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Article

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Management dynamics in the knowledge economy

Provided in Cooperation with:
National University of Political Studies and Public Administration, Bucharest

Reference: Brătianu, Constantin (2020). Designing knowledge strategies for universities in crazy times. In: Management dynamics in the knowledge economy 8 (3/29), S. 209 - 223. http://www.managementdynamics.ro/index.php/journal/article/download/361/306. doi:10.2478/mdke-2020-0014.

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Designing Knowledge Strategies for Universities in Crazy Times

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Abstract: The purpose of this paper is to analyze the challenges universities have during crazy times and to show how to design knowledge strategies to navigate successfully through the changing economic landscape. Crazy times mean times of rapid and unpredictable changes in the economic environment, times of crises, and disruptive phenomena. For such kind of new realities, the deliberate strategies designed for a predictable future cannot help anymore. They should be replaced by emergent strategies, which consider a moving time coming from the future towards us. Universities are knowledge-intensive organizations, and knowledge is a strategic resource. Designing knowledge strategies and integrating them into the university business strategies becomes a new necessity. Our research is based on a conceptual analysis of time perception and strategy design for strengthening the university competitiveness in a changing environment. We make use of the known-unknown matrix and search for those generic strategies which contribute to the renewal of intellectual capital and achieving a competitive advantage in the new global market of higher education. The quest for becoming a world-class university and the pressure of the ranking systems require a special focus on designing and implementing knowledge strategies.

Keywords: knowledge strategies; university; intellectual capital; knowledge creation; knowledge sharing; intergenerational learning; knowledge transfer.

Introduction

The metaphor *crazy times* has been introduced into the literature by Peters (1994) to show that the business environment changes fast and in an unpredictable way, which does our planning for the future more difficult than ever. "There's little doubt that the times are crazy, and getting crazier – whether you're a banker, software producer, restaurateur, or public official. And if the times are crazy, well, then, what makes more sense than crazy organizations?" (Peters, 1994, p.5). Conventional business thinking is based on the assumption that economic environment is changing slowly and along with the trends we identified and analyzed, such that we can anticipate them and design our pathway toward the future by using some well-defined analytic models (McGee, Thomas, & Wilson, 2005; Mintzberg, 2000; Mintzberg, Ahlstrand, & Lampel, 1998). A good illustration of this pattern of thinking about planning for the future can be considered the definition of planning formulated by Ackoff (1970, p.1): "Planning is the design of the desired future and of effective ways of bringing it about". This formulation also incorporates the idea that by planning, we can control that future in a similar way we control the present. The future is seen as an *extrapolation* of the present time and planning for it means just a change in time scale. Unfortunately, even today many managers think in this way, as a result of their education based on linear and deterministic thinking patterns (Bratianu & Vasilache, 2010; Bratianu & Vatamanescu, 2018).

Crazy times is a compelling metaphor for a different perception of time and a different pattern of thinking about the future because all the changes happening in the external environment impact the internal organizational environment for change. The industrial organizations based on hierarchies and the command-and-control management should change to withstand the external turbulences. They should become crazy, which means the adoption of new organizational structures with increased self-organization and knowledge entropy. In Peters (1994) view, crazy organizations show some complexity

How to cite
Bratianu, C. (2020). Designing Knowledge Strategies for Universities in Crazy Times. *Management Dynamics in the Knowledge Economy.* 8(3), pp.209-223, DOI 10.2478/mdke-2020-0014
ISSN: 2392-8042 (online)
www.managementdynamics.ro
https://content.sciendo.com/view/journals/mdke/mdke-overview.xml

features which fit the chaos generated in the external business environment (Bratianu, 2019; Gleick, 2008; Stacey, 2001; Stacey, Griffin, & Shaw, 2000).

Knowledge strategies are strategies designed for knowledge management and focused on knowledge as a strategic resource. They follow the basic structure of business strategies but are concerned only with creating, leveraging, and using efficient data, information, and knowledge in producing wealth (Grant, 1996, 1997; Ichijo, 2007; Zack, 1999). Although they are distinct from business strategies, knowledge strategies should be designed such that they can be integrated into the corporation strategies, in all its forms (Ceruti, Williams, & Bedford, 2020; Garcia-Perez, Cegarra-Navarro, Bedford, Thomas, & Wakabashi, 2020). Knowledge strategies become important in knowledge-intensive organizations where data, information, and knowledge are the dominant resources of those organizations. The main difference between corporate strategies and knowledge strategies is because data, information, and knowledge are all intangible resources, and the economic rules applied for tangible resources are not adequate for intangible resources anymore (Garcia-Perez et al., 2020; Lafayette, Curtis, Bedford, & Iyer, 2019).

