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Managing ambiguity in business. A holistic and innovative approach

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Abstract. *This article will look at the hurdles of dealing with ambiguity and the wicked problems that organizations are struggling with, by providing key insights from a one year team coaching program that the author had the opportunity to deliver in a Romanian entrepreneurial organization. Based on the actual methods used and highlighting the findings and impact of the program, we will reflect on how ambiguity manifests in organizational settings and how wicked problems can be defined. The methods employed are within the range of complexity science and are holistic approaches to systemic interventions within organizations that combine soft systems methodology, paradoxical theory of change, complex responsive processes approach with important concepts from systems thinking such as archetypes, feedback loops and modeling. One of the key objectives of the article is to reunite different academic approaches and link them to a case study as a way of adding value to these approaches and to reiterate that research needs, to find its rightful place in the practitioners' toolkit and have a more meaningful and direct impact on the real struggles that business is faced with. The author's expertize in systemic interventions is based on extensive practitioner experience, having been trained and certified as a systemic coach and facilitator, and therefore draws upon the work of other skilled practitioners that support companies in finding successful ways to address complexity. Although the article can be easily put in the complexity science and systems thinking area of academic interest, the research questions and insights are intended to serve the learning and the evolution of organizations.*

Keywords: ambiguity, complexity science, soft systems methodology, mental models.

Introduction

Given the rise of complexity in our everyday lives, it was both convenient and necessary for the ex-military term VUCA (Volatility, Uncertainty, Complexity, and Ambiguity) to be largely adopted in the business day to day language as a way to express in one word how the world works. In a hyperglobalized world (Peterson Institute for International Economics - Arvind Subramanian, Martin Kessler, 2013) complexity, uncertainty and volatility are natural consequences of the high levels of interconnectedness between all systems - economic, social, political, and ecological. (Otto Scharmer, 2013)

According to the World Economic Forum reports, "We need systems that will adapt their functions and responses to the respective events as they happen. In other words, we need to adapt our systems to be maximally resilient in a dynamic and unpredictable world." (World Economic Forum's Global Agenda Council on Complex Systems, 2013). In such an historic moment for humanity, when we are getting closer and closer to the "ex-futuristic" concept of becoming a global village (McLuhan, 1962), complexity science and systems thinking need to serve the overarching aspiration of building resilient adaptive systems by better equipping leaders to address the by-products of volatility, uncertainty, complexity and ambiguity – what is generally referred to now as wicked problems (Churchman, 1967).

DOI: 10.1515/picbe-2017-0090

This article is intended to look at the wicked problems of dealing with ambiguity and plans to deliver insights of "what works" by successfully blending concepts and theories from different schools of thought with applied methods and the key learning points from a real business case. A foundational assumption regarding ambiguity is that in order to be addressed it needs be made specific and relatable to the reader. The follow up assumption is that by making the content easy to relate to, the article will increase the overall understanding of the phenomena and that will have the intended consequence of making ambiguity more manageable in the eyes of the reader.

Literature review

Most often organizations experience ambiguity as having a problem with no clear solution, situations where educated forms of enquiry fail to pinpoint the root cause. In an article published in the Harvard Business Review, ambiguity is defined by the cases when the causal relationships are completely unclear (Nathan Bennett, 2014). In the same article the authors propose tackling ambiguity by experimenting with hypothesis and testing those hypotheses. A sound advice, that rarely gets put into practice because the very essence of experimenting and testing hypothesis starts off by increasing the level of ambiguity and after some time – which in systems thinking jargon is called delay, has visible effects and more clarity is obtained. Being such a counterintuitive move which involves some resources spent without necessarily having an immediate visible improvement, a lot of companies tend to want to take the shortcut and adopt quick solutions for the immediate visible problems.

Reality and extensive literature in the field of systems thinking, show that companies tend to cluster symptoms into "problems" and then attempt to apply different solutions called fixes (Wolstenholme, 2004). Applying fixes - short term solutions to alleviate the effects, might reduce or alleviate the symptoms for a short while, but results in shifting the burden of addressing the root causes to a later moment or to a different stakeholder/system actor. (Wolstenholme, 2004).

Unfortunately, in the case of wicked problems with no clear causal relationships, there are at least two factors that contribute significantly to companies staying unaware of the systemic pattern, making the root cause more difficult to define and therefore making the quick fixes more salient in the eyes of the management. The two factors are linear thinking and skilled incompetence – both to be discussed further on. The impact of both factors is reinforcing the belief that a quick fix is necessary in order to contain the symptoms and prevent them from getting worse – which of course traps the leaders into the vicious circle as presented in the figure below. (Wolstenholme, 2004).

