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COMMERCIVITY

Peter CHILDS[1] **and Rod FOUNTAIN**[2]
[1]Imperial College London, South Kensington, London SW7 2AZ, UK
[2]Cardboard Future Ltd, The Atrium, Dorking RH4 1HA, UK

ABSTRACT
Creativity can be defined as the ability to imagine or invent something new of value. In the engineering domain, for example, in common with many workplace and social experiences, creativity is both sought after and resisted. In essence creativity represents a significant risk and yet in the fast moving business climate no creativity is even riskier. Essential to realising financial or societal value from an idea, is definition and embodiment of the details that enable the idea to be realised in practice. This paper explores the tensions involved with creativity, the value and use of creativity tools and the importance of design in realising commercial potential. This can be embodied in the moniker commercivity, the commercial exploitation of creativity through the implementation of game-changing and sustainable ideas.

This paper accompanies the conference keynote. The subject matter builds on a set of ideas developed in collaboration between Rod Fountain, a serial entrepreneur and Peter Childs. The interviews were conducted for a forthcoming book on commerce and creativity. Commercivity is a registered trademark.

Keywords: Commerce, creativity, commercivity, industry, design, tools, ideas

1 INTRODUCTION

Ideas on their own are not worth much. The world is full of people who complain they would have been millionaires if only they had acted on an idea – that someone else then took to market. Without action ideas are worthless in the marketplace and societal context. Ideas acted upon, on the other hand, are immensely powerful. For better or worse, a big idea acted upon changes everything.

Commercivity, the commercial exploitation of creativity through the implementation of game-changing and sustainable ideas, is not about making a fast buck. It is about the kind of new thinking that is capable of creating longer term, sustainable ideas of value. You do not need to be a genius or especially talented to do this. History is full of examples of highly successful innovators with average or moderate IQs. Indeed the disconnect between IQ and creativity has been extensively explored [1]. IQ can be characterised by convergent thinking while creativity is aided by divergent thinking. It should however be noted that divergent thinking is not the same thing as creativity. Creativity requires both divergent and convergent thinking and creative people are good at switching between both activities through the development of a product, artifact, process or system.

Some people in business maintain that creativity is somewhat random, and that we have built a 'big cathedral' around the subject, with everyone trying to understand creativity and foster it and then manage the innovation process, when really we should just leave it alone and let the people who want to be creative be creative, in whatever way that may be. In terms of the impact of creativity on business, commercial activity is not random and companies don't just become successful as a result of luck. For sustained business success it is absolutely essential to nurture ideas and to embrace creativity directly or surround yourself with people who do.

Of course on its own creativity is not enough to sustain a business. We are all familiar with bright, able and creative individuals who are endlessly generating new ideas but are seemingly unable to turn these ideas into reality or if they do, to make a living out of it. The effective exploitation of an idea is the realm of business and the skill sets for creativity and commerce are often at odds with each other. Without an appropriate business strategy to exploit the idea and turn it into a revenue stream that is sufficient to pay for the development of the product or process concerned combined with the on-going

business costs for its marketing, production, distribution and future developments then the ideas will fail to benefit the originators, employers or sponsors. The skill of commercivity is recognising that ideas do not follow a linear path and the effective exploitation of them is not something that can be managed as some form of standard process within a business (the non-linear process associated with design thinking is reported in [2]). Even the terms 'effective', 'exploitation', and 'appropriate' are too aligned with conventional business strategy to be terribly useful to us. Creativity really does "do its own thing". It is possible, even desirable, to come up with something that does not fulfil any current definition of 'effective', that does not 'exploit' anything, and is highly inappropriate.

Creativity can occur in our daily lives and moment by moment activity whether in the work place, at home or in our social interactions. In commerce, however, it is necessary to think differently about creativity. Too often in business an initial evaluation of an opportunity reveals that it is not viable when considered in a traditional form of implementation. An alternative business model approaching the implementation of the business activity in a different way may produce a much more attractive commercial opportunity. It is in this arena that creativity, creative tools, and design have a particular role to play. We live in a world where we can look at any area and realise the need for improvement.