Universities are knowledge-intensive organizations because all their internal processes have data, information, and knowledge as inputs and new concepts, ideas, theories, procedures, and patterns of thinking as outcomes. The intellectual capital of universities is impressive, and transforming its potential state into the operational state depends directly on the vision, knowledge leadership and knowledge strategies of each university (Bratianu, 2011, 2013, 2014; Ricceri, 2008). Thus, understanding the nature, structure, and dynamics of knowledge strategies is vital for the renewal of university intellectual capital and for generating knowledge wealth for society, especially in such crazy times we face today. Thus, the research question (RQ) of the present endeavor can be formulated as follows:

RQ: What are knowledge strategies, and how can we design them for universities in crazy times?

After this introduction, we shall perform a literature review focusing our attention on time perception and knowledge strategies, having in mind universities as knowledge-intensive organizations. Then, we explain our research's methodological approach, and we analyze the main findings of that. The paper ends with some general conclusions and a list of references.

Literature review

Knowledge strategies is a relatively new concept defined at the intersection of strategic thinking and knowledge management. Strategic thinking is different from operational thinking. While *operational thinking* is focused on the present business activities (Jones & George, 2008; Robbins & DeCenzo, 2005), and has a time framework of about one year, for which managers know their resources, *strategic thinking* is focused on the future problems and their possible solutions (Johnson, Scholes, & Whittington, 2008; Nonaka & Zhu, 2012; Wootton & Horne, 2010). Operational thinking is based on logic, deterministic thinking, and linear thinking patterns (Bratianu, 2015a). These are ubiquitous thinking patterns used by all the managers in solving their daily problems and allocating resources according to the annual plan. Strategic thinking integrates entropic, nonlinear, and probabilistic thinking patterns, which incorporate uncertainty and a probable future (Bratianu, 2015a; Ohmae, 1982). Concerning the necessity of switching from linear to nonlinear thinking, Ohmae (1982, p.13) remarks that "Phenomena and events in the real world do not always fit a linear model. Hence the most reliable means of dissecting a situation into its constituent parts and reassembling them in the desired pattern is not a step-by-step methodology such as systems analysis. Rather, it is that ultimate nonlinear thinking tool, the human brain. True strategic thinking thus contrasts sharply with the conventional mechanical systems approach based on linear thinking".

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Strategic thinking involves *time* as a framework. Nevertheless, *time* is an abstract concept, and its understanding is revealed through metaphorical thinking (Boroditsky, 2000; Lakoff & Johnson, 1980, 1999). The analogy is made with space, and there are two basic metaphors we use: a) the observer is moving and time is stationary; b) the observer is stationary, and time is moving. People use mostly the first metaphor, and they move toward the future like to a space destination, through a stationary landscape. Our education is based on this way of thinking, and strategic thinking used it extensively in designing deliberate strategies. The second metaphor is rarely used and more difficult to comprehend because time is moving, such that the future comes to us. We cannot use deliberate strategies anymore, and we have to react quickly to the emerging future. Crazy times imply this metaphor when the time comes toward us with high acceleration like a disruptive force. Time perception becomes an inherent feature of strategy design. Now, we have to design integrated strategies that incorporate both *deliberate* and *emergent* strategies (Bolisani & Bratianu, 2018).

The perception of time is intrinsically related to the perception of the *future*. If we consider the metaphor of stationary time, we go toward the future as we travel in space. The future appears like a faraway station situated on a continuum of time. When we change the metaphor, time is moving, and the future is no longer an extrapolation of the present time. It is like an independent entity containing probable events. Experts in strategic thinking consider that we have several possible *futures*, not just only one (Lindkvist, 2013; MacKay & McKiernan, 2018; Murgatroyd, 2015). As Lindkvist (2013, p.37) remarks, "There is no such thing as 'the future', only futures – plural. More specifically, there are five variations of future that we face and in turn, affect our thinking in different ways". Beyond the common future, everybody knows, Lindkvist (2013) considers the possible, probable, preferable, and the wild card futures. The wild card is that future that is highly unlikely, yet very impactful. Taleb (2007) calls that future *The Black Swan*. An excellent example of such a Black Swan event is the actual COVID-19 pandemic that generated multiple national and global crises, from the health systems to economics, business, tourism, education, culture, and sports.

