 pandemic and solve social problems by using adaptation and coping capacities to create sustainable well-being both for society and for the organization itself are restricted.

Creativity plays a fundamental role in social innovation since it gives a competitive edge to organizations for the development of new social forms and for knowledge accumulation (Tremblay & Pilati, 2013). During the interaction of the above-mentioned components of organizational creativity, the idea of social innovation is born, and preconditions are created for the realization of that idea. However, in the context of COVID-19 pandemic uncertainty, when pursuing resilience, this is no longer enough, as an organization's creativity skills must ensure not only an innovative idea but also its proactivity. This means that a rapid lifecycle of social innovation is possible when the creation and development of social innovations in response to a potential COVID-19 pandemic crisis emerges before the COVID-19 pandemic begins, having proactively anticipated COVID-19 pandemic-related future uncertainties.

The theory of entrepreneurial behaviour includes the concept of entrepreneurial alertness, which is defined as most important cognitive factor in recognizing entrepreneurial oppor-tunities through motivated propensity to formulate an image of the future (Chavoushi et al., 2021). Meanwhile, Hu et al. (2018) empirically confirm the positive effects of creativity on entrepreneurial alertness, which directly affects entrepreneurial intentions. Disclosure of this link suggests that in order to address the challenge of a rapid lifecycle of social innovation, in the learning organization, such knowledge management processes as knowledge acquisi-tion, knowledge conversion and knowledge utilization should use and combine creativity-enhancing and developing techniques with anticipatory techniques.

5. Organizational learning practices challenge: extending organizational learning

Learning from the experience of other organizations in critical situations should be essential to build organizational resilience (Smith & Elliott, 2007). Yet, as Smith and Elliott (2007) state, the precondition that catastrophic events are unique and time- and space-restricted since they are isolated within a definite organization due to its culture and values is an obstacle in the

organizational learning. Therefore, it is probable that when pandemic situations arise learning organizations will begin to apply defensive mechanisms without taking into consideration the experience of other organizations in similar situations (Elliott et al., 2000), which will directly determine the formation of vulnerability and risk of the learning organization.

In this context, 5I framework proposed by Jones and Macpherson (2006) is significant, when the above mentioned 4I framework is expanded by including intertwining and in this way revealing critical importance of external organizations to institutionalise knowledge of learning organizations. The concept of intertwining in this context indicates that the mechanisms of organizational learning are between organizations, not only inside them; therefore, organizations are fostered to share learning not only internally, but also with other participants of the organizational network. According to Secundo et al. (2017), network or ecosystem level manifests itself through formal and informal relations in the network or ecosystem and can be defined as an informal social process of sharing knowledge and experience (what is known, who knows, how it is known) implemented in a definite territory, region, cluster or ecosystem. The expansion of organizational learning outside the organization to adapt to and cope with the uncertainties posed by COVID-19 pandemic crisis would make it possible to lower the barrier to learning from crisis.

One way to expand organizational learning through the intertwining phase is crowdsourcing between organizations. Crowdsourcing provides an opportunity for organizations to exploit collective knowledge that is located outside the organization (Devece et al., 2019). COVID-19 pandemic uncertainty can shape a wide range of future uncertainties which it is important to respond to proactively with creative decisions. The exchange of knowledge and experience as well as what the results of COVID-19 pandemic uncertainties could be between organizations participating on a crowdsourcing platform, in the creative decision-making process, would allow combining this experience and knowledge and generating more effective problem-solving alternatives.

Conclusions

COVID-19 pandemic-induced uncertainty in the external context of a learning organization shapes an organization's vulnerability through human resources as a component of organizational creativity that interacts directly with the components of organizational learning and motivation to adapt and cope, the interaction of which creates social innovation enabling the learning organization to survive.

In the context of COVID-19 pandemic uncertainty, learning organizations face transformational challenges arising through the components of organizational creativity, and they require an organizational resilience-enhancing response resulting from a specific component of organizational creativity.

In the context of COVID-19 pandemic uncertainty, to reduce its vulnerability the learning organization has to pay attention and react immediately to the following:
  – the fact that a necessity to create a new human resources management practice and innovative decisions arises to sustain the overall health of the organization where a particularly important role is assigned to POS focused on changed social and emotional

needs of the employees and through healthier work design. Healthier work design results in organizational trust, greater organizational creativity and employee's commitment to the organization. All these human resources management aspects are presumptions for organizational resilience in COVID-19 pandemic uncertainty context;

– the fact that the need to create and introduce innovation for the groups affected by the COVID-19 pandemic speeds up although context's resistance to the lifecycle of social innovation remains. This challenge restricts organization's ability to adapt to the COVID-19 pandemic context reactively by generating economic and social well-being. In order to address the challenge of a rapid lifecycle of social innovation, in the learning organization knowledge management processes should use and combine creativity-enhancing and developing techniques with anticipatory techniques. This challenge can be potentially mitigated by the learning organization's ability to proactively respond, on the basis of entrepreneurial alertness to the stimuli arising from the external environment that indicate a COVID-19 pandemic crisis;

– the fact that an urgent necessity arises to expand organizational learning by intertwining so that the learning organization is able to take into consideration the experience of other organizations in similar critical situations, does not apply inadequate defensive mechanisms and lowers the barrier to learning from crisis. The exchange of knowledge and experience should be between organizations participating on a crowdsourcing platform, in the creative decision-making process, would allow combining this experience and knowledge and generating more effective problem-solving alternatives.

Future research concerning challenges to the learning organization in the context of COVID-19 pandemic uncertainty, should primarily be directed towards identification of challenges to learning organizations of a different character; later – towards comprising a unified typology of challenges and a toolkit that allows for reduction of vulnerability created by COVID-19 pandemic uncertainty.

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