

Complex Environment Calls for Complex Thinking: About Knowledge Sharing Culture

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Abstract: The purpose of this research is to enhance understanding of how organisations can master global disruptions and take advantage of them.

A conceptual paper is presented. For the purpose of analysing organisation-environment-relations, the theoretical umbrella adopted here is the system theory. Also, the study has mainly incorporated concepts of innovation and knowledge sharing as well as theory of organisational culture.

This research reflects the zeitgeist for at least two reasons. Firstly, in current times of global disruptions, the need for innovation and the process of knowledge sharing have both become central topics for organisations. Secondly, global disruptions make us aware of being challenged, traditional one-sided thinking does not work any longer in such an increasingly complex world. The alternative is to think in terms of relations and holistically, while accepting the existence of instability.

Moreover, this study has made several contributions to research and implications for practice. First of all, this article adds value for the fields of research of organisational management, innovation management and organisational culture. Secondly, major contributions of this research are the developed intra-organisational learning loop as a guiding framework for how to handle disruptions, and furthermore, the system and disruption model. This latter model is developed with the aim of identifying types of organisational culture which are determined by the intensity of disruptions and the type of organisational system. Thirdly, the organisational culture of knowledge sharing is more specified in greater detail, with the intention of fostering innovative behaviour. Lastly, this study contributes mainly to the theory of social systems by explaining the organisation-environment relations, proposing to strengthen the organisation internally, for example, through culture and being open towards external changes. Characteristics of organisations have been worked out and key features of effective organisations for the future are proposed.

This study is not free of limitations, which offer opportunities for future research. Firstly, it is a conceptual paper and the results have not yet been empirically proven. So, an interesting possibility for further research could be to test the proposed models and framework empirically. Secondly, the scope of this study is broad and thus it was not feasible to analyse each component of the model in detail. Future studies could further investigate the proposed models in more detail and explore more precisely out how to use it, for example, by developing a practical guideline for managers. Another useful avenue of future research could be an in-depth study of organisations, comparing them based on the suggested features of effective and restrictive organisations and results, which would potentially enable deeper classifications of organisations.

Keyword: Organisational learning, Disruption, Knowledge Sharing, Innovation, System Theory.

1. INTRODUCTION

Our world has become global, which is manifested in financial interconnectedness, technological developments and so on. In particular, the technological invention of Information and Communication Technology (ICT) and its sub innovations such as the internet, smartphone, tablet, skype, social networks, and twitter, has enabled us to relatively independently connect and communicate with each other beyond hierarchical and structural boundaries, and regardless of time and place (Castells 2004, p. 9). Historical processes such as economic crises, socio-cultural movements and the ICT have greatly impacted transformations away from the industrial towards the so called 'knowledge economy' and 'knowledge or network society', wherein

knowledge is assumed to be the fundamental key asset for fostering innovation and organisational development (Castells 2004, Drucker 1993, 1969). Nowadays, 'innovation' and 'knowledge management' have become central topics in various fields of research and in organisations themselves. It is assumed that organisations, as basic element of economies, attain competitive advantage by developing innovations, while the sources of innovative ideas are related to human knowledge as well as the bundling and sharing of knowledge (Block 2013, p. 2, Williams 2008, p. 118). Both words have in common the fact that they are related to progress and change.

Innovation and VUCA Environment

The OECD (2005, p. 46) defines innovation as the "implementation of a new or significantly improved product (goods or service), or process, a new marketing method, or a new organisational method in business practices, workplace organisation or external

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relations.” This definition traces back to the economist Joseph Schumpeter (2006, 1912) who coined the term ‘innovation’ meaning an economically driven intervention, i.e. to bring new products to the market. He distinguished between ‘incremental innovation’ and ‘radical innovation’ (“creative destruction”).

Until today, the success of an organisation has been grounded on the ability to be innovative, such as creating new products, developing organisational processes, production processes, etc.. However, the pace and scale of innovations have steadily increased on a global level over the past twenty years. Global disruptions such as digitalisation, social networks, and financial crises have made the business environment increasingly volatile, uncertain, complex and ambiguous according to strategic business leaders. The so-called VUCA environment has become the “new normal” in business and forces those in leadership positions to rethink their management practices (Lawrence, 2013). Evidently, the organisational landscape is changing: on the one hand, organisations have increasingly organised themselves into co-operations, alliances, etc. On the other hand, it is possible that relatively small, unknown companies can be innovative and successful, while traditional large ones can face bankruptcy. Christensen (2005, 1997) investigated the question of why big companies are failing, and developed ‘the innovator’s dilemma’ and in doing so, he coined new terms for Schumpeter’s types of innovations: big firms usually concentrate on creating ‘sustaining innovations’ but are not developing, nor are they able to cope with, ‘disruptive innovations’ (Christensen 2005, p. 6). Apparently, these words ‘sustaining’ and ‘disruptive’ put the present economic thinking in a nutshell: if you want to sustain your business, you need to be disruptive; if you create disruptive innovations, then others are being disrupted and may not sustain any longer. It seems like a rat race based on the principle of who is faster, in which the question of to where we should run is of secondary importance. But does this really make the most sense?