The common characteristic of these futures is *uncertainty*, a state of absence of knowledge that creates many difficulties in decision making (Hastie & Dawes, 2001; Lindley, 2006; March, 1994). Events are not sure, and the knowledge we have about them is incomplete for a good understanding. "Most events that we refer to in everyday life are brought about by deterministic, physical processes. What singles out the events that we refer to as random, chance, or probabilistic is that the causal context is hidden, complex, or unknown to the person who describes the event as such" (Hastie & Dawes, 2001, p.154). Understanding uncertainty requires a probabilistic thinking pattern and a search for relevant knowledge. Based on that knowledge, managers can imagine different scenarios for the future or different futures. Probabilistic thinking is augmented with scenario thinking that can be defined as "a cognitive process concerned with imagining how the future might unfold in multiple ways through the analysis and judgment of the effects of the actions and reactions of shaping forces" (MacKay & McKiernan, 2018, p.39).

Knowledge management is an emergent domain for managerial practice and theory that is focused on intangible resources, as dominant resources in knowledge-intensive organizations. Knowledge management is a component of organizational management and not something to replace it. Anticipated by Drucker (2001), knowledge management emerged in the last decades due to developing the knowledge economy (Lafayette et al., 2019; Holford, 2020; Nonaka & Takeuchi, 1995; Rhem, 2017). Powell and Snellman (2004) show that the knowledge economy is based on knowledge-intensive activities, and products and services incorporate knowledge at a higher rate than in the industrial economy. The economic properties of intangible resources are quite different from the economic properties of tangible resources. That is primarily because "the concept of scarcity does not apply, they grow rather than diminish through use and expenditure, are an experience good, are public goods rather than singular products, carry high

opportunity costs associated with consumption rather than acquisition, have imperfect and non-competitive markets" (Lafayette et al., 2019, p.67). A simple example would be to consider, for instance, the Pythagorean Theorem concerning the relationship between the values of the sides in a right triangle. When a professor explains this theorem to the students, he transfers that piece of knowledge toward the students. However, he does not lose any knowledge while the students acquire new knowledge. Also, because of being used for hundreds and thousands of years, this knowledge does not become obsolete. It is a public good, and it can be shared without the risk of creating a rivalry with competitors on the market. The whole educational system is based on these fundamental properties of knowledge.

Knowledge management can be defined as the managerial process of knowledge creation, acquisition, transfer, transformation, and use in realizing products and services for customers (Dalkir, 2005; Jashapara, 2011; Nonaka & Takeuchi, 1995). Alternatively, if we consider that knowledge is the main constituent of the organizational capital, then knowledge management is that process of transforming the potential intellectual capital into operational intellectual capital that creates wealth for society (Andriessen, 2004; Roos, Pike, & Fernstrom, 2005). Figure 1 presents a simple illustration of that complex process.

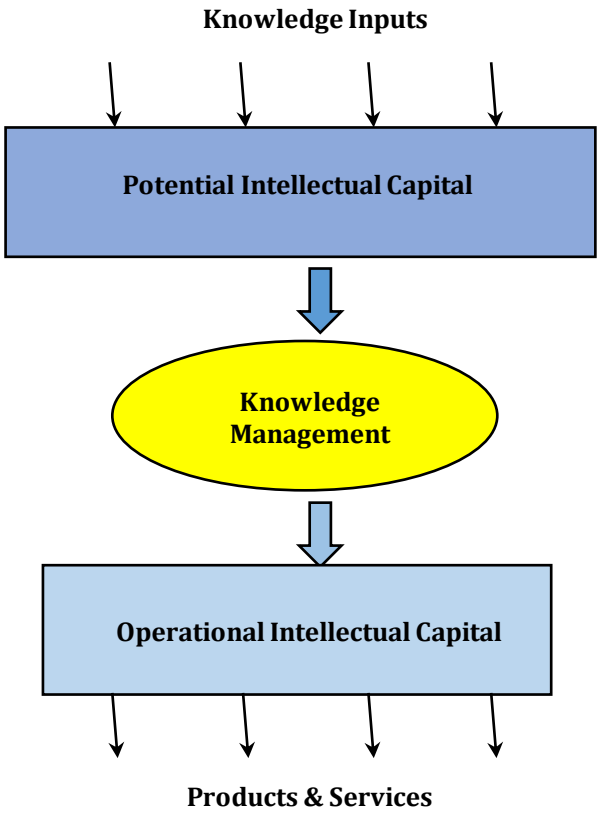

Figure 1. Intellectual Capital and Knowledge Management

As shown in Figure 1, the operational intellectual capital is smaller than the potential intellectual capital because there is a transformational process with barriers and losses. The transformational efficiency depends on the quality of knowledge management that is a function of the quality of knowledge managers and workers. Some authors prefer to use instead of *intellectual capital* the construct of *knowledge capital*, knowledge being considered an economic asset (Garcia-Perez, Gheriss, & Bedford, 2020; Handa, Pagani, & Bedford, 2019; Lafayette et al., 2019). However, there is no significant difference between both concepts.

