

Developing Creative Capital: What can we learn from the workplace?

Dr Judy Matthews
School of Management, Queensland University of Technology

Abstract

Creativity is known to be of central importance to the generation of new ideas, new ways of working and innovation. Creativity and the harnessing of creative capital are essential for the success of firms, in fields as diverse as the creative industries and multi-media to computing, engineering, architecture, science and technology and in public sector organizations. This paper reviews research which identifies how the creative capital of organizations is enhanced and applied and suggests that programs, practices and processes can be developed to extend and build capacity in Australian organisations.

Introduction

Creativity and the application of creative capital have been recognized as important contributors to a firm's innovation and to the nation's economic growth (DTI, 2005; PMSEIC, 2003). Many people think of creative capital as the ability and potential of individuals and groups to generate ideas or to apply old ideas in new ways or combine old ways in new ways, and these activities have been variously described as creativity, design, entrepreneurship or innovation. To a large extent, firms apply processes of creativity through entrepreneurial processes to generate new business ideas and new business models (Kao 1989; Nystrom, 1993; Ames & Runco, 2005). Creativity and design play important roles in the fuzzy front end of a firm's innovation process and in corporate venturing processes (Whitney, 1997).

Creative capital defined as an 'arsenal of creative thinkers whose ideas can be turned into valuable products and services' (Florida & Goodnight, 2005: 124). Others argue that creative capital is a valuable resource in today's creative workplaces in a wide variety of industries including, computing, engineering, architecture, science, education, arts and multi-media (McWilliam & Dawson, 2008). The form of work that requires creative ideas includes problem-solving, generating solutions and addressing the 'wicked problems' involved in work with ill-defined often complex problems (Rittel & Webber, 1973), often in government and not for profit sectors.

Research has shown that nations which encourage the ongoing development of creative capital of their societies through providing suitable environments are more likely to create social and economic value for their citizens and their society (DTI, 2005).

Organizations which innovate and develop new ways of working, or develop new products or services or new combinations of products and services tend to survive and prosper in fast changing global marketplaces. These organizations benefit from their creative capital. When we ask what factors are common to innovative firms, research on such firms identified factors such as strategic vision, leadership and the will to innovate, effective team working, extensive communication,

a climate with a positive approach to creative ideas and culture that supports innovation, continuous individual development, customer focus, and individuals who play key roles of promoter, champion, gatekeeper and other roles which energize and stimulate innovation (Kelley, 1991; Matthews 2002; Tidd, Bessant & Pavitt 1997).

Australian context

A recent Australian study of the role of creativity in the innovation economy identified that “people become the source of innovation and value, and technological development is more about gaining the tools to extend and unleash the innate talents of people (enabling them to do more and to be more creative)” (PMSEIC, 2005: 10). The steps recommended in this report to foster a culture of Australian innovation and creativity included policies that recognise the central role of creativity and the creative industries within a rapidly changing environment, the need to undertake measures to promote broader cross-disciplinary and cross-sectoral teaching and research; and a Creative Innovation Fund to promote new competitive programs and support initiatives for commercial innovation and collaboration between humanities, arts and social sciences and the science engineering and technology sectors (PMSEIC, 2005).

Prior research into Australia’s use of its creative capital in science and technology were identified in the Mapping Australia Project (DEST 2003) found a shortage of the number of Australians with sufficient entrepreneurial skills and experience in management, marketing and business development, especially in high-growth start-ups. In addition, the research suggested the lack of availability of innovation skills and cultural attitudes towards innovation were found to limit Australia’s ability to maximize innovation potential.

The Mapping Project (DEST 2003) noted that while the need for cross-disciplinary courses in higher education has been recognized, few courses offer integrated development of innovation skills. In addition there are persistent areas of weakness in Australia’s innovation culture around attitudes to entrepreneurship, risk aversion and learning from failure.

