CONFERENCE PAPER

Project Creativity: Using Active Imagination for Project Innovation

Haukur Ingi Jonasson[1]*, Helgi Thor Ingason[1]

[1] Reykjavik University, Menntavegur 1, 101 Reykjavik, Iceland.

*Corresponding author: Haukur Ingi Jonasson. haukuringi@ru.is

ABSTRACT

Project management is essentially about solving problems and getting things done. The ability to imagine is a crucial ability when it comes to finding solutions and actualizing them. This paper looks at how creativity can, on an individual, team and organizational level, be fostered in project, program, and portfolio (PPP) management. The paper defines the human imagination as an essential component of higher order thinking—creative, critical and ethical thinking. It is essential to initiate new projects, deal with problems, enhance job satisfaction and give meaning to work life. The paper investigates a suggested use of Carl Jung´s 'active imagination' as a cognitive method to spark individual creativity and promote "a higher level of personal and collective self-actualization" in project work. It explores how to foster collective creativity in project teams, project management offices (PMOs), departments and organizations. The paper then argues for the centrality of creativity as a means to foster a more critical, ethical and sustainable approach to future challenges faced both in PPP management and for humankind in general.

Keywords

Project Management; project, program and portfolio management; PPP; creativity; imagination

Introduction

PROJECT MANAGEMENT AND CREATIVITY

We are all, including those of us who find ourselves working professionally in project environments (executing strategies through projects, program and portfolio management), constantly thinking about something, except perhaps in those moments when we manage to calm our minds into relaxation. For most of us, however, thinking is rarely a genuinely active and reflective process. The greatest minds among us do more than just to think, they also think about their thinking, and about the thinking process itself. This ability to reflect on our reflections as they are taking place uses our ability to imagine, and our imagination is crucial in managing problems, creating solutions and innovating. The *human imagination* allows for the "synthesis of mental images or content into new ideas and as the process of forming a mental representation of absent objects, an effect, a bodily function, a memory, a situation or an instinctual drive, etc., producing images, symbols, fantasies, dreams, ideas, thoughts and/or concepts. It differs from fantasy, in not being adverse to reality, but instead providing an active means of adaptation to it" (Jonasson 2006).

Those project managers who were responsible for many of the wonders of human history, are not necessarily those most associated with creativity. In fact, many program and project managers see themselves as dedicated process workers. They see the higher order reflection associated with the awareness required for creativity, critical and ethical thinking as something made on a higher strategic level. We can even say (just to rub it in a little) that many project managers do not see creativity as their responsibility. Their preoccupation is with getting things done, providing processes and control, none of which they associate with being creative, innovative nor fun. This leads to a professional limitation as project, program and portfolio management are one of the greatest opportunities for pragmatic higher order thinking. And imaginative higher order thinking is one of our most important tools for innovation and problem solving. In this paper, we will explore how project managers could think about their thinking in the interests of project creativity and innovation.

LITERATURE REVIEW

Creativity or the ability to use the imagination has traditionally been associated with individual geniuses who possess something of a godly inspiration (Berman 1999; Montuori & Purser 1995; Wittkower 1973). Ziauddin Sardar argues that "The most important ingredients for coping with post-normal times are imagination and creativity" as these are our only ways for "dealing with complexity, contradictions, and chaos." Alfonso Montuori argues "Imagination is the main tool ..., the only tool, which takes us from simple reasoned analysis to higher synthesis. While imagination is intangible, it creates and shapes our reality; while a mental tool, it affects our behavior and expectations." And he argues that we need to imagine ourselves into a new future, in which quality will at times "depend on the quality of our imagination." Sardar suggests "given that our imagination is embedded and limited to our own culture, we will have to unleash a broad spectrum of imaginations from the rich diversity of human cultures and multiple ways of imagining alternatives to conventional, orthodox ways of being and doing." (Sardar 2010). Traditionally "research on creativity focused on the three Ps: person, process, and product" (Runco 1999; 2004). The "person was mostly a lone, eccentric genius". Traditionally it was the individual who was the creative *force* while groups, organizations, institutions, and society stood for a convention, conformity and compliance. To

become creative, the individual would have to transcend these obstacles (Montuori & Purser 1995). The creative function (the creative *how*) "consequently occurred exclusively inside the individual, and the creative process was viewed as a solitary process. In this individualistic view, relationships and interactions were not taken into consideration" (Montuori 2011). The innovative product (the creative *output*) "was typically a major contribution to physics, a symphony or transformative work of art". The arts and sciences were creative venues or the creative *medium*, and it did not belong in others (Montuori 2011). Such a notion of individual creativity is poorly applicable to creativity in project teams, project management offices, and project driven organizations.

