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Chapter

Promoting Curiosity, Creativity and Clarity in Management Education

Christian Walsh

Abstract

In order for management education to move beyond the analytical thinking of the last century to promote creative thinking more appropriate for today’s organizations we need to build new courses that allow for organic flexible approaches to building diverse types of knowledge. We need to nurture student curiosity and encourage them to delve deeply into unknown fields. By approaching problems with curious humility they can begin to understand the nuances of tensions and trade-offs that exist at the heart of complex issues. We also need to unleash student creativity and support intelligent generative failure in order to learn. They need to learn the skills of experimentation in order to test ideas in uncertain contexts. We also need to promote clarity of purpose and communication that will enable innovation to be implemented and have positive impact in the world. In this chapter a new process model covering each of these aspects is described along with an illustrative example of how this has been applied in a redesigned MBA course over the last 5 years.

Keywords: curiosity, creativity, clarity, education, innovation, management

1. Introduction

Creativity has been repeatedly identified as an important factor in the growth and development of organizations and society as a whole, yet is a complex and difficult subject to examine and understand [1]. Managers and leaders of modern organizations need to be able to facilitate creativity and innovation in uncertain environments. Taha et al. [2] said, “creativity is seen almost as a prerequisite to manage change and renewal, it is a key skill for leaders and organizations” (p. 1921). It has been said that creativity loves constraints [3] and so at a time when many organizations feel under increasing pressure and constraints seem aplenty, creativity offers one means of relieving some pressure and navigating an uncertain future. Yet creativity alone, generally defined as the generation of novel and useful ideas [4], is not sufficient. This is because novel and useful ideas by themselves do not create and capture value for a business, its stakeholders or society. In order to do this creative ideas need to be implemented in practice and in so doing become innovation [5]. In the words of Robinson [6], noted for his work on creativity in education, “Innovation is applied creativity”
Creativity (p. 142). Creativity itself can be viewed as a process [7] and is clearly an essential part of innovation, but it is just one part of a broader process. In order to help managers and leaders get the most out of creativity, particularly in challenging times, we need to do more to help them understand both the process of creativity, but also how this is applied in practice and therefore how it relates to the broader process of innovation.

Most management education, including MBA programmes, still focus on discipline specific knowledge, largely developed through analysis that draws on theories that were created in the relatively stable environments of the last century. Today’s managers and leaders face more turbulent environments and so need to develop skills based on synthesis, creativity [8, 9], experimentation [10], and learning from intelligent failure [11–13]. Walsh and Powell [14] said, “solutions to the wicked problems offered in contemporary society require creativity and innovation—aspects that may be difficult to incorporate into the curriculum of a functionally oriented MBA programme” (p. 150). More creative approaches to modern management education are therefore required.

In order to educate managers and leaders to have a better understanding of creativity and innovation we need to first look upstream to what enables creativity. Creativity within organizations is notoriously stifled when restrictive organizational culture does not support, or even suppresses, novel thinking. Such cultures do not encourage questioning the status quo, itself defined as a key factor in encouraging innovation [15]. An inherent assumption that we know what we are doing and we have done this before is ultimately what can spell trouble for organizations when they encounter volatile, uncertain, complex or ambiguous situations (VUCA) [10]. The thinking and approaches that were successful in the past do not necessarily translate to success in the future in such conditions. One of the key attributes or mindsets that enable organizations to better navigate these conditions is curiosity [16]. Having an open and enquiring mind enables people to challenge long held assumptions that come under strain when conditions change. Simply asking why is sometimes seen as challenging authority but is more often a sign of healthy curiosity. Asking such questions enables people to discover what sits beyond the obvious and brings new understanding. Nurturing curiosity in organizations is necessary for enabling more creative and ultimately innovative solutions to wicked problems.

Similarly we also need to better understand and educate managers on how to apply creativity in order to drive innovation. In other words how to implement creative solutions in order to create and capture value. Successful innovation rates continue to remain low and frequently it is this implementation link that is the major barrier [17]. A mindset that helps enable implementation of creative solutions is clarity [16]. Having clarity of purpose and being able to communicate this succinctly makes it much simpler for others to understand the relevance of any innovation for them and therefore decide when to support the change. Again this becomes more relevant in VUCA environments because implementing change in new situations often involves drawing resources from beyond an organization’s current asset base. Being able to draw on open approaches to innovation and form mutually beneficial partnerships are often required [18]. As a result designing for implementation should be considered an essential element of the innovation process, rather than something that is carried out afterwards, as with many current innovation process models. Again this is something that is enabled by clarity.