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Although in the evolution of the theory of intellectual capital (Andriessen, 2004; Bontis, 1996, 1998; Edvinsson & Malone, 1997; Sveiby, 1997) there were different approaches concerning its structure and composition, today researchers reached a certain agreement upon the basic structure composed of human capital, structural capital and relational or customer capital. *Human capital* refers to the knowledge, skills, and attitudes of individuals. By integrating these components at the organizational level, one gets the human capital of the organization. Human capital is considered the most important contribution to the overall intellectual capital because only people can create knowledge and develop innovations. *Structural capital* represents the integration of individuals' contributions at the group and organizational levels through their formal and informal interactions. If human capital belongs to individuals, a good part of structural capital belongs to the organization. That part contains documents, databases, procedures for different purposes, regulations, intellectual property rights as patents, and trademarks. *Relational capital* represents all relationships between the organization and its suppliers, customers, business partners, and other important external stakeholders. Also, here we may include the company's image, business brands, and network effects. When discussing about customers, we also include the data, information, and knowledge we have about them.

The new theory of knowledge fields and knowledge dynamics (Bratianu & Bejinaru, 2019, 2020) shows that human capital, structural capital, and relational capital contain all forms of knowledge, i.e. rational, emotional, and spiritual knowledge, in different percentages. That induces the idea that we may construct a new structural level of the intellectual capital composed of rational, emotional, and spiritual capital. Rational capital contains rational knowledge expressed by people and incorporated in all types of documents, from legislation to working procedures. Managerial education is based on rational knowledge because it is explicit, and it can be easily shared, stored, retrieved, and processed in organizations. Also, decision-making theory is based on rational knowledge considered to be objective (Baron, 2000; Goodwin & Wright, 2004). Emotional capital contains emotional knowledge as a result of our bodily reaction to the environment, outcomes of experiential learning as skills, attitudes, and the emotional part of social relations (Hill, 2008; LeDoux, 1999). Spiritual capital contains opinions, beliefs, values, and norms, which are incorporated into organizational culture and organizational behavior. Spiritual capital "is wealth that we live by, wealth that enriches the deeper aspects of our lives. It is wealth we gain through drawing upon our deepest meanings, deepest values, most fundamental purposes, and highest motivations, and by finding a way to embed these in our lives and work" (Zohar & Marshall, 2004).

Thus, the overall structure of the intellectual capital is amplified, offering a better understanding of its functionality and the relationship with knowledge management. Knowledge strategies get a new meaning having this holistic view that offers us a more efficient way of designing them. The extended structure of the intellectual capital, together with the interaction with knowledge management, gives us a better understanding of university management and how to design knowledge strategies for crazy times. It is also important to understand the role of university governance in the decision-making process and designing knowledge strategies (Bratianu, 2014; Bratianu & Pinzaru, 2015).

A changing economic landscape always generates opportunities and threats to any organization. Strategic thinking is operating in the opportunity space, which is "the company's market potential given its environment, including such factors as the demand for its products, the cost, and availability of inputs, and the legal legislative climate" (Spender & Strong, 2014, p.10). Thus, strategic thinking integrates the organization's business model into the time perception and identifies the key uncertainties for which solutions should be found. In Zack's (1999) view, *knowledge strategies* can be "thought of as balancing knowledge-based resources and capabilities to the knowledge required for providing products or services in ways superior to those of competitors" (Zack, 1999, p.131). Some authors prefer to use the verb *strategizing* and the expression of *strategic*

work instead of the noun *strategy*. Strategizing appears as a necessity of exploring the future due to its uncertain world (Spender, 2014).

Methodology

We performed qualitative research (Maxwell, 2013) based on an extensive literature review of universities' knowledge management and intellectual capital and designing knowledge strategies. We used metaphorical thinking for analyzing the perception of time and understanding the switch from future to futures (Lindkvist, 2013), and from the future as a destination in space to the future that comes like a shock wave towards us, during a crazy time. Also, we based our interpretation of knowledge strategies on the theory of knowledge fields and knowledge dynamics (Bratianu & Bejinaru, 2019, 2020).

For analyzing knowledge strategies, we used the known-unknown matrix (Bolisani & Bratianu, 2018). This matrix shows the interaction between the external world and the level of awareness of knowing at the individual level (see Figure 2).