These ideas of creativity see it solely as an individual subjective phenomenon during moments of inspiration (Montuori 2011). The scientific world view focuses on objectivity and order, whereas and creativity was associated with the subjectivity and disorder (Toulmin 1992). Science struggled to account for creativity until in the 1950s, and Karl Popper focused on scientific justification, undermining the speculative, subjective and introspective as non-scientific (Popper 2002). Even though in classical Greek the terms for art (gr. arte) and technique (gr. techne) are synonymous, historically there has been a division between arts and sciences: with supposed reason and objectivity on the one hand and the intuitive, subjective, speculative on the other. So for the majority of that time, the individual was the source of investigation when it came to creativity, and the collective creative environment was not (Montuori & Purser 1995; 1999). The creative, innovative genius emerged and instructed others to implement their innovative projects and programs.

Creativity can also be inconsiderate and even harmful. It is, of course, questionable whether we should call a creative undertaking 'creative' if these 'creative' ideas involve undermining and hurting others, not to mention ignoring the needs of our natural environment and ultimately damaging our planet. The purpose of engineering has been to apply and exploit an understanding provided by the natural sciences of how nature operates. At its best this creativity aimed at making the world a more accommodating place for all; sometimes benefitting many, at other times only the malicious and selfish who use technological advancement to oppress, destroy and kill. It is relatively recently that engineering has come to the acknowledge that many of its creative ideas have in fact, in the long run, been ethically borderline and undermine sustainable living on planet Earth. We have yet to see engineers turn their back from undertakings associated with the arms industry and do something ethically creative. Academically little has been done as to apply the method of *active imagination* to the world of management; whereas the management world has taken fascination with mindfulness as an approach for better self-management and stress relief.

It was that Swiss psychiatrist Carl G. Jung who defined the active imagination method in his essay 'The Transcendent Function' published in Vol. 8 of his Collected Works under the heading *The Structure and Dynamics of the Psyche* (Jung, 1916/1970). More references to the method as a psychological process can be found in Irvine 2010; Franz 1997; Chodorow 1997; Hannah 1981; Johnson 1986; and Punita 2013) and Patricia H. Werhane talks about the importance of imagination management ethics in her book *Moral Imagination and Management Decision-making* (1999).

Creativity and innovation demand that we look at things from both a subjective and an objective perspective. The PPP management profession has linked itself with objective and order driven scientific culture. This shift in our understanding of the creative process might indicate a transcendental shift in human history. "When there is full parity of the opposites, attested by the ego's absolute participation in both, this necessarily leads to a suspension of

the will, for the will can no longer operate when every motive has an equally strong counter-motive. Since life cannot tolerate a standstill, a damming up of vital energy results, and this would lead to an insupportable condition did not the tension of opposites produce a new, uniting function that transcends them. This function arises quite naturally from the regression of libido caused by the blockage." (Jung 1970). On the same line, "The tendencies of the conscious and the unconscious are the two factors that together make up the transcendent function. It is called "transcendent" because it makes the transition from one attitude to another organically possible" (Jung 1970).

So, in the same way as the transcendental function described by Carl Jung, psychology kicks in within the individual psyche. In situations where the dissonance associated with reconciling these opposing ideas and the consequent tension will force a mental shift, independent of whether or not the person wishes to change. We speculate given the current state of affairs whether we might see a similar transcendental change at a more collective level; in the collective psyche of humankind. Research into all kinds of creativity, innovation, deeper understandings of psychology, online interconnections militates increasingly for a more relational and open approach to creative collaboration (Morin 2008). This trend was started by postmodernism, which "led to new ways of conceptualizing self, society, production, art, science, and creativity". Building on these foundations, the 21st century holds strong promise for creativity and innovation that is paradoxically based both on more intimate personal exploration and at the same time in a more inter-relational interplay (Kearney 1999; Rosenau 1992; Sardar 1999). Biomimicry and ecological design is creativity and innovative engineering inspired by nature. The intention to dominate and exploit is transformed to learning and "collaborating with nature to deal with our future challenges" (Todd 2006; Montuori & Conti 1993). Such creativity is both relational and contextual, and the environment becomes integrated with creative process and product (Montuori 2011). Such an approach could be fascinating in the context of future PPP managing of creative work.

