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How Chinese SMEs Innovate Using ‘Diegetic Innovation Templating’ – The stimulating role of Sci-Fi and fantasy

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ABSTRACT

Use of established fiction provides a connection to society at large, tapping into the creative abilities of great authors and filmmakers, which can offer a valuable source of creative ideas. This paper explores how science fiction and fantasy, particularly in the form of films, is being used to stimulate creativity and produce innovation outputs in non-science SMEs in China. We argue that fiction has the potential to inspire innovation through a constructive organisational process, we provide a simple metric, the 'Diegetic Gap', as a means for illustrating this. In particular, we present four empirical case studies that explore the application of science fiction and fantasy to product and process innovation, utilising a concept we call a Diegetic Innovation Template to merge fictional narrative and tangible innovation output.

1. Introduction

It is change, continuing change, inevitable change, that is the dominant factor in society today. No sensible decision can be made any longer without taking into account not only the world as it is, but the world as it will be. This, in turn, means that our statesmen, our businessmen, our everyman must take on a science fictional way of thinking. Isaac Asimov (Asimov, 1978)

Well-presented fiction has the power to transport the reader to a plausible artificially constructed reality. Most often these artificial realities are constructed to entertain, but some are written to exercise and test new ideas for technology, business and society. Moreover, the creative processes employed in imagining such fictional worlds can be used as an engine for creativity and innovation, to generate new ideas and invent new products, business models or even socio-political structures. A number of researchers have proposed methods such as Design Fiction (Bleecker, 2009), Science Fiction Prototyping (Johnson, 2011) and Socio-Cultural Fiction Prototyping (Schwarz & Liebl, 2013). Both design fiction and science fiction prototyping use fictional stories written specially to describe the workings and benefits of particular product innovations that are set in realistic social settings, which are described to a level of detail that allows a type of pre-market test, before building and deploying the real product. Socio-Cultural Fiction encompasses novels, films etc. that are characterised by imaginative and creative content which, while created for entertainment, may provide an implicit source of inspiration for product innovation. Successful socio-cultural fiction authors are usually professionals in contrast to science-fiction prototyping writers who are frequently scientists extrapolating their work forward in time. From a product or process perspective, the key ingredient is imagining novel options which can, of course, arise from any fiction but are most commonly associated with science fiction or fantasy. Since this paper will use both genres, it is useful to consider their differences. In brief, science fiction draws imaginatively on scientific knowledge whereas fantasy draws on imagination, unrestricted...
by reality. As such, fantasy derives its plausibility not from science but from the observation of life as we experience it. However the boundary between science fiction and fantasy can be blurred as in, for example, the 2012 novel, *Cinder* (loosely based on the classic fairy-tale “Cinderella”) sets the leading character, Linh Cinder, as a young female cyborg living in a city of androids and humans as a second-class citizen. In reading this paper, it is important to understand that we do not draw a fine distinction between these genres, rather we seek to see either as a container of imaginative ideas to support the process of creative thinking.