The need for robust ideas that have been appropriately developed is important in commercivity. If there is a flaw in a product or a service offered by a business, then it is possible that a customer will accept it for a while. In a competitive world however, it is a matter of time until we are wooed by a competitor whose products appear more reliable and fulfil the function to a higher standard. So we have to try to create the environment in which commercivity can work. The Institute of the Future's Bob Johansen puts it succinctly: '*In the age of the internet, everyone has the opportunity to know what's new, but only the best leaders have the foresight to sense what's important, make sense out of their options, and understand how to get there ahead of the rush.*'

2 ON CREATIVITY

Our understanding of creativity stems not just from the insights from successful companies but from the endeavours of individuals through history, research into creative processes and people and the conditions that have enabled or stymied activity.

A particularly important period associated with understanding of conditions supportive of creativity is that of the Renaissance in Florence, ca. 1400-1425. By the early 1400s, Florence (Firenze) had become one of the richest cities in Europe through trading, manufacture of wool and other textiles and through the financial activities of its merchants. Florence was beset with inequality between property holders and the have nots, and surrounded by competitors in the form of the city states of Siena, Pisa and Arezzo. It was within this atmosphere of wealth and uncertainty that the city leaders decided to make their city the most beautiful in Christiandom, the 'new Athens'. The merchants, bankers and churchmen not only provided funds but became intensively involved in the process. They encouraged, evaluated and selected works and were so interested in the outcome that this environment served to push artists and sculptors to perform beyond their previous limits. In essence the urban leaders and popular movement, served to cultivate creativity by goal setting.

Creativity can be described as the act of making new relationships from old ideas [3]. Alternative definitions of creativity include:

- *'Creativity is the forming of associative elements into new combinations which either meet requirements or are in some way useful.'* [4].
- *'Creativity is the ability to challenge assumptions, break boundaries, recognise patterns, see in new ways, make new connections, take risks, and seize upon chance when dealing with a problem.'* [5].
- *'Creativity is imagination with responsibility.'* [6].

A wide range of theories have emerged for creativity from romanticism and cognitive to social-cultural and systems approaches. A long held view associated with romanticism is that creativity bubbles up from the unconscious mind and that rational deliberation interferes with this process. In romanticism the creative needs to escape from the conscious ego and liberate instinct and emotion. By comparison in rationalism creativity is generated by the conscious mind, with deliberation, intelligence and rational thought processes. Poetry is often cited as an example that does not sit well with rationalism. However it can be noted that poems are carefully crafted by the poet, abstract paintings are carefully composed. Work from a socio-cultural perspective suggests that creativity does not only emerge from the mind and many natural and social processes can result in generative outcome.

The systems approach to creativity comprising a domain, a field and the person was championed by Csikszentmihalyi [7]. Creativity occurs when a person, using the symbols of a particular domain, has a novel idea or identifies a new pattern and is able to communicate this in such a way to the field so that it is recognised and promoted. Using this perspective [7] defines creativity as the activity, process, product or idea that changes an existing domain, or that transforms a domain into a new dimension. A creative person then is someone whose thoughts and ideas change or transform a domain.
As a result of decades of work from Henri Poincaré's (1854-1912) description of the discovery process, Wallas' four-step formulation [8], and Guildford's call to apply effort to understanding creativity [9], and the emergent theories of socio-cultural and systems approaches in combination with insights from neuroscience, a series of conclusions can be drawn with reasonable confidence [10].

- Creativity involves everyday cognitive processes.
- Creativity results from the combination of a series of basic mental capabilities.
- Creative output is realised as the result of long periods of work, typically with a series of mini-breakthroughs, with these being organised and combined by the creative person.
- Creativity is specific to a domain.