When dealing with ambiguity the first pitfall for all humans concerns the difficulty in thinking about the interdependent nature of systems and the circular pattern in which everything is both a cause and an effect. We rather apply a linear and reductionist logic by breaking the system down to smaller parts in an attempt to decrease complexity and have more control it. (Bosch, 2014). The assumption behind the reductionist approach is that whatever is demonstrated to be working for the specific part will be applicable and will work at a system level. However, that is far from the truth about how systems work.

Understanding that systems thinking deals with organized complexity (Monat, 2015) is one step towards moving away from ambiguity, reassuring leaders that there is a set of

principles governing the systems and that even though the interdependent nature relationship between problems and their cause is indirect and not obvious, we are essentially creating our own problems which means we also have a significant influence and power in solving them.

Each of us relies on his unique mental model to perceive, interpret, and react to the outside reality. Both the ICEBERG model and the LADDER OF INTERFERENCE model (Senge, 2006) provide a solid understanding of how mental models can be explored and how they operate under the surface of our actions. Ultimately both models show how our assumptions, beliefs and values about the world get translated into what we feel and think about what is happening around us and ultimately inform our choices and our actions.

Revising what we believe to be true about how the world functions means that we change how we respond to existing patterns, existing events or how we relate to different actors within a system. This produces a reaction in which the system and its actors adapt to our feedback – which typically means a change in behaviour and in dynamic. This concept is articulated in Stacey's complex responsive processes theory (Stacey, 2011) that suggests thinking about organizations as interrelated processes in which individual responses in the present moment are the driving forces behind individual and organizational transformation.

Wicked problems are difficult to acknowledge because their cause is indirect and not obvious and because sometimes our own mental models might refrain us from seeing it for what it is. The risk is that when this gets enacted in organizations, the burden for a sustainable solution gets pushed into the future or gets attached to a subsystem or a person seen as responsible for the "problem" which in systemic practitioners call Scapegoating (Whittington, 2016). This alleviates somewhat the discomfort, might even mask symptoms or produce some short-term results, but most of the times the future of the company depends on the actual root cause *system*: a paradigm, culture, environment, or set of attitudes that yield the specific identifiable causes (Monat, 2015), being seen and tackled successfully – as was the case of Nokia.

A valuable insight that will be useful when looking to understand the business cases of the Romanian entrepreneurial company is that it is easier to spot how ambiguity gets missed and wicked problems get "shoved under the rug" then of becoming aware of it per say. The residual traces of ambiguity and the sign that wicked problems are not being addressed are patterns like Shifting the burden. Here it is interesting to note the Black sheep phenomenon – a project, person, product who takes a lot of negative attention that exists, Ejector seat syndrome, Scapegoating (Whittington, 2016).

Methodology

This article is set out to deliver useful insights from a systemic coaching program about how to approach ambiguity and wicked problems. To achieve its goal, the paper has three specific objectives: (1) presenting a practical way for organizations to recognize they are in fact dealing with a wicked problem (2) defining a set of principles for addressing the wicked problem (3) offering one possible answer to the question "Can a wicked problem be successfully addressed without some sort of realignment or change in the mental models of people?". For a better understanding of the topic, real outputs from the coaching program

will be used. Due to the confidentiality agreement, all names of people and the name of the company are fictive.

In an effort to understand the *As is* reality for the company, the systemic mind mapping method was applied. The method invites people to represent their internal image (mind map) of a system by placing objects representing people, concepts, and ideas in relation to one another. A similar approach can be found in the soft systems methodology as Rich picture building (Checkland, 2000). In the practitioner literature, this method is described as a constellation (Klaus P. Horn, 2009) or a table top constellation (Whittington, 2016). Regardless of terminology, a systemic mind map is an attempt to address the complexity of multiple interacting relationships (Checkland, 2000) with the purpose of having more information about the system, information that then can be used to formulate hypothesis about the systemic patterns, leverage points and root causes.

The company was founded in 2008 and was initially an NGO who wanted to connect resources among different student associations. In 2013 it changed its name and redefined its services and started proving an educational framework in which they connected practitioners from different field such as sales, IT with students searching for a more applied education. Since then the organization became popular among students and managed to transition from an NGO to a thriving business. In 2015 the author was invited in her capacity as systemic coach and organization consultant to deliver a coaching program for the management team. The team consisted of 8 permanent members among which was one of the founding members and 4 people with 1 year mandates and were selected from the students to be part of the core team and contribute to the design of the learning journey. The initial conversation it was largely agreed that the team dynamics was difficult, that results for that year were lower than all forecasts and that they struggled to have enough money to cover the cost of personnel.