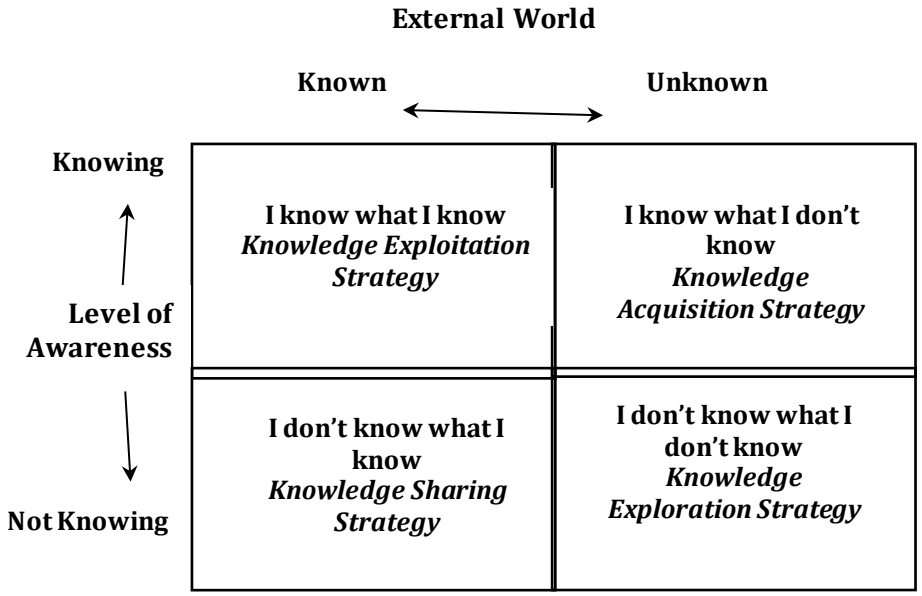

Figure 2. The known-unknown matrix
(Bolisani & Bratianu, 2019)

For each state of known-unknown shown in that matrix, we consider a specific knowledge strategy and discuss that strategy within the framework of a generic university. The assertions from the first line of the matrix reflect a static and a finite world of knowledge, and a dominant deterministic thinking pattern. The first sentence "I know what I know" reflects a finite volume of knowledge accumulated by me in time for which I am sure because it is based on certain events. Certainty is the main feature of this state of knowing. The second sentence, "I know what I don't know" is on the level of certainty about knowing but reflects the part that is missing from the whole spectrum of knowledge. Both sentences consider only explicit knowledge because it is a result of my conscious mind. The bottom line of the matrix reflects states of knowing, including explicit knowledge and tacit knowledge, or the knowledge fields they contain rational, emotional, and spiritual knowledge. Because tacit knowledge is processed in our cognitive unconscious, we don't know how much we know about a given domain. That makes us say, "I don't know what I know". The fourth state of knowing in this matrix, "I don't know what I don't know" reflects the awareness state created by external crazy times. The main feature of these last two states of knowing is uncertainty. For each state of knowing we assign a type of knowledge strategy, which will be discussed in the next section.

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Discussions on knowledge strategies for universities

Knowledge exploitation strategy. A university is a knowledge-intensive organization, and its performance depends directly on leveraging all the knowledge resources efficiently. Although this principle looks very simple and natural, in reality, in many universities, it is not applied due to the ineffective academic management and lack of an overarching knowledge vision. Moreover, many university managers focus only on rational knowledge and ignore the importance of emotional and spiritual knowledge. The result is a general interest for *knowledge codification* (Handa et al., 2019; Janicot & Mignon, 2012) by using formal methods for knowledge storage, retrieval, transfer, and consumption. Sometimes knowledge codification leads to a standardization process, which is usually induced by the idea of increasing efficiency and making the control processes easier. These processes can be performed by internal mechanisms like knowledge assets audits (Handa et al., 2019), or by external procedures like evaluations and accreditations done by specialized organizations. Beyond a certain need for such control mechanisms, there is a natural tendency for keeping things as they are, which means opposing change through knowledge creation and innovation. From this point of view, university managers should keep a balance between *knowledge exploitation* and *knowledge exploration* strategies. However, during crazy times knowledge exploration becomes more important than knowledge exploitation because the only way to get out of any economic crisis is to create new knowledge and new solutions for the new problems. The best argument is the actual COVID-2019 global crisis that requests new knowledge for survival during lockdowns and for switching successfully to online education, as requested by emergency state-imposed in many countries.