The development of individual creativity benefits from rich early experiences and enhancement through educational processes at all levels of education. The report to the Queensland Government on *A Creative Workforce for a Smart State* (2004) highlights the importance of the professional development of teachers in a global connected world, where innovation and creativity have been identified as essential for economic, social and environmental sustainability. These concerns regarding the necessity of encouraging the development of creativity in our classrooms have also been taken up by other nations. McWilliam and Dawson (2008) extend this discussion to the importance of developing creativity and creative capital through the higher education sector and provide suggestions for improvements

When we ask which factors are important in the creative capital and innovation process, we find that creativity, design and entrepreneurship are described as being essential and influential factors in initiating and sustaining creativity and innovation (Amabile, 1996, Drucker, 1985, Utterback et al., 2006). Organizational demands for creative and innovative solutions are not decreasing. Recognizing the importance and the non-trivial nature of the challenge to prepare employees for uncertain and ambiguous situations, the focus of this paper is to examine ways in which successful companies bring together the creative capital of their staff to generate problem solving and generation of solutions for the benefit of their companies. The question investigated here: how do organisations encourage and develop their creative capital to achieve ongoing innovation?

The paper begins with a brief overview of research into creativity, and creativity in the workplace and then discusses organizational processes which encourage creativity and maximize creative capital. First we investigate different

notions of creativity more closely and consider in more detail, creative capital and its potential for the Australian situation. Second we look at a number of manifestations of creative capital and some brief case studies where organizations attempt to maximize the development and application of creative capital. Finally we make recommendations to benefit Australian organizations. Our contributions are to identify creativity processes in the workplace and suggest ways to further develop and harness creative capital for the benefit of our society.

What is creativity?

Most researchers agree that creativity involves the development of ideas that are novel and potentially useful and of value. The definition we have chosen is “creativity as the capacity to produce novel or original work that fits with task constraints” (Lubart, 1994) or the development of appropriate and novel solutions (Ward, Finke & Smith 1995). Isaksen (2003) suggests that research into creativity shows that creativity can be considered as related to people, process, product and situation.

Early research on creativity focused on the characteristics or traits of individuals (Kirton, 1976; Koestler 1969) and further development of individual profiles added extra dimensions over time (Basadur, 2004; Puccio et al. 2007; Sternberg, 2006). Creativity was initially understood as a generic process and the notion of creativity as a domain specific process has led to a systemic view of creativity. This view recognizes the importance of context and situation as important ingredients and perhaps drivers or shapers of creativity (Csikzenmihalyi, 1996).

Confluence theories of creativity are multi-factor models that argue several separate but interacting components that must come together to yield original and productive outcomes. For example, creativity can be expressed as the intersection between three separate components, namely task motivation, domain-relevant skills and creativity relevant skills (Amabile, 1996, 1998).

Creativity has been also described as a combination of six elements. Sternberg’s ‘investment theory of creativity’ describes the nature of creativity as a confluence of six distinct but interrelated resources - intellectual abilities, knowledge, styles of thinking, personality, motivation and environment. Sternberg (2006) suggests that the intellectual skills required for creativity include three particular skills: a synthetic skill to see problems in a new way and to escape the bounds of conventional thinking; an analytical skill to recognize which of one’s ideas is worth pursuing; and practical-contextual skill of how to persuade others of the value of one’s ideas.

Creativity as a process

In parallel with research in the characteristics of individuals found to be creative, creative problem solving as a process was described as a four stage process of preparation, incubation, illumination and verification (Wallis 1949). Guilford (1950) challenged this as a superficial approach which did not articulate any of the mental processes such as sensitivity to problems, capacity to produce many ideas, capacity to change one’s mental set, ability to reorganize, ability to deal with complexity and an ability to evaluate the ideas generated. As a result of this call to research, creativity has come to mean divergent thinking in some circles.

Creativity has been described as problem finding, problem formulation and problem redefinition (Runco, 1994) and the synthesis or combination of information. Koestler (1969) described creativity as the process of bi-sociation or the combination of previously unrelated frames of reference, often found in situations of humor. Understanding creativity as a process often leads to a focus on creative problem solving.

Creativity training usually includes some training in techniques which promote divergent thinking. The Creative Problem Solving (CPS) program consists of six stages of creative problem solving: mess finding, problem finding; idea finding; solution finding and action planning. A review of creative problem solving training in the workplace indicates that training in creative problem solving does enhance organizational performance (Puccio et al. 2006). Creativity also entails a focus on product as an outcome or a result of creativity, at times through bi-sociation or bringing together two very different ideas or ideas from different domains (Koestler, 1969). In summary, creativity is not limited to particular individuals, and everyone has the potential for creativity (Runco, 2004). Creative people often need to have well-developed skills of persuasion and encourage positive responses to new ideas and management of change. Hence creativity can be characterised as being concerned with person, process, product, press (situation) (Isaksen, 2005) as well as persuasion and potential (Runco, 2007: 384). The message here is that creativity builds on previous knowledge and may be a combination of existing knowledge or may be able to move past barriers of existing knowledge to generate and explore new ideas and solutions (Ward, Finke & Smith 1995).