This chapter will first look into curiosity, creativity and clarity in further detail including their relevance for leaders and managers. It will then bring them together to
describe an overall innovation process based on phases of discovering, understanding, creating, testing, resourcing and implementing (DUCTRI). An illustrative case will then describe how this process has been fruitfully deployed and refined in an MBA course over the past 5 years.

2. Curiosity

“Around here, we don’t look backwards for very long... We keep moving forward, opening up new doors and doing new things because we’re curious... and curiosity keeps leading us down new paths”—Walt Disney.

Curiosity has been described as being essential for human learning and achievement. As broadly defined by Kashdan et al. [19] curiosity is “the recognition, pursuit, and desire to explore novel, uncertain, complex, and ambiguous events” (p. 130). In order to help leaders and managers get curious about curiosity, recent research suggests there are five distinct types of curiosity [19]. Firstly there is the pleasurable experience of discovering something new and finding it intriguing. This is referred to as joyous exploration. This is where people have a love of learning and are generally fascinated about new things. While this aspect of curiosity is therefore associated with positive emotions, the next is more closely associated with negative emotions. This second type of curiosity is known as deprivation sensitivity. This is the sense of frustration caused by the awareness that there is something unknown that is desired to be known. Here people may be annoyed or anxious until they are able to resolve the information gap. The third aspect of curiosity is stress tolerance. This is the result of first noticing that an event is new in some way and worthy of attention, but then being able to cope with the stress associated with navigating the potential uncertainty. The fourth type of curiosity is the reverse of stress tolerance, where rather than just tolerate this stress people actively seek it. This is referred to as thrill seeking and is where the arousal from a novel situation is not something to be reduced but instead is amplified and what makes the situation desirable. The fifth type of curiosity is social curiosity. This is where we are seek information about other people and enables us to empathize with others. This comes about in two ways. Firstly through direct interactions with others we satisfy overt social curiosity to find out about others. And secondly, by indirect means we can have covert social curiosity which is most often used as a means of building self-esteem by comparison with others.

Research into curiosity in organizational settings has found that increased curiosity in an organization leads to greater levels of creativity and innovation [20–23]. But it also supports better decision making, reduced conflicts and allows more open communication [24]. However, while the benefits are well established, organizational culture still often gets in the way. One study found that while 83% of executives say they encourage curiosity, only 52% of employees agreed [25]. Gino [24] suggests that two key reasons for this is that leaders think allowing employees to follow their curiosity will make the organization harder to manage. And secondly, particularly established managers tend to focus on efficiency improvements rather than exploratory efforts. Similarly Kashdan [26] suggests that to encourage greater curiosity in organizations managers need to encourage rather than suppress questions internally, emphasize user observations rather than relying on customer surveys, and actively seek different perspectives when making decisions.
Creativity

3. Creativity

“Making the simple complicated is commonplace; making the complicated simple, awesomely simple, that’s creativity”—Charles Mingus.

In helping leaders and managers think about creativity as a process we can look back to a very early model of creativity which was proposed by G. Wallas [27] which was based on his analysis of the thought processes of physicist Hermann von Helmholtz, mathematician Henri Poincaré, and several other artists, when generating their significant new works. He identified four common phases they each went through and described the psychology of each phase. The first step was described as preparation, where an individual focuses on the problem at hand and builds conscious knowledge based on what currently exists in the field, leveraging curiosity. Secondly he suggested there is an incubation phase during which the problem is internalized and the subconscious works on the issue for some time. This is often the most difficult to allow for in organizational settings where time pressure is ever present. But when seeking creative solutions to wicked problems this is a key reason not to rush the creative process. It takes some time for the subconscious to process and create novel connections. Then there is an intimation or feeling that the solution is near. The third phase is the illumination where the creative solution is forthcoming to the conscious mind. Finally then there is a verification phase where the solution is checked, tested and modified by the conscious. This model of the creative process has stood the test of time and while there has been some debate over the nature of some of the elements remains one of the standards in the psychology of creativity [28].