Knowledge acquisition strategy. "Knowledge acquisition means finding ways of increasing the level of organizational knowledge by purchasing knowledge from the external business environment. From a strategic perspective, this strategy contributes to closing the knowledge gap between what is available in the firm and what is needed for achieving a strategic objective" (Bolisani & Bratianu, 2018, p.159). The knowledge gap (Zack, 1999) is identified by the expression “I know what I don’t know” from the top line of the known-unknown matrix. Being aware of that knowledge gap constitutes the first step in designing a knowledge acquisition strategy. The second step is to evaluate the financial resources needed in purchasing knowledge for closing that gap and to finding solutions in getting those resources. The third step is to evaluate the absorptive capacity of the university in internalizing the new knowledge and use it effectively. The *absorptive capacity* concept has been coined by Cohen and Levinthal (1990) and reflects the organization's capability to value, assimilate, and apply knowledge coming from external sources. This capability is based on the university leadership, its professors and researchers, and its functional structure and governance.

Knowledge acquisition can be made in different forms from direct purchasing of knowledge contained in scientific journals, books, patents, software, and databases to hiring talented people and experts in the needed domains. A good example of applying knowledge acquisition strategies can be given with some Chinese universities, like Peking University and Tsinghua University, which have been chosen by the government to become world-class universities (Ngok & Guo, 2008). The Chinese government understood that a fast and sustainable economic development of the country could not be achieved without huge investments in universities and in imposing to the best of them to compete globally against the best universities in the world. These universities developed special projects for their fast development in science and technology, and for upgrading their research infrastructure, and the government-endorsed these projects with huge financial resources. Also, the universities developed strategies to attract the best professors from American universities and to call back young Chinese researchers who decided to live in America after graduating from famous universities. We may say that these chosen universities to become world-class universities focused on knowledge acquisition strategies to accelerate closing their knowledge gaps with the best world

universities. In times of crisis, new knowledge gaps may appear, and then the university leadership should focus on knowledge acquisition needed to close those gaps.

Knowledge retention strategies. Knowledge retention is a form of knowledge acquisition from experts and older people with a valuable experience. This strategy has been developed as a measure to reduce knowledge loss with people who retire and take with them valuable knowledge from their long and diversified experience. Knowledge loss became a real knowledge risk in an aging society and in organizations with many people who retire or leave for different reasons about the same time (Durst, 2019; Durst & Zieba, 2017). DeLong (2004) presents a knowledge catastrophe at Boeing when top-management ignored the risk of knowledge loss. "After Boeing offered early retirement to 9000 senior employees during a business downturn, an unexpected rush of new commercial airplane orders left the company critically short of skilled production workers. The knowledge loss from veteran employees combined with the inexperience of their replacements threw the firm's 737 and 747 assembly lines into chaos" (DeLong, 2004, p.19). Knowledge retention can be achieved through different methods and procedures, like intergenerational learning, knowledge recovery initiatives, and artificial intelligence applications to capture, store and share valuable knowledge (Agarwal & Islam, 2015; Martins & Meyer, 2012).

Intergenerational learning is a complex process of organizational learning (Argote, 2013; Argyris, 1999; Wellman, 2009). It is suitable for those organizations which display an age-layered structure like universities. In most universities, there is a promotion process based on performance criteria and experience that implies age. Also, several academic layers may have different names in different countries, but the essence remains. For instance, considering the American academic culture, we may have assistant professors, associate professors, and full professors. In such a generational setting, learning of one generation from another generation is almost natural, and it can be enhanced through intelligent university strategies and policies. A series of empirical studies performed for the Romanian universities demonstrated that intergenerational learning could be a very efficient way of knowledge transfer and retention (Bratianu, Agapie, Orzea, & Agoston, 2011; Bratianu & Leon, 2015).

Knowledge sharing strategies. Knowledge sharing is a part of the more general knowledge transfer process. Knowledge sharing is a result of strong motivation; some experts have to share their experience with their colleagues. It is a personal endeavor and depends on the organizational culture of the university. In cultures that value individual competition, people tend to hoard and hide knowledge instead of sharing it. Knowledge means power, and in competitive environments, knowledge sharing could be a personal risk. The only way of stimulating knowledge sharing is for leadership to develop a culture that values and rewards those individuals who share their knowledge (Cyr & Choo, 2010; Nesheim & Gressard, 2014). "Knowledge sharing has been identified as a major focus area for knowledge management. The importance of this topic lies in the fact that it aims to link the individual level, where knowledge resides, and the organizational level, where knowledge is applied and attains value" (Sanchez, Sanchez, Collado-Tuiz, & Cebrian-Tarrason, 2013). Knowledge sharing does not contribute with new knowledge, but it is important to increase the average level of organizational knowledge and change the knowledge distribution to stimulate innovation—knowledge sharing impacts knowledge entropy (Bratianu, 2019) directly. Because knowledge sharing is a voluntary process, its effectiveness depends on the existence of a culture of *trust* (Castelfranchi & Falcone, 2010; Mayer, Davis, & Schoorman, 1995).