There are companies which have adapted well to the VUCA environment and changed their business successfully in time, such as IBM, Xerox and Apple. An example for meeting both the exploitation and challenge of disruptive innovation is Nokia: in the late 1980s, Nokia disrupted its traditional core business of rubber works by switching to cell phones and became one of the global players in this business. However, in the 2000s, smartphones took off, and Nokia was not ready for this phenomenon. In the end, Nokia did not

anticipate the disruptive change in time and sold its mobile phone division to Microsoft in 2013. In any case, it seems that the environment can change so that the ‘winner’ of today may become a ‘loser’ of tomorrow, and vice versa.

As is true with everything, it depends on how you look at things. In general, a disruption such as technological one causes “(something) to be unable to continue in the normal way: to interrupt the normal progress or activity of (something)” (Merriam-Webster, 2018). In the context of business, disruption relates “to changing the traditional way that an industry operates, especially in a new and effective way” (Cambridge Online Dictionary, 2018). In this spirit, for some people disruptions may be stronger related to anxiety and hazard; while others rather see in it a chance to reflect, learn and to try another path. Certainly, in times of disruption, the expected future becomes uncertain, i.e. organisations are either able to adapt and innovate, or get left by the wayside. In other words, disruptions embrace both high risk and high chance. Especially in these times of global disruptions and fast changing environment, the question is, how can organisations both master survival and take advantage of disruption?

In finding answers to this question, we refer to the socio-economic setting for organisations in connection with VUCA environment and innovation acknowledged in this introductory part. Then, awareness for global interconnectivity is raised, which enables us to see global disruptions not necessarily as threats, but rather as part of changes which naturally take place and as a reminder that we are globally connected and responsible. Thirdly, organisations are analysed and put into the context of their environment and the necessity to be innovative. It is necessary to analyse organisations as social systems and in particular, systems behaviour. Fourthly, the intra-organisational learning loop as a framework for handling disruptions is introduced. From this proposed model, a closer look is taken at the role of innovation, arguing that organisational culture is a linking concept in creating innovative behaviour and in reducing intra-organisational complexity. Then, a model for identifying four types of organisational culture based on the system’s openness and intensity of change is proposed. Finally, we propose a knowledge sharing culture, as part of organisational culture, which more specific shows how to ensure innovative behaviour within an organisation. In so doing, key features of effective global organisations of the future are acknowledged.

2. AWARENESS FOR GLOBAL INTERCONNECTIVITY

Global disruptions seem to remind us to think holistically, viewing things as a whole. On the one hand, we all (e.g. people, organisations) are different and unique in our own way. Yet, we are simultaneously part of one world and thus interconnected with each other. While in previous centuries we have mainly focused on strengthening individuality and being different, evidently, the on-going transformation process away from local and national issues towards global developments and intensified disruptions seem to drive us towards a united connectedness. In this vein, global disruptions are more likely to help to increase awareness of connectedness which may lead to responsible participation. For example, the environmentalist Paul Hawken set a milestone in drawing attention to the global environment which concerns us all, with his books "The Ecology of Commerce" (1993) and "Blessed Unrest" (2007). He describes activities and movements of single people and organisations who campaign for environmental responsibility and raising consciousness for global connectedness. Indeed, as the philosopher Karl Popper (1992, 1957) put it, we are all shaped by our environment, yet at the same time, we also create it.

The notion of connectedness is not as recent as it might seem. It can be traced back to the beginnings of philosophy, and more specifically to natural sciences. In this context, it is important to mention the paradigm shift in physics away from the classic Newtonian physics revolutionised by Max Planck. He found that in the atomic world, the principle of causality is not significant, natural processes are not continuous and elements such as atoms cannot be grasped. This insight changes not only physics, but also our understanding of the world. Quantum physics shows that firstly, we are limited in our knowledge and power insofar as that not everything can be explained, and secondly, the world is more than the sum of its parts and scientists are part of the field in which they study. Until today, physicists have continued to grasp the atomic structure, but there is no one structure, there is only oscillation, or flow of energy (Dürr, 2011). Remarkably, it is 'hard' sciences which come to the conclusion that everything is interconnected, and there is only process and change. So, global disruptions display what has been also acknowledged by quantum physicists: in any moment the world can change and be created afresh. Stability is an illusion.