For many businesses, creativity is reserved for problem solving. Indeed, is there any need for creativity if you don't have a problem? Why would you bother trying to come up with creative ideas if everything in your business is rosy? What is the incentive? There are several ways of answering these questions. One is that there is no incentive and therefore you have no need to worry about commercivity, just carry on as you are. Another is that even if your organisation is going well there are always things that can be improved, perhaps costs that can be cut or systems that can work faster or better. And yet another is the 'certain' knowledge that your current state of satisfaction cannot last; there are as yet unknown surprises out there and you need to stay alert to new ideas and opportunities for your business. It is when things are going well that the best commercivity leaders get to work. In such times they are often afforded the time to think that will be denied them when times get tough.
It is often acknowledged that creativity is an essential factor for success [11]. In aviation and power generation, for example, the safety critical nature of the industries means the need for reliable technology is paramount. There is a tension between reliability on the one hand acting as a retarding factor on exploration in technology and the need for new designs which are more efficient and provide competitive advantage on the other. Such a contradiction and its resolution requires creative solutions. You need to be open to all possibilities and this is not a natural state of mind for human beings. We do not know how game-changing ideas occur to the individuals who have them. Fortunately, we don't need to know this. We need to put ourselves in the way of information, opportunity, fortune, and surprise, and to stay patient and positive and then act upon the opportunities that arise.

3 ON COMMERCE

Getting the connection between ideas and value – the profitable insight – is probably the 'Holy Grail' of commercivity but trying to 'beat' the value out of an idea is probably not the best way to proceed. According to Roger Neill [12], a lot of bosses of large companies feel that getting hold of the process and reorganising is the answer. A combination of human nature and clunky corporate processes make it very hard for big companies to resist throwing out ideas that seem absurd at first, even though they know they shouldn't. Absurd ideas can be threatening to those of us who are experts in the field. But if they are not absurd at first then we would probably have tried them out before. Lots of people have tried for a long time to make things happen without success – such as making planes fly – but until one person succeeds the notion seems like an absurdity.
Handling the reaction to an idea is an essential task and responsibility for the originator or idea champion. This is recognised in the systems model of creativity where communication skills with peers and domain experts is an essential attribute for effective creativity. Most marketing managers at the head of bringing an innovation to the public domain must work alongside other companies whose own innovations, or existing products, are integral to the success of the core design. When these other components need their own development process the margin of error significantly increases. A business plan which fails to accurately account for the risk involved within each stage and element of the innovation will produce unrealistic targets and expectations (most commonly by underestimating timescales) which have a high chance of being missed.
A compulsion to rush a new, potentially revolutionary product out into the market before consumers can use it – or are even aware that they need it – is likely to result in much of the time and money put

into the project having been wasted, and gives rival companies the scope to develop their own similar products by the time the innovation can actually be sold. Thus the initial frontrunners are forced to compete in a market they could have had a monopoly on. The key to successful innovation strategy, according to Ron Adner [13] lies '*not in being the first to put down a piece of the puzzle but in being the first to put down the last piece of the puzzle*'. This is an important point, to do with knowledge flows – the movement of ideas across the economy. Searching for new ideas is often described as 'standing on the shoulders of giants': inventors build on the work of those who came before them. Ferdinand Porsche famously noted that the only time you should start with a blank sheet of paper is when you have nothing worth keeping. We inevitably start any task and develop our thinking based on what we already know. This is one of the reasons why many big companies like to try to control the innovation process from the centre: they can gather the information and data on previous ideas and focus attention on areas where they feel improvement and innovation are possible. They hope the innate creative skills of some of their staff will do the rest. Yet this is rarely a successful strategy. Cadburys' Insight programme is an example, according to Lisa Ohlin [14], where a lot of staff get sent on training courses about how to get to the insight, but then what happens is people go back to their business units and don't really know how to implement it or how to use it. The need to fuse our knowledge and understanding of creativity with our knowledge of commerce and innovation is evident. This is considered in the next section.

4 THE CREATIVITY AND INNOVATION ENGINE

Coming up with new ideas is difficult. This is why creativity is acclaimed. Part of the reason that creativity is difficult is that so much has been done before with a population of billions thinking so much so fast. Jacob Rabinow (in [7]) notes that you need three things to be an original thinker:

- a tremendous amount of information,
- willingness to come up with ideas and put the effort into this and
- the ability to get rid of and discard the weaker ideas.