Knowledge sharing can be stimulated by creating *communities of practice* (O'Dell & Hubert, 2011; Wenger, 1998). According to Wenger, McDermott, and Snyder (2002, p.4), "Communities of practice are groups of people who shape a concern, a set of problems, or a passion about a topic, and who deepen their knowledge and expertise in this area by interacting on an on-going basis". There are some necessary conditions for creating a successful community of practice (Bolisani & Bratianu, 2018):

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a) A well-defined *domain of knowledge sharing* that is attractive for a large spectrum of people.
b) A *knowledge leader* who is capable of attracting and motivating people.
c) A *critical mass* of participants willing to share their knowledge.
d) An *agenda* of events which can be improved continuously.
e) A *rewarding system* for those who are active in sharing their knowledge.
f) Developing some *tools* for supporting knowledge sharing like websites, newsletters, blogs, and workshops.

In universities, creating communities of practice is not a difficult process because professors are somehow clustered in departments, which represent large such communities of practice, and many of these above requirements are fulfilled. In times of crisis, knowledge sharing should be increased to spread the knowledge throughout the interested academic community and to increase chances for closing knowledge gaps and finding innovative solutions. Also, digitalization should be used extensively, especially in situations of lockdown and switching from classical teaching to online systems (Bejinaru, 2019; Tsui & Dragicevic, 2018).

The last state of knowing from the known-unknown matrix is described by a rather strange formulation "I don't know what I don't know". It is a perfect match with the situations generated by crazy times. The future comes to us producing shock waves, and organizations must react with solutions good enough for their survival. For these chaotic situations, deliberate knowledge strategies should be replaced by *emergent knowledge strategies* (Bolisani & Bratianu, 2018). The most important emergent knowledge strategies are those clustered in the category of *knowledge exploration strategies*. The most effective strategies from this cluster are *knowledge creation* and *scenario design*.

Knowledge creation produces new knowledge needed for closing the knowledge gaps. Beyond the well-known methods of developing creativity and producing new knowledge like focus groups, brainstorming and lateral thinking, Nonaka (1994) developed the *knowledge creation dynamics model*, a model further developed by Nonaka and Takeuchi (1995). The model is based on four conversion processes: socialization (S), externalization (E), combination (C), and internalization (I). The model is called SECI and reflects the transformation processes between tacit and explicit knowledge at the individual level, and the transfer processes of tacit and explicit knowledge in social contexts. *Socialization* is the process of sharing tacit knowledge between people in groups when there is a non-uniform distribution of it. *Externalization* is the transformation process of tacit knowledge into explicit knowledge in the mind of an individual. *A combination* represents sharing explicit knowledge in groups. *Internalization* represents the transformation process of explicit knowledge into tacit knowledge in the mind of an individual. According to the theory of this model (Nonaka, 1994), knowledge creation may happen as a result of any of these four basic knowledge conversion processes. Nonaka's (1994) model became immediately adopted by most researchers and applied in knowledge management for new knowledge creation. However, the model is conceived for ideal situations with reversible processes, which may lead to fuzzy interpretations of real problems.

Bratianu (2015b) proposed *the theory of knowledge fields and knowledge dynamics*, which has been further developed by Bratianu and Bejinaru (2019, 2020). According to this theory, knowledge creation is a result of processing information, and also of any transformation between the rational, emotional, and spiritual knowledge fields. This idea is underlined by Kolb (2015, p.43), "To learn is not the special province of a single specialized realm of human functioning such as cognition or perception. It involves the integrated functioning of the total organism – thinking, feeling, perceiving, and behaving". All the information we get through our sensory system is processed as emotional knowledge by the cognitive unconscious part of the brain and transformed into rational and spiritual knowledge. Through social interaction, personal knowledge is transformed into a group and organizational knowledge.

Knowledge creation as a result of internal efforts can be augmented in open innovation by co-creation when people from outside of the organization are invited to contribute with ideas in solving complex problems. This phenomenon is also known as *crowdsourcing*, as remarked by Brabham (2013, p.4): "The interplay between crowd and organization is crucial for crowdsourcing because it ensures a mutually beneficial outcome that probably could not have existed without the creative efforts of both parties".