Individual Creativity in Projects

A very creative mind is not necessarily innovative. If imagination is to be used for innovation, there must be a balance between the creative process and the application of creativity outcomes. Innovation demands both creative ideas and their implementation; as innovation is translated into a reality where things get done. Those who succeed in the cultural domain, such as writing, painting, dancing, acting, and the fine arts do not just sit and think. They perform and make things happen. All creative work requires planning, even if the planning is directed towards organizing creative moments and inspirations in an "off-time" from daily routines. One method (of many) that can be used to manage the creative process, and a method that project managers can use to stimulate their creative thinking is the so-called *active imagination*. Active imagination is a psychological method that uses the human imagination for understanding and creativity, a method that correlates with many within philosophical, religious and spiritual traditions. But even though well known since antiquity as a method to delve deeper into the deeper layers of the mind, the term was defined by the Swiss psychiatrist Carl G. Jung in his essay on 'The Transcendent Function' published in Vol. 8 of his Collected Works under that heading *The Structure and Dynamics of the Psyche* (Jung, 1916/1970). Patricia H. Werhane talks about the importance of imagination in her book *Moral Imagination and Management Decision-making* (1999). When discussing Adam Smith´s *Theory of Moral Sentiments* (Smith 1759), she says: "The role of Imagination is crucial in understanding Smith´s concept of sympathy and, indeed, his whole moral psychology. Smith claims that each

one of us has an active imagination, which enables us to recreate another´s feelings, passions and point of view. In this imaginative process of sympathy one does not literally feel the passion of another; rather one understands what another is experiencing from that person´s perspective" (Werhane 1999). According to Jung, "active imagination is a meditation method where the contents of one's unconscious get translated into mental images" of various kinds (symbols, personas, things, etc.). It creates a "bridge between the conscious ego and the creative self" through the means of the human imagination. Active imagination is a method that enables its practitioners, both for more intrapersonal and interpersonal maturity. It is hence an add on to the more popular method of practicing mindfulness, enabling for a more advanced psychological exploration.

To explain the practical application of the method for project managers and project teams, let us begin with a brief definition of two concepts of classical psychiatry, namely the concepts of *primary process thinking* and *secondary process thinking*. The thinking mode usually deployed in conventional project management, and in the world of management in general, would be classified as *secondary process thinking*. This thought process is conscious, logical, orderly, critical, purposeful and goal oriented, and directed towards planning, task achievement and problem solving. These are the characteristics of our conscious mind; in many ways significantly limited when compared to the sub-consciousness because we constrain it with the requirements of our environment and to the resolutions of specific tasks. In that context, our thoughts remain generally linear, and we keep our awareness free of creative diversion which is a further drain on our creative energy. In fact, we are therefore not very creative or free in this conscious state, which focuses instead on the need to plan, organize, and behave appropriately. Secondary process thinking is good for its purpose, and essential to deal with our lives, and in managing teams, organizations and society.

However, to use *active Imagination*, the manager would be encouraged to connect with what is called *primary process thinking*. The content of the primary process thinking is the primordial, unruly, mythical and sometimes surreal thoughts we associate with our fantasies and our nighttime dreams. *Primary process thinking* is not logical (even though it has its logic); it is not time bound. The link between cause and effect is often blurred; it may combine and mix elements that are in no way related. In the primary process experience, anything can happen. This process, processing or experience can range from being frightening to being exceedingly creative and rewarding. In fact, many people experience the primary processes not so much as actual thoughts (associated with ideas and language) but more as mental images that seem to enter consciousness spontaneously; and in the most troublesome cases and psychosis, where these processes take totally over, and that is not ideal for practically minded project managers.