2. Definition of ‘diegetic gap’ and ‘diegetic innovation template’ (DiT)

In this paper we will describe how some firms in China utilise Socio-cultural fictions to gain competitive advantage for non-technology based innovation, which goes beyond earlier research concerning the application of bespoke fiction to technical innovation (Graham, Callaghan, & Greenhill, 2013). To assess the potential for such fiction to support innovation for any particular industry we have introduced a measure we call the ‘Diegetic Gap’; the distance between a particular fictional style and the type of products produced by a particular firm. An alternative view of this metric is to regard it as a measure of how useful these fictions are to business innovation. The concept of diegesis in film theory addresses “this reality’s experience by viewers [represented reality of a film], its figurative location and its relation to other aspects of a narrative film work, as well as the so-called real world.” (Yacavone, 2012). It provides an important way of thinking about stories/narratives within fiction, which refers to the notion of the ‘fiction world’ vs. the “real world” (Prestopnik & Tang, 2015). The term Diegetic is borrowed from film studies to refer to things which are embedded into a fiction, playing an integral role in the story, such as the use of a mobile phone by one of the characters (Kirby, 2010). Thus, as a mobile phone already exists, the ‘Diegetic Gap’ would be essentially zero, whereas in a ‘replicator’ (a fictional machine, that featured in Star-Trek, which is capable of copying atomic structures thereby being able to replicate almost anything), would have a very large ‘Diegetic Gap’, less viable to be realised as a real world innovation. As fantasy is generally seen as being less connected to scientific principles, one might expect it to have a much larger ‘Diegetic Gap’ and be less useful to business innovation. However, as our case studies will illustrate, this is not necessarily the case since the ‘Diegetic Gap’ is dependent on the industry’s market and product, which can be equated to the conceptual acceptance of the customer and availability of the technology, both of which can be either small, big or even impossible. Later in this paper, we present examples of both fantasy and science fiction derived business innovations which we will use to illustrate how the diegetic gap can be understood and possibly managed.

The precursor for our work was Science-Fiction Prototyping developed by Johnson (2011) which, in simplified terms, uses bespoke science fiction to communicate or test innovative ideas that have been inserted into the fiction. In contrast, our work seeks to extract ideas (called innovation templates) from fiction that is already well-established in the social domain. To distinguish this process from Johnson’s, we refer to our model as a Diegetic Innovation Template (DiT). As will be discussed later, we make explicit use of these templates as the currency of innovation. Furthermore, we contend that the use of established fiction provides a connection to society and the market which brings significant business advantages, acting as a facilitator to organisational creativity, innovation and communication. To gain a better understanding of how the DiT method can be applied to non-science industry, we have conducted an empirical inquiry into four emerging business organisations characterised as innovative firms operating in the rapidly growing economy of China. In this paper, we particularly investigate the research question: *To what extent can DiT be used as a creative method to inspire a different dimension of innovation that may give business organisations a competitive edge in non-science industries?* This question is explored via a case study approach which investigates manufacturing and marketing service sectors in fast growing Chinese industries.

3. Literature review

3.1. Approaches to innovation capabilities

A business innovation can be a new product, service, process, technology, management structure, administrative system, work plan or marketing program pertaining to organisational members (Damanpour, 1991, p. 556). Innovation effects companies in complex ways that depend on its degree of newness to the adopting firm and whether it is a product or process change, or a market position and business model differentiation (Tidd & Bessant, 2009; Ulrich & Eppinger, 2004). The degree of innovation that an organisation can develop and introduce depends upon its innovation capabilities and, in turn, on such factors as its creative assets. An accumulative body of research has identified various factors that contribute to an organisation’s innovation capability. Internal factors can include, for example, the knowledge and skills of the individual members of an organisation, the investment in formal and informal R&D practices (Hoffman, Parejo, Bessant, & Perren, 1998; Malerba, 1992; Romijn & Albaladejo, 2002) and the organisation’s creative assets. External factors typically encompass the interactions and networking with suppliers, customers, industry associations and other agents (Lundvall, 1988; Von Hippel, 1988). Innovation capability thus becomes a strategic asset for a firm seeking to achieve competitive advantages (Conner, 1991).

The extant literature on innovation suggests that radical innovation requires strong innovation capabilities which are accumulated over time and are non-tradable, rare and inimitable, whereas incremental innovation could be facilitated with low internal innovation capabilities complemented by a buy-in process of acquiring specific assets (for example, technically qualified personnel, creative resources, knowledge and technology) on open markets. On the other hand, innovations in emerging market economies do not necessary need or aim to extend the knowledge and technological frontier as they can compete on other grounds, such as cost (McMullen, 2011). Furthermore, most firms in emerging economies do not possess strong internal innovative capabilities (a prerequisite according to current innovation theories) for radical innovations while time compression diseconomies and casual
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