Another model of creative thinking that is helpful for managers and leaders is based on divergent and convergent thinking. In 1950 in his address as the President of the American Psychological Association, J.P. Guilford decried the lack of studies scientifically examining creativity stating that such neglect was appalling given the importance of creativity to societal wellbeing [29]. He went on to develop a model of intelligence in which he identified divergent production, or the ability to generate multiple options, as a key operation in creative ability [30]. This is then coupled with convergent thinking where we make decisions on a range of options. Basadur et al. [31] proposed a three stage model of the complete creative problem solving process in which each stage consists of a divergent-convergent thinking pair. The three stages are problem finding, problem solving and solution implementation. This inclusion of implementation in the process means by current definitions we would refer to this as innovation. Again in organizational settings there are challenges particularly in encouraging true divergent thinking. Management education has something to answer to here as most subjects and disciplines have been dominated by analysis and theories which help managers narrow their options and make decisions with the information they have, which is classic convergent thinking. Most managers and leaders then have spent much of their careers in convergent thinking modes at the expense of divergent thinking. Management education can learn from arts based education [14] and needs to encourage tools and techniques to promote divergent thinking.

An alternative creativity process that is also helpful for managers and leaders to understand is creative synthesis [32], which can also be referred to as integration or bisociation [33, 34]. Synthesis comes about when the intersection of diverse fields of knowledge come together to create a new amalgamation that is in itself novel and valuable. Particularly in organizations this has significant implications about the value of diversity and the nature of conflict in the creative process. Having diverse
views, skills and experiences in the organization enables greater creativity because it is when these different planes of knowledge can be bought together is where more creative solutions can result. This is particularly true for wicked problems where if a group all has similar perspectives on a problem they will tend to approach the problem in the same way, and so all get stuck at the same point. By having diverse perspectives involved it often means problems can be approached from multiple different angles providing different ways around obstructions and more creative solutions are uncovered as a result. But managing diverse views can mean dealing with conflict. Creative conflict should be seen as a healthy part of the process and organizations that manage this well ensure that ideas are regularly challenged but avoid it becoming personal [35]. When seeking synthesis, opposing views should be bought together to create unique shared understanding. Again organizational leaders and managers have often been trained out of using synthesis as opposed to analysis. In his influential critique of the formulaic approach to strategic planning and analysis in large organizations H. Mintzberg [36] stated that, “Strategic thinking, in contrast, is about synthesis. It involves intuition and creativity” (p. 108).

In terms of organizational creativity many researchers have been focussed on the apparent tensions between aspects of organizations that may hinder employee creativity, such as structure, direction and predictability, with those that may enhance it such as challenge, autonomy and experimentation [4, 37]. However this notion of structure and creativity being polar opposites is itself being challenged by viewing organizational processes and practices themselves as being dynamic factors that are in a constant state of change over time. Organizational structures and routines that both constrain and enable action are in themselves being created, enhanced or undermined by people’s actions within the organization [7].

Design thinking is a term that has been broadly used to describe a designerly approach to creativity and innovation and is seen as describing a user centric innovation process with phases of inspiration, ideation and implementation [38]. Design thinking has become increasingly popular in industry as a means of addressing complex problems and draws explicitly on many creativity processes. In particular having conscious phases of divergent and convergent thinking are often depicted as a part of the process, including the UK Design council’s well used double diamond [39]. However, contrasting the double diamond to the three stage model of a “complete creative problem solving process”, discussed earlier [31] highlights that the double diamond and many design thinking process do not pay particular attention to the implementation phase. This is a surprising omission due to the fact that implementation is often one of the most challenging parts of the innovation process [17]. Arguably then many design thinking processes could be described as organizational creativity processes rather than full innovation.

4. Clarity

“Mystification is simple; clarity is the hardest thing of all”—Julian Barnes.

Clarity can be thought of in several ways and each have relevance to implementing creative solutions in organizations. Firstly there is clarity of purpose. Dobni et al. [40] state, “no company can escape the fact that present management principles are becoming a less reliable guide to the future. Clarity is essential” (p. 20). An organization or even individual needs to be able to describe exactly why they do what they do.
Increasingly organizations are being called on to define their purpose and articulate their strategy and impact of their operations. When it comes to implementing creative solutions then, clear alignment with purpose is a significant factor in determining the successful adoption of any new change. This is true for both internal and external stakeholders when trying to build support and gather resources, particularly social capital. If others cannot clearly see how a new initiative supports the stated purpose then they are naturally less likely to engage or support it. If however it has clear alignment with the purpose and this is well communicated then gathering support is much more likely. This also assumes that an organization or individual in question has a clearly defined purpose. If not then often a new initiative is a way of exploring and better defining what this should be. A key tool to help in this endeavor is the use of double loop learning [41]. So often both organizations, and the individuals within them, are tied up in execution of their plans, correcting for any errors or deviance from the plan, they forget to step back and check if this is even the right plan to be executing. Discipline specific knowledge helps us become more efficient in doing things right, building skills in solving specific problems faster and improving processes to eliminate waste. But sometimes this focus on doing things right means that we forget to take time to step back and check if we are doing the right things. This double loop learning means having clarity about why we are doing these things and if necessary challenging the inherent assumptions in place.