So, how to make use of this in project management? On an individual level, the practical application of the active imagination involves first making use of the creative power of primary process thinking and then using the secondary process to apply new mental material that surfaced from the sub-consciousness and invent something new. This new thing can be new products, new processes, new decorations, new approaches or it can even enable a spontaneous shift in your take on life. Also, when dealing with problems where the project manager feels totally stuck, it can be wise to hand the issue over to the primary processes to deal with it. This would mean to really fill the cognitive mind with the relevant information and then take a total break from the problem; and see if the internal processes of the involuntary mind brings a solution. This means allowing the mind to work on the issue on a deeper level and this is, in fact, what Albert Einstein did when struggling to find a solution to a problem, a solution that we now know as the theory of relativity, and this might be the idea behind the expression

"sleep on it". What the conscious mind could put together, might come together in the subconscious.

The active imagination method takes advantage of the links that exist in the creative life of our sub-consciousness. If you, as an individual (PPP manager or PPP team member), want to become more creative by harnessing your active imagination, then follow these steps that are inspired by a take on the subject by Ann and Barry Ulanov (Ulanov & Ulanov 1991), and let us name the project manager who is eager to master the active imagination method Susan:

1. The active imagination process begins as Susan tries to discover how best find a quiet time and space where she can shut out the noise of everyday life and allow herself to get in touch with the primary process thinking within her mind. This is what is often referred to connecting with the 'unconscious', 'sub-consciousness' or the 'dream world', which is the subjective reality that most of us experience mainly in our dreams (if we dream at all or can remember our dreams) or when in between being asleep and awake (such as when snoozing). Once Susan´s conscious mind—her thinking mind—quiets down, she tries to pay attention to anything that surfaces into her consciousness; any thoughts, effects, or mental images. The connecting process is essentially passive; Susan is not 'doing' anything, and not trying to 'do' anything, she is—just like when practicing mindfulness—relaxing and emptying her conscious mind and then waiting to see what happens. With a bit of practice, Susan will gradually decrease the activity of the secondary process thinking and increase its primary process activities, and it is then that new things start to surface. For many objectively and practically oriented people, it is challenging to stay on in this level of consciousness; but the key is to simply watch what appears and frame any imagination, involuntary thoughts, emotions, and new ideas.

2. Once Susan becomes able to adopt her primary process thinking mode, she should be encouraged to practice it regularly, for instance, once a day. She will then gradually learn to the recognietion that once she surrenders her attention and abandons the need to be constantly in a secondary process thinking mode, imaginary wonders start to appear. In this state, anything can happen, and creative ideas surface and flood the mind. Susan may see interesting things, meet strange characters, and things, people and places might fuse together. Ideas, or mental images, of new approaches, new tools, and artefacts of all sorts can appear, and all kinds of incidents occur. Susan should also be advised to be careful not to fall asleep, as she will need all her available attention to be able to grasp the activity streams that are taking place. So, Susan should simply relax into the dream world, but stay attuned and be wary. An integral part of this step would be for Susan also to focus on remembering her dreams by writing them down as soon as she can after she awakens, and take some time to explore their content. Once the ability to enter this inspirational dreamlike stage has been mastered, Susan will be able to enter this dream world for new ideas whenever they are needed.

3. We have seen that in steps (1) and (2) Susan was supposed to be relatively inactive, but the inactive part of the work is now finished. In this stage, Susan is advised to become active by looking at each of the mental images, ideas and inner experiences that surfaced as something very real and meaningful that should now be given an external form. Susan can do this in a variety of ways: by discussing the experience with others, by writing it down, by drawing it as a picture or a chart and (for the wildest of project management practitioners such as the authors of this paper) she can express it as music, in a motion such as dance, or in any kind of a playful act. If Susan is shy towards the arts and wants a more down-to-earth perspective, she should try to design or construct

the imaginings as an object, model it, build it, and so on. In other words, translate the psychological material into an expression of the idea, and then see how it might benefit a current project; or even lead to another project.