Creativity tools provide a means to augment innate generative activity. Most creativity tools can be used at any stage in a problem solving process and tend mainly to be focused on problem exploration, idea generation, and concept evaluation. Creativity tools in expert hands are as important to commercivity as are the surgeon's tools to the saving of life. Used recklessly they can be dangerous and counterproductive, yet without them there is scant chance of success. Deciding on the appropriate tool and then managing its use with great care is one of the defining skills. To be effective a creativity tool needs to influence the thinker at the time of idea generation. Human memory and the process of information retrieval are crucial in this process. The capacity of short term memory is limited ([15], [16]). [15] proposed that the capacity of short term memory is limited to approximately seven items plus or minus two. [16] indicated that this figure is influenced by a number of factors and [17] has shown that the duration of a short term memory retention is between 2 and 30 s. Regardless, the limited capacity presents a significant challenge to problem solving. If trial and error is used to tackle an issue then the available short term memory is likely to be dominated by information relating to the problem definition which is rarely useful for solving it. Most solutions can be characterised by the connection of diverse thoughts from previous experience. Creativity tools function by ensuring that a problem can be understood in relatively simple terms, thereby occupying only a fraction of short term memory, supplying cues to make the search of long-term memory more efficient and providing cues to ensure refreshing of short term memory and thereby retention of key information.

Creativity tools can certainly be of assistance in developing the quantity of ideas and if a process of convergence and divergence is followed as in the creative solving process (CPS), will involve evaluation, refinement and refinement of the ideas considered as a means to improve quality. It is questionable whether the tools will provoke game-changing concepts. More likely game-changing ideas that lead to new commercial opportunities will arise from sustained effort and an environment that encourages and permits risk taking. Creativity tools may however be of significant value in enabling the design space to be explored and for developing the details for each step of the idea in order to overcome challenges and issues inherent in idea realisation.

The conditions for creativity to occur include the combination of expertise, sponsorship, motivation, and good communication skills. Creativity can be enhanced by ensuring that our short term memory is free enough to be able to consider memories. This can be achieved in a number of ways including the use of creative tools by ensuring that a problem can be understood in relatively simple terms and

supplying cues to make the search of long-term memory more efficient providing cues to refresh short term memory and thereby retain key information as appropriate. The combination of these factors for encouraging creativity is illustrated in the idea engine shown in Figure 1 which uses the analogy of a jet engine with the multiple inputs of motivation, expertise, sponsorship and communication skills used for air, fuel, oil and control, the short term memory modelled by a compressor connected to the power-house of the long term memory or turbine. In an engine the compressor is usually directly connected to the turbine and this connectivity is preserved in the analogy with the short term memory fed with ideas by the long term memory. The refresh for ensuring retention of an idea in working memory is taken as analogous to a glow or spark-plug.

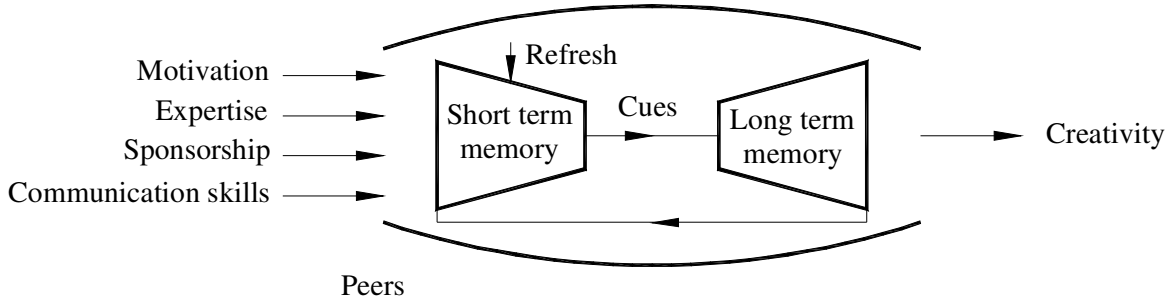

Figure 1. The idea engine © Peter Childs

In order to take an idea forward the developed knowledge in the field of innovation and experience in commercial activities can be applied. Creativity and innovation are integrally linked by design where embodiment is given to the idea with refinement and elaboration of all of the details required to enable the idea to be detailed. Innovation, the realisation of value from creativity, has been extensively studied and can be represented by a simple model in an extension to the idea engine shown in Figure 2 comprising the steps of financing and intellectual property considerations, development of a functional prototype or system, winning initial customers and thereby securing the finance for either licensing or winning more customers. The extension to the idea engine uses the analogy of an afterburner. The innovation engine encompasses the notions of testing whether the venture is concerned with a physical product or artifact or a process or system. Just as with a physical prototype an essential part of the development process is to explore customer reaction and to explore its function, so too with a process or system. The creativity and innovation engine also promotes a systems approach where there needs to be an incentive for engagement in the commercial activity.