In socio-economic sciences, the notion of interconnectivity has been adopted to explain the creation of innovation. For example, from the organisational perspective Nonaka and Takeuchi (1995, 2004) propose in their well-known Knowledge Creation Model dynamic learning systems of innovation. They argue that a dynamic interaction of converting explicit and tacit knowledge held by individuals, organisations and society is necessary to allow creation of new knowledge and innovation. On the one hand, the organisation is stimulated by the environment, for instance, the market competition may force an organisation to discover and mobilise knowledge 'on the spot' (Nonaka and Takeuchi, 1995, pp. 28-30). On the other hand, Nonaka and Takeuchi (1995) highlight the importance of self-organisation and the socialisation phase, i.e. sharing of tacit knowledge in the social interaction at the individual and group level. Etzkowitz and Leydesdorff (2000, p. 112) argue in their Triple Helix model that the interrelations between governments, businesses and universities need to be fostered in order to optimise conditions for innovation in society. The enhanced role of knowledge in the economy and society is highlighted as it "implies an endless transition", and dynamics which "are not expected to be stable", metaphorically expressed by the 'Triple Helix' (Etzkowitz and Leydesdorff 2000, pp. 112-113). In these university-industry-government relations, universities act as sources of new knowledge, business produces innovative products and services, while government provides the legislation foundation (Etzkowitz, 2003, p. 295). In practice, following the MIT-model, universities are trying to nurture reciprocal cooperation with business, i.e. universities provide knowledge, knowledgeable students and professors for working on innovative ideas, while in exchange, business provides monetary and technological funding alongside the state. At the same time, the state forces administrative reforms from universities to cut costs. Arguably, universities should work according to New Public Management (NPM) principles such as accountability, transparency, efficiency, and measurable performance indicators. It is assumed that universities turn into entrepreneurial entities which compete globally with other higher education organisations for students, publications, cooperation with other universities and businesses, private and state funding (Block and Khvatova, 2016). The question is whether everything should be a market? In universities, do students become customers and lecturers cheap labour? Recently, for example, in the UK, the University and College Union has called for

strikes in which lecturers protest against highly unbearable and insecure working conditions (Power, 2016). That things cannot go on as they are has also been demonstrated in Russia: lecturers and students of the elite university in Saint-Petersburg went on strike against the way staff are dismissed and have gone so far as to openly force the resignation of the rector and chief of the HR department (Pivovarov, 2016). The current transition process away from independent towards interconnected institutions shows that the principle of competition and 'who is faster' have been transferred from business to universities and the public sector and looks set to be the dominating driving force for innovative developments. However, it is important to keep in mind that this is not inevitable, it is possible to change interactions and mechanisms because it is an endless transition. Furthermore, global relationships are, for example through technology, expanding and changing over time. Whether university-business-government relations lead to a further stage in their development and innovation for society seems to depend on how well the institutions can balance dynamics and the interplay between differentiation and cooperation.

3. INTERRELATION BETWEEN ORGANISATION AND THEIR ENVIRONMENT

Understanding of what an organisation is has changed over time. In this article we describe the organisation as a social system and refer to system theory in explaining the interrelation between an organisation and its environment. System theory is chosen as the theoretical umbrella because it is characterised by thinking in terms of relationships, which can help to understand the internal and external complexities and turbulence better, can help to identify need for action and to recognise opportunities (Ebeling *et al.*, 2012, p. 89). The stress on relationships and interconnections between elements of social systems is highlighted using the term 'network' in related literature about organisations nowadays. So, all entities between social systems and actors within a system are, more or less, directly or indirectly connected to each other.

Talcott Parsons (1966, 1960) was one of the first to develop the functional relationship between the organisation and the society as a whole from a systemic perspective. Accordingly, the organisation as a form of social systems is embedded in a superordinate social system and achieves its objectives as long as it produces output which can be used as inputs by other actors within the society as a whole, for

instance, by another organisation (Parsons, 1966, p. 17). In times of increasing global competition, the researchers' view has changed from the environment to the system, i.e. from external to internal perspective. For example, Lawrence and Lorsch (1986, p. 187) argued that organisations must adapt their structures according to changing environmental conditions in order to be efficient, and raised the question in their contingency theory of how an organisation should change in order to cope effectively with the changing environment by measuring and harmonising the 'goodness of fit' between environmental and organisational variables. They point out that the difficulty in this harmonisation process is the degree of complexity of organisations, while Luhmann (1996, p. 35) came to the conclusion in his theory of social systems that an organisation cannot completely grasp its own complexity, and even less so environmental complexity. Therefore, Luhmann (1996, p. 56) shifts the perspective back from external to internal, referring to the metaphor of organisation as organism and autopoiesis. In other words, the organisation defines itself and determines its environment. Both theories have in common their assumption that there is no universal organisational structure.