Managing for Creativity

Most researchers agree that ongoing creativity requires more than individual idea generation. The idea selection process, idea evaluation and implementation are critical to success commonly used in studies of innovation in firms. Other variations include idea combination, idea aggregation, idea selection and transformation of the everyday. The generation of ideas, the selection and further shaping and development of those ideas followed by the diffusion of these ideas in the firm as a three stage process, has been referred to as an innovation value chain (Hansen & Birkinshaw, 2007). An organisation's idea generation process investigates the source of ideas, whether they are generated within a unit, collaboratively across units or through collaboration with outside parties. The conversion of these ideas into useful ideas occurs through thorough screening and development of the ideas to viable products, business or practices. The third stage then examines to what extent the ideas that have been generated and developed are then diffused across the organization (Hansen & Birkinshaw, 2007).

An extension of Amabile's work on individual creativity was the investigation of the relationships between creativity and work environments (Amabile et al. 1996A). These researchers found that stimulants to creativity include challenging work, work group supports, organizational encouragement, supervisory encouragement, freedom and sufficient resources. They also identified that obstacles to creativity include workload pressure and organizational impediments (Amabile et al. 1996A). Amabile's research suggested that five environmental components affect creativity in organizations. These are the *encouragement of creativity*, where information and support for new ideas must be communicated openly between all the different levels in the organization; *autonomy* where individual freedom and control must be an integral part of day-to-day work; *resources*, where basic materials and information for the work must be available; *pressures*, where positive challenges must be imposed and negative perceptions of workloads should be avoided. Furthermore, *organizational impediments to creativity*, such as influences of conservatism and internal strife must be reduced (Whitney, 1997).

Many design firms such as *frogdesign* (Schilling, 2005), ?Whatif! and IDEO use creative thinking processes to stimulate new ideas in their work with their customers on new product or service development. IDEO, perhaps the most well-known successful design and product development firm has a well developed methodology to enhance definition based on creative problem solving. This firm has a strong focus on empathic design using depth of knowledge of the market, the

client, the technology and the perceived constraints on the problem, detailed observations of potential customers, visualization and evaluation and rapid prototyping followed by commercialization (Kelley, 2001). Breakthrough inventions are more likely to be the products of groups of people (Hargadon, 2003).

Case studies of organizations known for their creative approach to products and services, such as Proctor and Gamble, 3M, Google, Apple, develop and use routines and processes to strengthen their creative capabilities. A recent study investigated the role of the creative entrepreneur and creative collaboration in case studies of the theater, football and in software (Napier & Nilsson, 2006) noting similarities and differences across these arenas. Development of creative capital in an organization, community or nation requires processes and practices which encourage collaboration, challenge, problem solving and solution generation, When all employees are recognised as sources of good ideas, more systematic methods such as suggestion systems to capture ideas from all of their employees may be employed (van Dijk & van den Ende, 2002). Organisations provide opportunities for development around issues of primary concern (Ramus, 2001) Capturing ideas from customers or end-users and engaging in co-production of products or services often leads to more innovative solutions (Bettencourt & Ilwick, 008).

The Report on the Ecology of Queensland Design (Higgs, et al. 2005) clearly demonstrates the importance of creativity and design and the contributions of firms engaged in these activities to the economy and society. In the broader Australian context, we do have some signs that individuals and organizations have used their creative capital to develop creative solutions to what seems at the time to be intractable problems, in areas like ultrasound and immunology (Richardson, 2004). Organizations such as CSIRO also apply their creative capital to address the major problems of our time, such as sustainability (Khoo, 2007).

Conclusions and Implications

Building on the potential for creativity (Runco, 2004), design (Lawson, 1997) and entrepreneurship (Davidsson, 2006), successful organisations develop their creative capital through bringing groups of people together to facilitate the exchange of ideas and stimulate innovation, in both structured and informal ways.

We have clear evidence that many of our workplaces are arenas where creative capital in the form of creativity, design and entrepreneurship is available but not often tapped. We have the potential for harnessing insights from organizations, learning from their successes and mistakes and applying the best strategies and processes to develop creative capital in our nation, to deal with social and economic challenges.

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