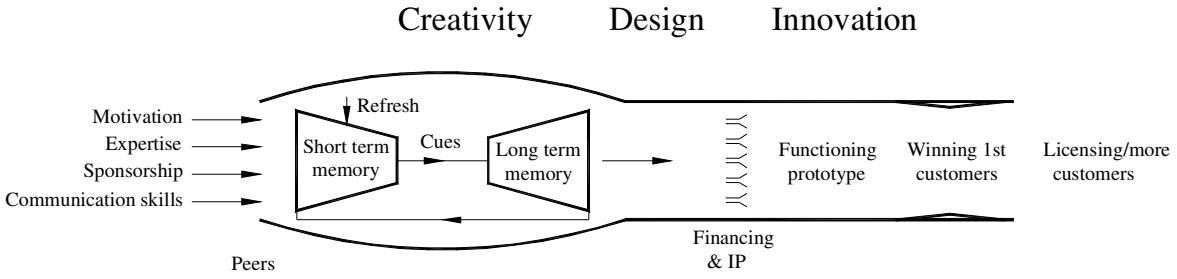

Figure 2. The creativity and innovation engine © Peter Childs

There are many ways to enable the processes indicated in Figure 2. The Create Process [18] could be adopted to provide an overall framework for the activity, creativity tools such as morphological analysis, post-it and grid brainstorming could be used to facilitate the generation of ideas. A standard design process could be applied and the ideas taken to market through the process of securing finance, prototyping and marketing to initial customers prior to enable the generation of sufficient finance in order to take the idea forward to wider markets. The innovation project process of building a star team, agitating to generate key insights and breakthroughs, embodying and detailing ideas, piloting and roll-out [12] has been demonstrated as a highly effective, albeit linear approach to turning ideas to reality. Turning ideas into reality generally requires small, balanced, empowered and well resourced teams of people or a single person fulfilling multiple roles. A single project champion for the duration of the

project provides many advantages including ensuring that the vision is preserved. A challenging but uncomplicated project plan ensures focus without diverting attention to process. Early conceptualisation of ideas and prototyping provides clear advantages in building confidence in ideas and demonstrating the potential viability of a concept. Iteration and product or system optimisation enables cycles of improvements to be made to an idea. Facilitation of problem solving at decision gates will assist in ensuring that ideas are addressed and rationale used in the judgement of issues.
Design thinking offers valuable insight into commercivity. Designing can be used for a verb or a noun. If you are designing a verb then you are designing an experience whereas if you are designing a noun then you are designing 'stuff.' With about 80% of the Western economy based on services and an increasing proportion of China's and India's (about 40 and 50% respectively), much greater opportunities for commercial activity reside with services and the associated user experience. By addressing the design of a socio-cultural system rather than just concentrating on a technical system you are more likely to be able to develop game-changing and disruptive innovations that serve to raise the market capitalisation and value of the business or organisation concerned.

5 CONCLUSIONS

Ideas taken forward to action mean money in the business context. Whether the activity associated with a proposed idea is disruptive and game-changing or whether the idea leads to a step change, the realisation of value from ideas is a highly sought after commodity. Commercivity concerns the commercial exploitation of creativity through the implementation of game-changing and sustainable ideas. Key to commercivity is the process of evaluating, developing, testing and providing incentives for customer engagement in the product, artefact, organisation or process concerned. The principles of Commercivity are now being applied in two Design London courses at Imperial College London, Design Led Innovation and New Venture Creation, and Advanced Design Led Innovation and Enterprise as well as in industrial networks and commercial enterprises.

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