We can conclude that organisations are interlinked and embedded in the world system and both inward and outwards views of organisation-environment relations have merit (Figure 1).

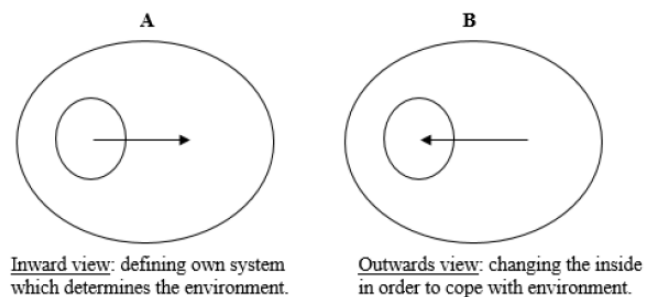


Figure 1: Inward and outwards views of organisation-environment relations.

Certainly, an organisation's structure and organising processes shape its environment, i.e. the organisation "acts". Conversely, especially in times of global disruptions, the pressure of the environment increasingly pushes the organisation to change, i.e. the organisation is more likely to "react".

Ideally, the organisational structure is in flux. This raises the question: how should an organisation act and react efficiently?

Analysis of Organisational Behaviour

As shown by quantum physics, it is difficult to precisely distinguish the parts of one system from another insofar as they are interrelated. It follows that unpredictability remains. On the other hand, system behaviour is determinable, because it runs in patterns and can be determined through simulation of iterative processes (Capra, 1996, p. 156). In this context, organisational system behaviour is influenced by the organisational subsystems and the environmental systems. It is proposed to analyse organisational behaviour from both inward and outwards views of change based on the assumption that an organisation is formed by its environment but is also impacted by the environment.

Inward View

As shown in Figure 2, the organisational subsystems can be distinguished into three spheres: abstract, concrete and, most importantly, interrelations such as communication, knowledge, and financial flows, which all keep the organisational system 'alive'. The concrete sphere is tangible: it can be seen, touched and perceived. The concrete and visible elements (e.g. facilities, employees, technology) are less likely to change the system behaviour critically unless the fact of changing an element causes a structural change as well. On the other hand, the abstract sphere is the head of the organisation and the most invisible part: targets, vision, values, etc. which are concretised down to operational level, having critical influence on system behaviour. For example, the organisational target determines the organisational type (e.g. industry, knowledge-intensive, non-profit).

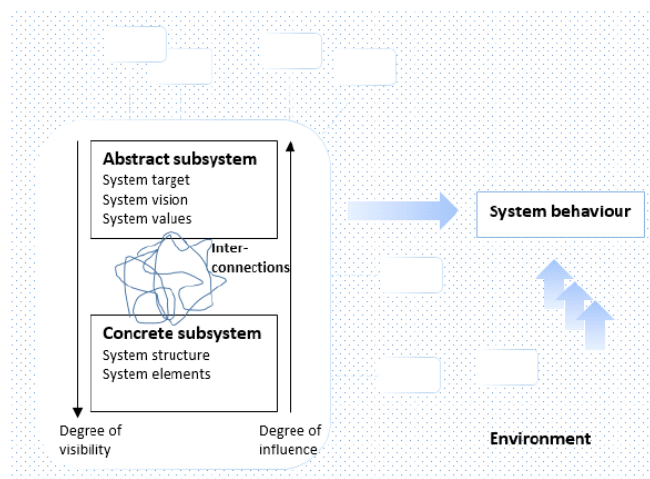


Figure 2: Interrelations between organisational system and environment (Block 2013, p. 50).

The interconnections belong to the third sphere and reflect the core source for creativity and innovation. They relate to oscillations, exchange of knowledge and resources, stimulus for the mind (Block 2013, p. 50). All three spheres are closely connected with and influence each other. Every organisation is therefore at the same time a subsystem of a superior system. Interrelated environmental systems are, for example, competitors, society, technological innovation, and economic situation.

The complexity of an organisation is also taken into account by Gareth Morgan (2006,1986) who proposes gaining better understanding by recognising a metaphor describing the behaviour of an organisation. He argues that the behaviour and thinking within an organisation are based on one or more of the following eight basic metaphors: a machine, an organism, brain, a culture, a political system, a psychic prison, flux and transformation, and an instrument of domination. Understanding the type of organisation is supposed to help managers to develop action plans. This in turn calls for appropriate skills in the art of sensing organisational behaviour in order to remain flexible and develop appropriate action plans according to situations. It is an illusion to believe in ongoing stability, but it is also an illusion to believe everything can be changed easily. As Morgan (2006) points out, the difficulty of containing changes lies, in people and so social systems struggle with leaving the past and old ways behind.

Outwards View

In order to react efficiently, it is important to understand what happens and what the relationships among various influences are. Ideally, the organisational boundaries and structure should be set up for every disruption anew.