4. On the same lines, Susan should take time to record in writing any dreams or even daydreams, and describe the various feelings and fantasies she is experiencing. Primary process thinking generates imagination, emotions, and thoughts as a mish-mash of imagery and impressions. Susan should consider these carefully, not simply to interpret their meaning, but also to just examine the images, emotions, and feelings they provoke. All of this activity is connected, albeit in Susan´s subconscious to her living reality; a dream can have a strong connection to reality, as a mean of mental processing of your experiences during the day (the remains of the day). The dreams also seem to make compromises to instinctive expressions (such as sexual or aggressive tendencies) through symbols, they seem to process experiences and work through problems and even proposes solutions to the conscious mind. In particular, Susan should be alert for any clear symbols (for instance 'the boat', ´the bus', 'the river' etc.), images of all kinds (or whatever), feelings and emotions (such as delight, fear, uncertainty, etc.) and for any new insights that might enhance creativity. Further, Susan should try to sharpen these imaginations by amplifying them as symbolic manifestations; that is take them seriously as a *reality* and try to work with them in her waking life (for instance, as has been mentioned draw pictures of them, but also read about them, Google them, find pictures of them in magazines, etc.). Most of all, Susan should try to be as open to whatever she can be learn from these imaginings; and this effort also helps her to remember their creative and innovative contents. Susan, hence, now not only approaches her work with only an engineering mindset but also as an artist that can take full advantage of creative in her daily professional life.

The practice of active imagination does not have to take long, and once Susan has mastered the skill, she can benefit greatly from just 10-15 minutes a day dedicated to this purpose. Her goal is now to harness the uncritical layer of her mind and explore its unconscious knowledge through an intimate engagement with primary process thinking; it is only after the primary processes have had their say that the creative content generated should be practically evaluated and developed by using the secondary thinking mode.

Some people who are very creative people, such as a guy that we will name John, can get stuck in the primary process thinking, leaving very little space for secondary process thinking. This has clear disadvantages, as it may negatively impact John´s ability to take advantage of the unconscious for personal growth, professional development, creativity and the innovation of new things. In the most serious cases, such as if John suffers from a mental health issue that relates to the ability to manage the borders between the conscious and unconscious mind; the primary processes could take over completely, and John falls prey to the early stages of psychosis. It is very dangerous when a person has no control over unintentional thoughts, emotions, and actions. The consciousness that has a natural ability to deal with reality by maintaining a balance between the primary and secondary processes of the mind can even collapse under such influence, and lead John astray from others. This is not very common, but it can happen; anyone who tries to use active imagination for creative purposes should be well aware of that, and seek professional support if needed.

Having said that, the advantage of getting in touch with the subconscious mind is that it can be very creative, and this creativity is precisely needed to encourage and stimulate innovation. Caution is needed in deploying primary process thinking to approach the

unconscious. You need both to be very receptive and also have enough stamina to take advantage of the unleashing creativity. If the stamina of the consciousness is sufficient, secondary process thinking will be able to utilize primary process thinking as a creative aspiration, and use its ability to design, plan, execute, control and testing, for the more innovative part of the process.

Project Team Creativity

We have described the active imagination as an individual activity. It can also be expanded to project teams, PMOs, organizations and even larger communities. We do not simply have access to the creative fountains of the unconscious mind as individuals. People can also tap this resource collectively, and for the rest of the paper, we will look at the prerequisites for more collective project creativity.

Teams, organizations, and societies do—just as individuals—operate on two levels: the conscious level and the unconscious level. Social convention and natural reticence encourage most of us to contain, hold back and even completely dismiss the disordered thinking, feeling, and emotional subconscious forces that are ever present when people are working together. Again, explorations into this creative realm are left to the 'artist' and are rarely associated with project management and the management of organizations. This is understandable, and we need order and the secondary process mode of thinking to get things done collectively. However, it might be more rewarding, more meaningful, more exciting and more motivating to open ourselves up together a little to the gifts of the primary processes.

As stated before, creativity research is increasingly focused on everyday creativity that can potentially take place everywhere. There is also an increasing interest in group creativity, creativity in teams, collaborative creativity, and the collective, the wisdom of crowds (Sawyer 2006; Montuori & Purser 1995; Montuori 2003; Barron 1999; Paulus & Nijstad 2003; Surowieck 2005).