Another aspect of clarity is communicating the vision for where the solution will take us which is needed to help overcome resistance to change. As described by C. Heath and D. Heath [42], “Clarity dissolves resistance” (p. 72). In order to affect change there needs to be clear direction that people’s rational thinking can see and support. They suggest this comes through showing positive examples of change, as opposed to our natural tendency to focusing on correcting the downside. Alongside this is the need to paint a clear picture of the future state so people can see where this change is leading. There also needs to be a clearly communicated expectation of what specific behavior is required. They refer to this as scripting the critical moves. Resistance to change is often a result of either decision paralysis or decision exhaustion. This may be counterintuitive when generally we think of providing as much choice as possible is beneficial but research has proven that too much choice can lead to people actually opting out of any decision [43]. Alongside these means of appealing to the rational aspects of change they also highlight the need to motivate the emotional drivers for change along with shaping the environment to nudge behavior in the intended direction [44].

5. The DUCTRI model

In response to the need for tools, theories and methods to help people with creative problem solving in uncertain environments design thinking has been widely adopted in industry, and has slowly made its way into many management higher education programmes. Yet many of the existing models that are in use, both in industry and existing management education, do not incorporate the complete creative problem solving process as defined by Basadur [31] and described earlier. The three phases, each with divergent-convergent thinking, should include problem finding, problem solving and solution implementation. While most design process models do a very good job on the first two areas they generally do not include much if any detail on the
final phase. In fact some explicitly stop after the first two phases, for example the UK design council’s double diamond. Given implementation is where so many initiatives fail [17] this is a significant shortcoming. These three phases have some broad alignment with desirability, feasibility and viability that are proposed as needing to each be considered in designing solutions [45]. As with implementation, the viability aspects are often not a significant focus of most design thinking models.

This became apparent when the author was asked to take over a new executive MBA design thinking course which had run for a single semester in 2015. The author ran the course for the first time in 2016 using one of the typical design thinking models of the day. The student feedback from these 2 years was broadly positive about the concepts, tools and methods as used in the course but there was a common question being asked that, yes it’s good in theory, but how do we implement this in our organization? This led to reexamining the tools and models that were fundamental to the course and alongside ongoing research into the mindsets innovators in industry use [16], a large gap was identified with respect to lack of focus on implementation. The author was also not happy with some of the wordy descriptions for the phases that some models employed which needed simplifying. He also felt that the models needed to highlight the mindsets that support each phase in the process, namely curiosity, creativity and clarity as described above. As a result the DUCTRI (duck-tree) model was created, shown below in Figure 1, in 2017 and was used for the MBA class that year. It has been used it as the basis of the course each year with minor refinements in the 5 years since. It has also been used for several consulting projects with industry, and has subsequently been adopted as the core framework for an undergraduate innovation course.

Student feedback is now overwhelmingly positive about this course, the DUCTRI process, and the direct applicability to industry situations. The course was originally an

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**Figure 1.**
The DUCTRI model of creative problem solving.
Creativity

elective but has now become a compulsory course in the MBA structure. Example comments from anonymous student surveys conducted after the 2021 course completed:

“Focusing on the DUCTRI model got me thinking outside the square and looking at things from a less bias (sic) approach.”

“I was not aware of this method. I have realised its value and how I can use and already am using the tools and methods in my work. I feel this course has grown me in my role considerably.”

“Loved the Design Thinking model that anchored the course learning.”

“Going through the DUCTRI process was really useful.”

Given that a design based approach to creative problem solving should have a bias for action [45], the DUCTRI model uses gerunds, the noun forms of verbs, to describe the actions that should be being undertaken in each main phase. It also overlays the primary mindsets that should be nurtured in each phase to enable these actions, namely curiosity, creativity and clarity. These also align with the focus in each phase in terms of desirability, feasibility and viability. The model retains the pairs of divergent and convergent modes of thinking as the process unfolds which creates more options and then makes decisions on these to narrow the focus in each cycle. Repeat is mentioned at the end because while a clean linear process can be explained on paper in execution it is rarely so clear cut and loop backs are to be expected and some phases will inevitably need to be repeated, if not the whole process.