In earlier times, companies produced certain products with a long tradition of respectable prices in their region or country, while employing as many people as possible. Then, products were developed in various countries and price wars lead to changes in quality, company bankruptcies, unemployment, etc. The increasing awareness of all actors that they are interconnected has been fostered by global disruptions. So, universities have started to cooperate with firms, and government developed programs which, for example, help firms to integrate new technology and save money. These global relationships among systems are expanding, for example through technology, and are changing over time.

Here, attention shall be drawn to ICT, in particular the internet, given how much it has changed. Today, almost half of the global population is already connected via internet (Internet Live Stats, 2018). ICT has changed our private and working lives significantly. For example, Facebook, which is the most popular social network worldwide, has over 2.23 billion monthly active users, which equates to a 37 percent increase year-on-year (2008-2015). These statistical figures display the extent to which people wish to be, and are, at least technically, connected. In this way, traditional face-to-face communication has been expanded by virtual means. So, it is normal for the generation which is growing up at present, to be constantly with their smartphones and to expect to communicate anywhere and anytime with anyone. Beyond this, anybody could bring forward a message to millions of people through the internet as it has already been used, for example, in the case of the Arab Spring. This is a two-folded development: on the one hand, people can unite and protest against the regime. But similarly, the state or powerful institutions can use digital media channels to diffuse their messages, for instance, politicians may twitter or use Youtube. On the other hand, this interactive communication is only possible as long as it is not prohibited or strongly restricted. Furthermore, user data on the internet are saved for an indefinite period of time and could be used against them at some point in future.

The ICT also has great impact on other fields, for example, in teaching and science. With regard to the latter point, nowadays the professor's status is changing. While a professor or researcher has traditionally been more distant and developed things on q.t.; at present it is more common to create research ideas through interaction with others. So, it can be said that technology has somehow fostered co-creation and is softening rigid structures in science. Examples for such overlapping innovations include Linux, Wikipedia and Coursera. Furthermore, teaching increasingly emphasises the interest of community learning and embedding online and distance learning as well as multimedia.

In the field of organisations, ICT has heralded the way for global interrelations and organisation increasingly into multinational cooperations, partnerships or alliances. Moreover, ICT is essential in order to be innovative, because the added value is provided through distinctive expertise and competencies held by organisations and by bundling and sharing knowledge in order to create innovations

(Castells, 2004, p. 28, Hirmanen, 2004, p. 426). The sharing process of knowledge and information has become essential within an organisation as well as among cooperations, and between other systems.

It can be concluded that it makes sense not only to act globally but also to think globally. We propose to think in terms of global cooperation systems. Such cooperation systems among people of different ages, gender, educational level and social status for equal chance, organisations, and politics globally have become possible through growing communication and interaction with the help of ICT, in particular the internet.

4. INNOVATION AND KNOWLEDGE SHARING CULTURE

Organisations are social systems and they are interlinked with others embedded in a world system characterised by instability. It is exactly the acceptance of instability which offers development and innovation. At the precise point where a system is bound to disperse, the highest ability to change and to create new structures and dimensions is demonstrated. From this point of view, disruptions force organisations to become unstable and re-orientate themselves. It is trust which helps to attain the necessary balance to go ahead: trust in the cooperation of all parts within the organisation and its wider network, and trust in finding the way forward. In this context, the key factor is learning: learning to accept instability and to be responsive to the opportunities it brings. From this point of view, disruptions of any kind provoke instability and dynamics which in turn stimulate creative processes.

Organisations only develop further when learning is possible. As far as environmental changes are concerned, the process of interaction with the environment can be considered as a permanent learning process. The positive way of handling disruptions is through the creation of organisational innovations, for example, in the form of new ways of handling things and routines. How does this work in practice?

An evolutionary learning process for systems is proposed, which can be described by the cycle of phases as shown in Figure 3: disruption, variation (innovation), selection, and balancing.

Evidently, in small and large organisations alike, variations of the traditional way of doing things appear constantly. Often, a new cooperation partner may

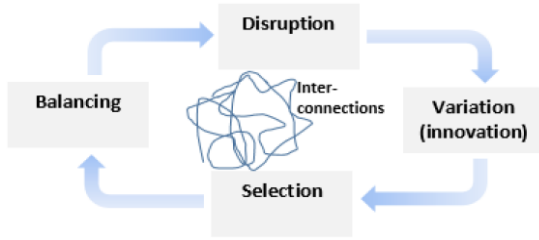


Figure 3: Intra-organisational learning loop.

appear, or a customer may ask for a particular product, or there are new quality norms and standards established by the government, or employees develop ideas on how to improve processes, etc. Certainly, the extent of variations depends on the organisation itself and its openness. One way to foster the creation of variations and innovations is intra- and inter-organisational knowledge sharing, the focus of this article. Sometimes, a bulk of information emerges, presenting too many variations, so that selection becomes necessary, i.e. a decision-making process. Also here, the organisation dictates whether the decision-making process is slow or fast. Table 1 describes features which describe the behaviour within an organisation behaviour with regard to its size. In order to stabilise the innovation developed, there is a need to balance and integrate new routines, structures, etc.