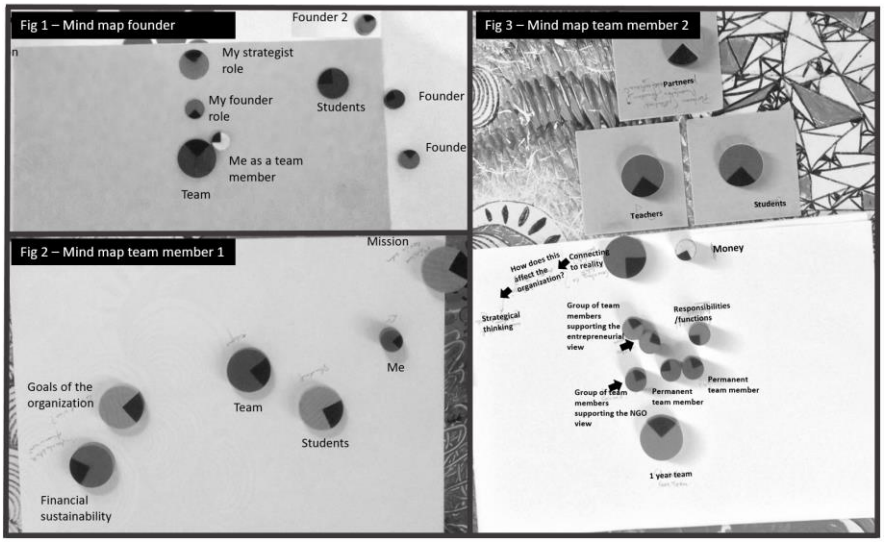

Figure 1 **Systemic mental maps of 3 of the team members**

Source: Authors' own research.

It useful to mention that while applying this method, similar conditions have been created for the mind mapping process. Every member had the same amount of time for

building his/her map, all members were asked to imagine that a white sheet of paper represents the Inside of the organization and whatever is outside the white sheet is Outside the organization. All the members were asked the same question – What are the most important elements that define your organization? Start with the 3 most important and put them in relation to one another. After having the first elements represented each person had the freedom to represent his/her own representation of the organization in a way that reflected their own perspective. Key phrases representing quotes from each person interviewed were written down and along with the picture with the systemic mind map, every member got a written brief of important his/her own reflections.

Results and discussion

In dealing with wicked problems wrapped in ambiguity gathering information is essential. The first step in exploring such issues needs to be a divergent exploration with the attempt of having an inclusive systemic big picture. The second step is organizing and clustering the information into either hypothesis of what might be the root cause system might be or an attempt to describe a systemic pattern whether reinforcing or balancing (Senge, 2006).

Applying the systemic mind mapping four types of information are becoming available: (1) individual reflection – people articulating in their systemic mind maps their understanding of the symptoms (2) observer's reflection – the systemic facilitator's observations on the individual systemic mind maps (3) systemic reflections that arise out of the overlapping and correlating the mind maps with other information (4) the feedback of the whole team as a result of the findings. In the words of John Whittington, in a system "everything is information". (Whittington, 2016)

Table1 presents the frequency with which elements represented in the individual systemic mind maps appear within a cluster – the cluster being members with the same level of seniority within the team. The rows colored indicate the outliers – elements who were mentioned just by one person from the 12 interviewed. For example, the first element in Table 1 - *The permanent team* appeared in 5 mind maps of all 5 founding team members (100%), where as in the case of the 3rd generation team it appeared in 2 out of 3 maps (67%)

Table 1. *Frequency of elements in the individual systemic mind maps clustered on seniority*

Elements represented in the systemic mind maps	**Founding team (5 members)**	**Founding team %**	**3rd generation team (3 members)**	**3rd generation team %**	**1 year team (4 members)**	**1 year team %**
The permanent team	5	100%	2	67%	4	100 %
1 year team	2	40%	2	67%	0	0%
Founder 2	3	60%	1	33%	1	25%
Founder 4	2	40%	0	0%	0	0%
Founder 1	2	40%	3	100%	1	25%

Founder 3	2	40%	2	67%	0	0%
Responsibilities/Roles	2	40%	1	33%	0	0%
Financial sustainability	2	40%	1	33%	2	50%
What we do for whom	2	40%	1	33%	2	50%
Our mission	2	40%	0	0%	1	25%
Teachers	2	40%	3	100%	0	0%
Students	4	80%	1	33%	4	100 %
Partners	2	40%	2	67%	0	0%
The way we do things	1	20%	0	0%	0	0%
Appraisal / gratitude	1	20%	0	0%	0	0%
Business unit (Black sheep)	0	0%	1	33%	0	0%
Something blocking us	0	0%	1	33%	0	0%
Treating the effect, not the cause	0	0%	1	33%	0	0%
Former teams	0	0%	1	33%	0	0%
Feedback	0	0%	0	0%	1	25%
Students with 3/4 years in the organization	0	0%	0	0%	1	25%
Values	0	0%	0	0%	1	25%
Something that we are missing	0	0%	0	0%	1	25%
Pressure	0	0%	0	0%	1	25%

Source: Authors' own research.