New online networking technology that enables global collaboration can take such creativity to a whole new level (Jenkins 2008). The implications of deeper (active imagination) and collaborated project creativity can be seen in sciences, business, the arts and in sustainable development. (Amabile 1998; Amabile et al. 1996).

Traditionally project management is originating in management by objectives which were rarely creative or innovative. Taylor "discouraged communication, essentially working on a divide and rule principle". The Organization as Machine was Taylor's guiding metaphor, and at that time machines were required neither to innovate nor to collaborate (Montuori 2011). The beauty, however, of project based work is that it is grounded on team participation and networking. Project management is a relational approach to management, and that in itself can lead towards more creativity. If well managed with acknowledgement of the reality of the primary process, project teams are a very natural platform for creativity and innovation. Highly innovative organizations encourage "creativity that is a distributed, participatory process", and ideally every member can innovate (Sawyer 2006; Shapero 2004; Schrage 1999).

Collaborative imagination stimulates collective team creativity. It requires a very open relational approach where, for instance, special consideration should be paid to inclusive individual participation that otherwise convention might hold back, such as involving women, less-experienced members, minorities, young or old people. The focus in sessions that aim for collaborative creativity should primarily be on the creative process and active imagination, and not on plans, technology, and utility. Then when new ideas have been worked with solely for

a creative purpose, they should be critically analysed and their ethical implication carefully examined. The deployment of critical and ethical thinking adds then to the creative process; and this circular iteration from the primary process (creative thinking) to the secondary process (critical and ethical reflection) can be repeated over and over again. In this way, the critical and ethical mindset of the secondary process thinking becomes an aspiration that sparks even more creativity. What we suggest is to encourage collaborative community sessions, where individual project team members share creative insights that are then openly discussed and common themes mined. Scenarios can open the team to creative outcomes and spark the collective imagination. Creativity, based on the human imagination, is a vital human capacity for the professional project team. In depth individual creativity through active imagination and collective, collaborative, participatory creativity can contribute on a team and/ or an organizational level.

The role of modern professional project management could be to encourage this 'everyone,' 'every day', 'everywhere' creativity towards what Montuori describes as "worthy human aspirations." The emerging contextual, collaborative, and participatory forms of creativity have implications for the future, and for how the project management profession should envision the future.

The project management profession is in a key position to impact decision making on the road towards the future, and give direction to understanding within businesses, NGOs, industry, institutions, and government of what success, progress development, and sustainable future mean. The discipline can use the understanding of the human capacity for complexity through professional education and imagination (Morin 2001.; Morin 2008). *Complex Thought* is a form of "thinking that embraces paradox, complexity, and uncertainty" which looks at complexity without simplistic reduction, polarization, and engagement in complex dialogue (Morin 2008).

When project managers and project teams face complex, chaotic, and contradictory issues, they need to have a supreme ability to dialogue in a creative, critical and ethical way. Project managers should reinvent themselves as experts in creative participatory collaboration, involving simultaneously use of the primary and secondary thinking processes that are at play. To do so, they do need to navigate, and make innovative and constructive use of their imagination, and understand well how it works in others.

Conclusion

We have argued for a stronger focus on creativity in project management, both individually and collectively. PPP management should aim for an approach to creativity that makes the broken whole, respects diversity and shows awareness of interdependencies. PPP should aim for higher order thinking where a creative, critical and ethical approach goes hand in hand. Active human imagination is crucial in dealings with a modern worldview and the creation of a sustainable future. Creativity is one of the three pillars of sophisticated human deliberation, the others being critical thinking and ethical thinking. What we are suggesting is to encourage community collaborative creativity sessions where individual project team members share creative insights that are then openly discussed and common themes mined. Creativity is not simply limited to artists, geniuses, architects and innovative designers. It is a fundamental ability that should be an integrated part of all PPP management, and strongly linked with critical and ethical reflection and decision-making ability.