Knowledge strategies for scenario design. These strategies fit very well with the specific of crazy times. "Scenarios are images of the future constructed by combining possible developments in different ways. In this way, imaginary situations are created which you can explore" (De Ruijter & Alkema, 2014, p.56). Scenario thinking is a tool that helps our minds in finding solutions for strange problems generated during crazy times. It helps managers in designing several possible futures based on imagination and some trends which might develop in changing forces. The purpose of scenario design is not to find the best possible future, but to provide a series of possible and probable futures. The chances are that one of these futures will happen, and thus we have already prepared a possible solution. There are many companies today which practice these knowledge strategies with good results (De Geus, 2002; MacKay & McKiernan, 2018). Universities are considered stable institutions, and from this point of view, these knowledge strategies have been ignored so far. The new COVID-19 global crisis forced many universities to close down their classes and to switch to online learning. Universities with professional e-learning platforms had no difficulties in switching immediately to the new mode of learning, but many universities were not prepared for such a dramatic change and encountered a series of complex problems.

The question is, what will happen after such kind of global crises. First, nobody knows when COVID-19 will be confined successfully, and life will rich a new normal state. Second, nobody knows how economies will be after such global crises, and thus how universities will recover from the present situation. To approach adequate solutions, academic managers should start developing these knowledge strategies presented above and create *integrated strategies* for the new normal environments. Integrated strategies are composed of both deliberate and emergent strategies with a flexible balance between them, as to adapt easily to the changing environment.

Conclusions

Knowledge strategies refer to those strategies designed to close some knowledge gaps for a given organization, knowledge gaps which are defined as differences between the state of knowledge in the future where we want to be, and the state of knowledge in the present time. They focus on the intangible resources of the organization, which become strategic resources in the knowledge economy. Knowledge strategies should reflect the organization's vision and mission and should be integrated into its overarching strategies. Knowledge strategies can be deliberate and emergent, like the other strategies. The deliberate knowledge strategies represent the old school of strategic thinking when there is only one future that can be reached by following a roadmap. This kind of strategy design is based on deterministic and linear thinking patterns, which assume that the external environment is changing slowly and in a predictable mode. The future is an extrapolation of the present time. Emergent knowledge strategies have been developed recently when the external economic environment entered in a turbulence regime with fast and unpredictable changes. The perception of time is changing, and we feel that the future comes to us, creating many crises. These are called by Tom Peters crazy times, and they require a different type of reactions based on nonlinear and probabilistic thinking patterns. Many experts in strategy design discuss several possible futures, not just only one. Each future could be possible, and we have to be prepared to face it with adequate reactions.

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This paper aims to investigate the new domain of knowledge strategies and see how it could be useful to universities during some possible crazy times. Our analysis's conceptual framework is represented by the known-unknown matrix, where we identified for each state of knowing a certain type of knowledge strategy. We analyzed each type of these knowledge strategies and showed their strengths for times of crisis. The present COVID-19 global crisis demonstrated that many people were not prepared to understand the complexity of such global phenomena with dramatic consequences for health systems, economic systems, education, culture, sport, and social life. In many countries, the emergency states asked for lockdowns and restrictions hard to imagine before the outbreak of COVID-19. Universities in many countries had to close their regular classes and to switch the entire teaching and learning processes to online platforms. Very few universities were prepared for such a dramatic change and could continue their activities without difficulties. For many other universities, these changes produced many perturbations and stress for students and professors. In many countries, online education was not even provided in the legislation, and new regulations had to be elaborated to accommodate new situations.

Considering the framework of the known-unknown matrix we discuss for each knowing state the knowledge strategies universities should design, and we showed which of these strategies fit the best the crazy times. The most difficult knowing state is described by the sentence "I don't know what I don't know" and we showed that for such a high level of uncertainty and absence of knowledge the adequate strategies are those focused on knowledge creation and scenarios thinking. Universities are considered stable and durable institutions and many academic leaders ignored these knowledge strategies, but they proved very useful during the COVID-19 pandemic. Scenarios design assumes that there are several possible futures, and we should imagine each of these futures and try to identify its features such that we can conceive a certain type of reaction. Even if none of these scenarios will happen as we assumed, the chances are that the real future will be very close to one of these scenarios or display some of their features so that we could operate with a lower level of uncertainty in making decisions. Our strategic work also helps us develop new perspectives that could be used in knowledge strategies design and application. These knowledge strategies should be introduced into the students' curriculum to help them develop new competencies for future thinking.

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Received: July 10, 2020
Accepted: August 29, 2020