By putting together both individual reflections and the observer's own reflection there are more than several indications of a wicked problem and clear indication of people understanding that there is something not right in the organization but had difficulty articulating the causes. Key elements represented in the mind map are the first important step in recognizing that the organization is dealing with a wicked systemic issue (that comes from past solutions/events/people) and have a long-lasting effect in the present. In this case people, have used very intuitive terms to describe the ambiguity – something that we are missing, something blocking us, treating the effect and not the cause and also referred to symptoms: pressure, feedback, appraisal/gratitude, the way we do things around here. Another key insight was regarding the lack of clarity around who is part of the organization and who is not, what is inside the organization and what is outside of it.

The observer's own reflections included key observations regarding the presence of typical red flags such as Scapegoating - one of team members worked remotely from another country and could feel the pressure of "not performing" and being scrutinized; one of the founders was asked to leave and one of the 1 year team members quit all within 2 months – both having been perceived as "not performing". The observer noticed a nuanced form of Shifting the burden, coined in group dynamics literature as Hot potato

(Hinshelwood, 2013) – something that gets tossed around – in this case the pressure to obtain the money needed for the sustainability of the business. Another potential red flag of wicked problems is the Acutization of symptoms – which can be described as a period with a lot of disruptive or less than ordinary events in an organization's life such as people leaving abruptly. As a rule, one needs to spend more time observing the outliers – a concept that is already applied in business as Managing by exception where attention is given to the issues bubbling up (deviate from the norm).

Another key information to having a confirmation on the existence of a wicked problem are the fixes that were attempted before and have failed. In this case, the team had attempted another coaching program that was not followed through – being terminated quickly and an attempt to get external consultants, that again did not manage to deliver results and not because the consultants did not tell them what to do, but rather because the team did not react and did not implement any of them.

By paying attention to the outlying elements present in the mind maps, there is a correlation between people with most experience of working in the organization and their ability to recognize and acknowledge the presence of a wicked situation. This is consistent with Chris Argyris's description of skilled incompetence. Out of the 11 outlying elements, 80% were indicated by the members that were last to join the core team. Out of 12 members of the team, 5 were part of the founding team – the very first team that was created (Group 1), and 7 had no more than 6 months of service in the company when the systemic mind mapping was done (Group 2).

Another key insight is that Group 2 might have more awareness around the existence of problems (symptoms), but they lack the depth and understanding of the history and background of the organization so they cannot formulate hypothesis around the root causes of the symptoms. On the other side the core founding team lacks awareness in having a wicked problem and selectively sees pieces of information that match their need to maintain control and predictability – a concept widely used and described as confirmation bias. (Nickerson, 1998). In an effort to maintain their own understanding of the current reality while saving face, the burden gets shifted unconsciously to the new comers or people seen as "under-performing" who are blamed for the problems and as a result their stepping down or removal from the team is seen as a remedy.

Conclusion

The way people respond to events in reality is largely based on their mental models. With time people tend to synchronize their mental models with the way the system works and that is primarily what "becoming part of an organization" represents. Based on the mental models and the larger systemic structure, they develop a unique way of operating within the system. Their mental models still inform the saliency of information – what is relevant for them but the system underlying structure informs the way they organize that information in a way that provides meaning. So, if my mental model informs what I am easily aware of and what I tend to miss (blind spot), the systemic structure is how what I become aware of is interconnected and forms a coherent picture of whole system that I am part of (the inner representation of the system – the systemic mind map). So, while the mental model remains largely the same, the systemic mental map of people forms and adapts to reflect the structure of the system. The reverse is also true – systemic structures

are changed as a result of people having a different perspective and understanding of their relation to the structure of the system which is usually the result of conscious efforts to understand and readjust the system's modus operandi to match the mission, vision and values of a company. This means that each person is an agent for change in a system and although one person can begin the "revolution, for systemic structures to be changed more people need to start seeing things differently and work actively towards having a common understanding of what their desired structure needs to look like and the take action to reflect that new emergent structure into real life.

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DOI: 10.1515/picbe-2017-0090, pp. 843-851, ISSN 2558-9652| Proceedings of the 11th International Conference on Business Excellence