The creative project leader develops as he or she begins to read their feelings and examines their premise by logic, and when he or she can use creative pictorials of the mind constructively. This is a form of creative work that makes the project leader more capable of making decisions; decisions that are informed by both the conscious and subconscious, the rational and the creative. Once we have learned to activate our original thinking, we take a moment at any time and seek new creative insights. But plugging into the primary process thinking mode is not enough. In order for creative endeavours to become innovative, we need to mobilize our creative powers and then make use of the insights that emerge. That is where new programs and projects; and new paths for both personal and collective self-actualization are born. An active imagination can be used for creativity, innovation, inspiration and ultimately self-realization; a process that involves recognizing what makes each one of us individually, while at the same time enjoying the common qualities that characterize the soul of all people. It leads to an in-depth conversation on the very private, intrapersonal level as well as a collaborative interpersonal level. Through our imagination, our mind can distinguish, discern, connect, fuse, and reframe the world we inhabit in ways that both surprising and useful.

References

Amabile, T. M., Conti, R., Coon, H., Lazenby, J., Herron, M., "Assessing the work environment for creativity," Academy of Management Journal 39 (1996) 1154–1184.

Amabile, T. M., *How to kill creativity*, Harvard Business Review (1998) 179–189.

Barron, F., "All creation is a collaboration" in A. Montuori, R. Purser (Eds.), *Social Creativity*, Hampton, Cresskill, NJ (1999) pp. 49–60.

Berman, M. "The two faces of creativity," in A. Montuori, R. Purser (Eds.), *Social Creativity*, Hampton Press, Cresskill, NJ (1999) pp. 83-104.

Chodorow, Joan (1997) Jung on Active Imagination, Princeton University Press.

Emery, M., *Searching, The Theory and Practice of Making Cultural Change*, John Benjamin, Amsterdam (1999).

Franz, Marie-Louise Von. Alchemical Active Imagination, Revised Edition, Shambhala (1997).

Hannah, Barbara. *Encounters with the Soul: Active Imagination as Developed by C.G. Jung*. Santa Monica: Sigo, (1981).

Irvine, Ian (2010) Jung, *Alchemy and the Technique of Active Imagination* (article 3 of a 5) talk delivered as 'Alchemy and the Imagination' to the Bendigo Writers' Council in 2008.

Jenkins, H., *Convergence Culture: Where Old and New Media Collide*, NYU Press, New York (2008).

Johnson, Robert A., *Inner Work* (1986) Harper & Row.

Jonasson, H. I., In a Land of a Living God, The Healing Imagination and the Icelandic Heritage, ProQuest, Ann Arbor (2006).

Jung, C. G. (1970) "Definitions," CW 6, Princeton, N.J.: Princeton University Press. par. 824.

Jung, C. G. (1916/1970) Structure & Dynamics of the Psyche, CW 8, Princeton, N.J.: Princeton University Press.

Kearney, R., *The narrative imagination*, in A. Montuori, R. Purser (Eds.), *Social Creativity*, vol. 1, Hampton Press, Cresskill, NJ (1999) pp. 61–79.

Montuori, A. "The complexity of improvisation and the improvisation of complexity." Social science, art, and creativity, Human Relations 56 (2003) 237–255.

Montuori, A., "Beyond postnormal times: The future of creativity and the creativity of the future," Article in Futures 43(2):221-227, March 2011.

Montuori, A., Conti, I., *From Power to Partnership. Creating the Future of Love, Work, and Community*, Harper San Francisco, San Francisco (1993).

Montuori, A., Purser, R., "Deconstructing the lone genius myth: towards a contextual view of creativity," Journal of Humanistic Psychology 35 (1995) 69–112.

Montuori, A., R.E. Purser, R. E. Purser, *Social Creativity*, Hampton Press, Cresskill, NJ (1999).

Morin, E., "Seven Complex Lessons in Education for the Future," UNESCO, Paris (2001).

Morin, E., *On Complexity,* Hampton Press, Cresskill, NJ (2008).

Paulus, P.B. & Nijstad, B. A.*, Group Creativity: Innovation through Collaboration*, Oxford University Press, New York (2003).

Popper, K. *The Logic of Scientific Discovery*, Routledge, New York (2002).

Punita, N. (2013) 'C.G. Jung's Active Imagination: Alternative Personalities and Altered States of Consciousness,' Jaarboek C.G. Jung Vereniging Nederland. Nr. 29 (2013) 36–58.

Rosenau, P. M., *Post-modernism and the Social Sciences. Insights, Inroads, and Intrusions*, Princeton University Press, Princeton, NJ (1992).