The first phase of the process is where we are discovering as much as we can about the problem, who is affected, their world, the background and context of the situation. In this phase curiosity should be encouraged and tools such as empathetic interviews, ethnography, talking with extreme users, analogous empathy, focus groups, card sorts and drawing with users can all be valuable in discovering as much possible about what is happening. This relies on divergent thinking to explore widely.

The second phase is then understanding what is really going on, making sense of the volume of data from the discovering phase and generating insights into the issues at hand. Again curiosity is the driver and tools such as affinity mapping, empathy maps, developing persona, journey maps, reframing, two-by-two matrices, and defining jobs to be done, can all be useful to help generate insights. This phase engages convergent thinking to ultimately come down to a small number of point of view statements and guiding principles which should be able to capture the new understanding of the core problem.

The third phase is creating where creativity should be unleashed and divergent thinking is employed to generate a large number of options for how the problem could be tackled. How might we statements provide the springboard for tools such as nominal group technique brainstorming, lateral thinking, question storming, five whys, walking for creativity, mashups or working in reverse.

The fourth phase is testing where a sub-set of the range of potential solutions are actively tested to generate further insight and converge on the most feasible solutions. This phase still utilizes creativity where prototyping is used with experimental techniques such as A/B tests, storyboards, wizard of Oz prototypes, role plays and dark horse models may be used.

The fifth phase is resourcing which is a divergent phase because by engaging with open innovation [18] the range of options available for gathering resources, including
economic, social, cultural and symbolic capital are significant. Such approaches include crowd sourcing, crowd funding, strategic partnerships, prizes or competitions, and engaging with incubators. Tools such as business model canvas [46] and pre-mortems [47] should be used to promote clarity and define required resources including fit with existing business models and overall viability.

Finally implementing is a convergent phase where change management considerations should be designed into the solution to enable successful implementation to take place. Again this requires clarity. Tools and models such as the switch framework [42] with the components required to direct the analytic rider, motivate the emotional elephant and shape the path, including nudge theory [44] and behavioral insights [48], help with this phase.

As with any theory, tool or model it is important to acknowledge its limitations. The DUCTRI process is well suited to complex or chaotic problems where cause and effect relationships are unknown, difficult to untangle or have complex interrelationships. The process does take time and effort particularly in the early stages to try and get to the deeper understanding of these causes. So in situations where the cause and effect relationships are well understood then this may be an inefficient process to solve those types of problems.

5.1 An illustrative case

In order to encourage curiosity and diversity in class projects the author employs a method called the project marketplace [49] where all students pitch a problem they are passionate about to the whole class prior to forming project teams. The class then all vote on the problems they are most interested in helping solve and groups form around the most interesting problems. During this process in the 2021 MBA class, one student who works in diabetes health pitched a specific problem from her experience that many people when diagnosed with diabetes suffer from avoidable complications due to treatment inertia. Simply put, they delay treatment of the condition and often suffer irreversible damage to their health because of this delay. A number of her classmates were also curious about this problem and so a group of four students with diverse backgrounds including education, marketing, emergency services and health, formed around the problem.

They started by discovering as much as they could about this issue. They engaged in empathetic interviews and spoke with healthcare professionals, diabetics, members of the public and a close contact who had a chronic health condition but not diabetes. They delved into exiting research and data on diagnosis and treatment rates. In total they carried out 51 interviews and gathered 297 individual statements, problems, opportunities or pieces of data.

From their broad and deep discovering work they started to build a greater understanding of the core issues behind the problem. In the understanding phase they created a persona, “Alex”, to help define the characteristics of the human at the center of their problem. They used affinity mapping to collate the swathes of data into 20 overarching themes covering issues such as “Prognosis”, “Why me?” and “Motivation.” They created 12 guiding principles that any solution must try and cover, such as “Reduce stigma”, “Demonstrate the seriousness”, “Link in my support network.” They also developed a new point of view statement based on their new understanding of the core issue, “Alex needs a way to understand what is happening now, and is likely to happen in the future because there is damage being done to their body that could minimized.”
Creativity

To engage their creativity and start creating lots of potential solutions, the group generated an opportunity statement, “How might we enable Alex to live a full and healthy life with Type 2 Diabetes?” They used nominal group technique to generate ideas individually and then collectively. They also employed question-storming and created 39 potential solutions. These ranged from the weird and wonderful; such as a “naughty food taser” and “diabetes dog”; to technology based solutions, such as “a support app” and “diabetes smartwatch”; to various support services, such as “call center” and “personal assistant.”