In this article it is assumed that the organisation’s ability to sustainably deal with global disruptions is related to its internal culture and climate. We suggest that the basis of organisational culture is determined by the degree of intensity of disruptions / environmental changes, as well as by the system type of an organisation: open or closed. With reference to Popper (1992), a closed system is not able to communicate, avoids conflicts, dislikes alternative opinions and

disruptions and thus is immune to innovation and progress. Closed systems are failing simply because of their own “stability” which leads to stagnation. On the other hand, an open system accepts instability, takes the risk of trial and error, and is able to learn and reflect. Open systems embed creativity, but also develop critical thinking, which is essential for handling disruptions more effectively and efficiently.

We have identified four distinctive types of culture (see Figure 4):

- **Specialist, expert:** This is a culture that faces few environmental changes or disruptions because of conditions such as working in a niche or being trademarked, but it is creative and innovative.
- **Slow down:** This culture can also be described as a bureaucratic culture and can probably barely exist on the free market. It exists where disruptions are rare, while the system is closed.
- **Conventionalism:** In this culture, control and fighting against instability describe the daily routine. This culture is characterised by control and fear rather than by trust.
- **Knowledge sharing, innovation:** Includes a world of critical thinking individualists who communicate and share knowledge with each other, seek solutions, and see in change the chance to learn and improve. The basic principle of this culture is trust.

Regarding the fourth type of organisational culture in Figure 4, concrete steps on how to handle disruptions through the creation of variation / innovation

Table 1: Differentiation of Features Related to the Size of an Organisation

Features Size	Small organisation	Large organisation
Financial resources	Small	Large
Margin expectations	Low	High
Markets	Small, emerging markets	Large markets
Organisational structure	Chaotic, flexible, small	Systematic, rigid, big
Innovation’s type	Radical	Sustaining
<i>Interconnections</i>		
Knowledge sharing	Flat	Many instances
Decision-making	Fast	Slow
Communication	Flat	Many instances

shall be taken. In so doing, a so-called *knowledge sharing culture* integrated within the organisational culture is proposed. The term ‘knowledge sharing’ has been chosen because it puts emphasis on knowledge held by individuals, on the notion of social exchange between individuals / organisational parts, and at the same time it builds a forthright bridge to the aim of creating innovation while emphasizing the process. The aim of this culture is to sustain the evolutionary intra-organisational learning process (Figure 3) in order to be able to handle and take advantage of disruptions.

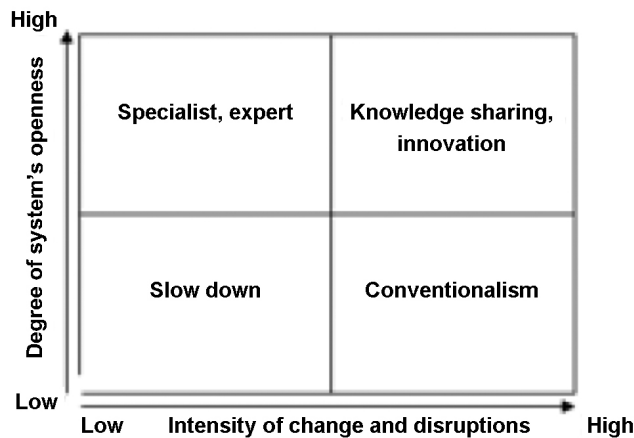


Figure 4: System and disruption model.

Knowledge Sharing Culture

In the literature, organisational culture has been defined in several ways. There is common agreement that culture is about deeply held assumptions, meaning and

beliefs (Martin, 2002; Schein, 1992) which are manifested in practices and specified visible patterns of behaviour referring to the term of organisational climate. Both terms of organisational culture and climate are interrelated and impact on behaviour within an organisation (McLean, 2005, p. 228).

In general, knowledge sharing aims to create new knowledge and also to provide relevant knowledge in the appropriate quality and situation (Block, 2013, p. 187). Furthermore, it is recognised that knowledge sharing processes are strongly influenced by the organisational culture (King, 2007; Janz and Prasamphanich, 2003; Nonaka *et al.*, 2000). If an organisation is consciously putting emphasis on knowledge sharing culture, it underlines the importance of knowledge sharing and innovation themselves. Arguably, a precondition for knowledge sharing and creation of innovation is the managers' support and

conscious decision to develop a knowledge sharing culture.