Runco, M., *Creativity need not be social*, in Montuori, A., & Purser, R., (Eds.), *Social Creativity*, Hampton Press Cresskill, NJ (1999) pp. 237–264.

Runco, M. *Creativity*, Annual Review of Psychology 55 (2004) 657–687.

Runco, M., Creativity. *Theories and Themes: Research, Development, and Practice*, Elsevier, Amsterdam (2007).

Sardar, Z., *Postmodernism, and the Other*, Pluto Press, London (1999).

Sardar, Z., *Thomas Kuhn and the Science Wars*, Totem, New York (2000).

Sardar, Z., *Welcome to Postnormal times*, Futures 42 (5) (2010) 435–444.

Sawyer, J. E., *Explaining Creativity. The Science of Human Innovation*, Oxford University Press, Oxford (2006).

Schrage, M., *Serious Play: How the World's Best Companies Simulate to Innovate*, Harvard Business School Press, New York (1999).

Shapero, A., "The management of creativity in organizations" in Katz R., (Ed.), *The Human Side of Managing Technological Innovation*, Oxford University Press, New York (2004).

Smith, A. *Theory of Moral Sentiments* (1759).

Surowiecki, J., *The Wisdom of Crowds*, Anchor, New York (2005).

Todd, N. J., A Safe and Sustainable World. The Promise of Ecological Design, Island Press, Washington, DC (2006).

Toulmin, S., *Cosmopolis, The Hidden Agenda of Modernity*, University of Chicago Press, Chicago (1992).

Ulanov, A. B. & Ulanov, B., *The Healing Imagination*, Daimon (1991).

Werhane, P. H., *Moral Imagination and Management Decision-making* (1999).

Wittkower, R., "Genius: individualism in art and artists" in Wiener P. P. (Ed.), *Dictionary of the History of Ideas*, Charles Scribners Sons, New York, 1973, pp. 297–312.

About the Authors

Dr. Haukur Ingi Jonasson is a professor and Heads the Board of the Master of Project Management (MPM) program at the University of Reykjavik. He holds a Cand. Theol. degree from the Theological Department of the University of Iceland and a PhD in Psychiatry and Religion from Union Theological Seminary in New York. He received clinical training in pastoral counselling (CPE) at Lennox Hill Hospital / The HealthCare Chaplaincy Inc. and in psychoanalysis from the Harlem Family Institute in New York. He is a certified Stanford Project Manager from Stanford University and the co-author, of books on Leadership, Communication, Project management, and Strategy (JPV, Publishing, Iceland) He is the co-author of the book Project Ethics (Gower/Routledge, 2012) and of the Code is Ethics and Professional Conduct of the International Project Management Association. A co-founder of Nordica Consulting Group, Dr. Jonasson is a management consultant and a prolific commentator and speaker. He is also a mountain climber and member of the Reykjavik Air Ground Mountaineering Squad of the Icelandic Search and Rescue Association. His research interests include: Organizational behaviour and development, management and project management, industrial and organizational psychology, communication, negotiation, conflict management, group dynamics, human growth and development, coaching, higher order thinking (critical thinking, creative thinking and ethical thinking), psychoanalytical and depth psychological theories, religion, culture and ethics. He has particular interest in project ethics, legal project management, integrated decision making, project management in diverse cultural settings and project management for humanity.

Dr. Helgi Thor Ingason is a professor at the University of Reykjavik. He is the head of the MPM - Master in Project Management - program at the university. The research fields of Dr. Ingason range from quality- and project management to system dynamics and renewable energy, production, transport and utilization, changes in the energy infrastructure and energy carriers of the future. Dr. Ingason has reported on his research at conferences and in several reviewed conference and journal papers. He is the co-author of 7 books in the Icelandic language on project management, strategic planning, product development and quality management. He is also a co-author of the book "Project ethics", published by Gower in January 2013. Dr. Ingason was interim CEO of Orkuveita Reykjavikur (Reykjavik Energy) from 2010 to 2011. A co-founder of Nordica Consulting Group, Dr. Ingason is a management consultant and a recognized speaker. He is a member of the Research Management Bord (RMB) of the International Project Management Association - IPMA.