To narrow down their range of possible solutions and begin testing some of the ideas, the group used a two-by-two selection matrix to organize the ideas according to likely effort and likely impact. They also compared the most promising ideas against their earlier guiding principles to ensure there was alignment. From this process, they selected two ideas to prototype and test with their user groups. The first being a new “Live well with diabetes” app. This would be a place for the user to record, measure, and share their treatment-related information and habits. The group created a sketched wireframe using a freely available template to show the possible user screens with the options available to a user accessing it on a smartphone and how they might flow from one aspect of the app to another. They tested this by putting it in front of a small range of some of the participants from the discovering phase research. They conducted one iteration to add in some ideas from the first round of testing and engaged in a second round of tests. In doing so, they received further feedback and ultimately came to the valuable insight that:

“The patients identified as likely to use the app solution were not the ones who most needed help and guidance. Effectively we had targeted those patients already concerned about doing the right thing. This would not solve the problem we had set out to solve.”

The second idea the group decided to prototype and test was coined “Glucose Guardians.” This would be a free-to-the-user telecare health coach service where the user is checked on regularly by a trained guardian. A guardian could help with goal setting, motivational and emotional support, help remove any other barriers for example connecting with transport or financial support services. They would not be a replacement for the primary medical care which would remain with existing healthcare professionals. The group created an infographic as a mock pamphlet for the service and tested the concept with a range of participants from the earlier discovering phase. This met with very positive reactions and highlighted issues such as having good cultural connections between guardians and users which would be invaluable. The team leader who had initially proposed the problem was able to take the prototype to a national health conference and gain additional feedback from a broad base of healthcare professionals, who were also very supportive of the concept. Based on this testing, the group progressed with the “Glucose Guardians” concept.

In the resourcing phase, the group needed to identify with clarity how the service could be funded and also how it might leverage existing social capital of other organizations already active in diabetes health. They uncovered complications related to the different funding models of different regional health authorities which meant that in some regions they may be able to access funding for initiatives such as this, but this was not possible everywhere. They identified how the role of the guardian would be trained and staffed. They also identified how referrals from healthcare professionals would work. They build two business models with different resourcing options. One
where as a stand-alone service they would need to attract some funding, and proposed a small pilot requiring only three guardians to be funded. A second business model was also created where the service would fit within the existing national support organization for diabetes and be largely staffed by volunteers from that organization’s network.

In the implementing phase the group needed to consider how the service would be adopted in practice. They employed the switch framework [42] to identify aspects of clearly communicating and directing the rational mind of the users by having very clear and simple outlines and infographics showing clearly what the service would and would not do. They also tried to motivate the emotions of the users by having relatable coaches that would reduce the barriers to engagement. They also tried to shape the environment to nudge the behavior in the positive direction by making sure the service was connected with existing health professionals so they would be able to refer users directly to the service.

The group were passionate about the problem and so devoted significant effort into this project and were able to achieve a great amount in the relatively short 12 weeks of the course, only a portion of which was available for the project. Subsequent to the course finishing the leader of the group reports that the concept has progressed further into implementing but has evolved into a different format, integrating with another new health coaching service that was created mainly for other long term conditions.

6. Conclusion

In helping managers and leaders understand and manage the process of innovation in VUCA conditions we need to empower them and their organizations with the tools, techniques and mind-sets needed to solve the complex problems they face. They first need to have an appreciation and desire to engage in problems with curiosity. They then need to be able to unleash creativity in themselves and those around them. Finally, they need to be able to find and communicate with clarity on the solutions that they implement. The DUCTRI model described here was designed to give structure to a process of innovation that has proven to be successful in not only generating creative solutions that deal with the core problems in the world, but also designing them to be implemented and therefore being able to have an impact. It has proven to be a successful means of helping leaders and managers from a wide range of disciplines bring effective innovation to their organizations. The author is hopeful this encourages other management educators to adopt and adapt this process as necessary.

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Conflict of interest

None.
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