The proposed knowledge sharing culture, as part of organisational culture, intends to regulate and stabilise activities within a system. We assume that knowledge sharing culture is a result of a reciprocal process, shaped by and shaping organisational members' activities. As pointed out earlier, the internationalisation of shared understanding of abstract subsystems such as vision and values is interrelated with the organisational system structure. For developing an effective knowledge sharing culture, both individual cultural understanding and the formal structure are important to consider, and difficulties in harmonising these can hamper the process. The key question in practice for the management is how to stimulate employees towards innovative behaviour and voluntary participation in knowledge sharing processes? in so far as knowledge is shared and created in the core by individuals, and they in turn act according to their values and norms, it follows that a positive internal vision of knowledge sharing should be developed. This brings us back to the influence of the vision of a system on behaviour, so that an organisation should try to stimulate people with internal visions, wishes and expectations which foster creativity and openness. From this, underlying values of “being creative” and “being dedicated” can be identified. However, it is well-known from history that ideology and loyalty can be used differently and can lead to something negative. Therefore, these values of “being creative” and “being dedicated” should be accompanied by critical thinking, i.e. “being reflective” (Block, 2013, p. 206). Everyone is responsible for their own actions, and this is indeed the heart of being able to think freely and critically.

Knowledge sharing can be understood as a communication process between individuals, groups and throughout the organisation, in which sharing of knowledge is built upon information (Block, 2013, p. 210). Certainly, individuals think and communicate differently and this may lead to misunderstanding. In this context, we referred to the concept of “Open dialogue” in communication (Hartkemeyer, 2005; Buber, 1994). This concept is about learnability and positive attitude towards learning: participants try to perceive and listen to others' views by accepting diversity. This kind of open dialogue could allow us to overcome the challenges which arise when everyone thinks s/he is right through understanding that a single person does not know everything. Furthermore, this concept of communication could help to realise the

value of “listening” and “being able to learn one from another”. On the other hand, learning needs to be learned. Similarly, communication in the form of open dialogue needs to be learned as well. For example, organisations may provide managers and staff with training to develop appropriate skills, and space for dialogue and knowledge sharing in forms of Open space, etc.

Knowledge sharing takes place to a large extent through socialisation processes, i.e. processes of sharing resources belonging to people. An important factor which increases individual willingness to cooperate and share knowledge is trust (Block, 2013, p. 129; Chung and Jackson, 2011, p. 68). In the literature, various kind of concepts and definitions about trust can be found. This research especially puts emphasis on system trust besides interpersonal trust specified on task-interdependence. The latter type of *interpersonal task-related trust* is an important influencing factor for enhancing knowledge sharing and innovative behaviour within an organisation, because trust between the interacting people is a prerequisite for social actions such as knowledge sharing. In so doing, it reduces the levels of intra-organisational control and makes the structure of the system less rigid (Khvatova and Block, 2016; Chung and Jackson, 2011; Levin and Cross, 2004; Quinn, 1979). Generalised interpersonal trust is specific to task-related trust insofar as it gains advantage from knowledge sharing. Besides interpersonal task-related trust, we refer to depersonalised *trust in the system*. Accordingly, system trust relates to generalised trust in the functioning of the organisational system. Especially in times of increasing information flow, increasing pace of changes and expanding organisations in size and globally, a change of the perspective from personal trust towards system trust seems to be crucial. System trust seems to more likely support the learning process of how to trust insofar as it is placed on a higher impersonal level. Regarding the system theory, the organisation itself is characterised by complexity, while the adaptive capacity of the single participant is restricted. Trust represents a mechanism to reduce intra-organisational complexity and could replace interpersonal trust to some extent by introducing other internal mechanisms (Luhmann 2000, p. 59). The system could even require a certain level of mistrust so as not to fall into a routine of (blind) trust accompanied by critical thinking on the individual level.

In this research, “trust” rather than control is proposed as the basic principle for a working

atmosphere aimed at creating new knowledge and innovations. Employees should feel confident and trust that they are treated adequately in times of disruptions, that mistakes may occur and are a way to improve, and that their knowledge, which may lead to innovations, will not be used against them. On the other side, managers should trust subordinates that they will do their best to finish projects on time, for example, and are dedicated to finding the best solutions for the organisation. For example, if trust is chosen as the basic principle within an organisation, the approach of handling problems by asking “who is guilty?”, when something is going wrong, becomes redundant. In practice, arguing about who is right, who is wrong, who is guilty seems to be a key hindering aspect for any effective handling and leads to spare transaction costs such as time and energy. Instead of seeking who is to blame, would not it be more effective and efficient to ask what happens or has happened and what was the original aim? Furthermore, trust compensates for uncertainty, therefore costs of control mechanisms could also be saved. In this context, building up long-term relationships with employees can be rational for organisations (Block 2013, p. 216).

Both interpersonal task-related trust and system trust complement each other: effective handling of disruptions and innovative behaviour presumes a differentiated system in which people trust; effective knowledge sharing process requires interpersonal task-related trust by both the knowledge provider and knowledge seeker.

An organisation could use Morgan’s organisational metaphors technique to understand the status quo of how employees and managers see the current picture of the organisation’s culture. Similar to Morgan (2006), it is argued that a metaphor, or rather, internal picture creates windows into the soul of the organisation and people, and allows us to understand how staff perceive the organisation and also imagine the organisation in different scenarios. So, people could create a metaphor for knowledge sharing culture as part of the organisation’s culture. In this context, it is important for managers to “listen” carefully and see where potential problems lie. This process requires a trusting atmosphere so that everyone feels comfortable about sharing their thoughts and ideas aloud. In a working atmosphere with a dominant knowledge sharing culture, people can push each other to achieve greater things, and competition or having a rival can be useful as they drive us to the limits of our ability and to work and better. It is important to give staff such an

opportunity and allow them to develop their own strengths and direction.

5. CONCLUSION

Things change whether we like it or not; things do not continue for a long while as they are with no difference. Each person perceives change differently: what may stimulate one person can terrify the next. Furthermore, people also differ in their ability to deal with the uncertainty brought about by change. Change is about what is happening around you and you must constantly review both your internal and external environments, which may have influenced you and your organisation. While change will always exist, it is the tremendous pace and scale of its consequences which have influenced societies, economies, organisations and people's lives all over the world over recent decades. For example, the means of communication and pace of connecting with each other has dramatically changed with the development of ICT.

This research suggests that organisations can master survival and take advantage of environmental disruptions by first accepting the instability and then developing an internal knowledge sharing culture which enables the organisation to act and react appropriately and ideally enables organisational boundaries and structures to be developed to face every disruption anew. The bonding and balancing elements are openness and trust in the system, in finding the way forward and on process level interpersonal task-related trust among participating actors. Yet, despite the global interconnectedness and its influence on an organisation, the organisation defines itself and its own boundaries in relation to its objectives for organisational success and sustainable competitive advantage and thus, at the same time, shapes its environment. As pointed out in this article, disruptions

embrace both high risk and high chance and some organisations are more likely to take advantage and be innovative in the future than others. Based on the present analysis key features of both the effective global organisation and restrictive organisations can be drawn and are represented in Table 2. These features determine an organisation system behaviour and its learning ability to effectively handle a fast changing environment.

Another result of this research is the culture model of an organisation, which can be used to identify the dominant culture in one's own organisation, in terms of the intensity of disruptions / external challenges and the type of system. This framework encourages managers to reflect on the relationship between the culture and the learning ability, so as to handle disruptions and external challenges effectively. Managers are encouraged to be more aware of a knowledge sharing culture to stimulate innovative behaviour within an organisation.

Nowadays, organisations and people still hold on to the principle of getting more and being faster than others. In the context of a world which is characterised by fast changes and an increasing number of global conflicts, connectedness seems to be becoming more and more relevant, as it enables reciprocal sharing, understanding and better definition of where we should go. Current challenges raise awareness of the increasing meaning of connectedness and cooperation on a global level. On the other hand, it is possible to redefine the goal, for example, to work towards cooperation instead of separation, and to change the manner of interactions and attitudes accordingly.

This research is a conceptual paper combining different theoretical approaches and proposing a

Table 2: Key Features of Effective and Restrictive Organisations

Features	Effective organisation	Restrictive organisation
Basic Principle	Trust	Control
	Accepts instability	Fight against instability
	Ability to learn	Knowing everything
Method	Trial and error	Blaming, avoiding mistakes
	Critical thinking	Being right
	Fosters creativity and openness	Keeps hold of well-known, unable to let things go
Objective	Connectedness and cooperation	Separation and control/command
Culture	'Alive' knowledge sharing culture	Conventional culture

system and disruption model for organisations, suggesting a knowledge sharing culture to take advantage of the fast-changing environment. The findings of this study are not free of limitations. First of all, the models and framework of knowledge sharing culture developed have not yet been empirically proven. Therefore, an interesting possibility for further research could be to test the proposed models empirically. Moreover on the subject of potential further empirical study, it is worth investigating the question of how to measure 'soft' variables such as trust and critical thinking. The scope of this study is very broad and as such it was not possible to analyse each component of the model in detail. Future studies could investigate the proposed models more specifically and explore in more detail how to use it, for example, developing a practical guideline for managers. Another potential avenue for future research could be an in-depth study of organisations, comparing them based on the suggested features of effective and restrictive organisations and results to enable more meaningful classifications of organisations.

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