

Diegetic Innovation Templating

Ping ZHENG^{a,1} and Vic CALLAGHAN^b

^aCanterbury Christ Church University

^bThe University of Essex

Abstract. In this paper we describe a process called *Diegetic Innovation Templating* (DiT) whereby science fiction and fantasy stories are used as a systematic source of ideas for design and product innovation. We also introduce a concept called the *Diegetic Gap* which acts a metric for assessing how compatible a particular piece of fiction is to a given innovation space. We illustrate the *Diegetic Innovation Templating* process using an example from a fashion house that specializes in creating leading-edge designs for women's clothing.

Keywords. Diegetic, science-fiction, fantasy, creativity, innovation, China

Introduction

From one perspective we are all stories in someone else's life. Ultimately, when we die we will be a story in the minds of our decedents. Stories have played a critical role in the evolution of the human race from the earliest times where they were used to pass oral history and information down generations to modern times where stories help imagine and motivate future innovations [1]. When we reflect of our childhood, many of us recall it as one filled with stories. Stories were read to us by our parents, others told through film and some we invented as part of our play, acting out imaginative scenarios of other lives. Indeed, stories never leave us as, even in adulthood, we use them to pass details of our travels, intrigues at work, and tales of nights out etc to those that were not with us at the time. Thus, story-telling has long been an instrument for communicating ideas, and providing inspirational visions, processes that are at the core of the methods we will describe in this paper. In particular we will discuss how stories, many in the form of movies, can be used as instruments for design ideation. We will do that by introducing a methodology called *Diegetic Innovation Templating*.

1. Background Work

A recent report by PricewaterhouseCoopers, the largest professional services firm in the world, found that “Five years ago, globalisation would have been the most powerful lever for growth and every business would have been talking about China. But now, the growth lever that has the greatest impact is innovation. Ninety three percent of executives tell us that organic growth through innovation will drive the greater proportion of their revenue growth” [2]. Thus, developing tools that support innovation in all its forms, from the aesthetics of design through to invention is

¹ Corresponding Author. Email: ping.zheng@canterbury.ac.uk

foremost on the minds of company strategists. As such, a number of researchers have proposed new innovation methodologies such as Design Fiction [3], Science Fiction Prototyping [4] and Socio-Cultural Fiction Prototyping [5]. Design Fiction and Science Fiction Prototyping use bespoke fiction that is commonly written by amateur writers as a way of illustrating the workings and benefits of a particular product innovation. In contrast Socio-Cultural Fiction draws on the output of professional authors through their novels and films that, while created for entertainment, may provide an implicit source of inspiration for product innovation. From an innovation perspective, the key ingredient is the process of imagining new opportunities, something science fiction or fantasy excels at.

2. Diegetic Innovation Templating

Diegetic is a term used in films to describe artefacts (mainly sounds) that are sensed by the characters as part of the story. Diegetic prototypes are a concept introduced by the film scholar David Kirby [6] to describe how film can serve to introduce society to a technological change and opportunity via artefacts or instruments used in film scenes. The gesture interfaces in Spielberg's *Minority Report* film provides a striking illustration of this principle.

A *Diegetic Innovation Template* (DiT), is a further development of this concept and can be regarded as a type of stencil or outline for an innovation that is derived from a fictional narrative or film. It goes beyond Kirby's observation by introducing the idea of creating an explicit mechanism to identify and extract diegetic artefacts from fiction with the explicit purpose of creating a new design and product innovation. In this paper we use movies to show how *Diegetic Innovation Templates* (DiT) manifest themselves in the fashion design industry although they could as easily be used to motivate product or service innovations. An intrinsic advantage of movies is they pervade society at large thereby containing significant aspects of our culture, lifestyles and aspirations which provide an inherent connection to the marketplace, bringing additional advantages to the use of these methods [5].

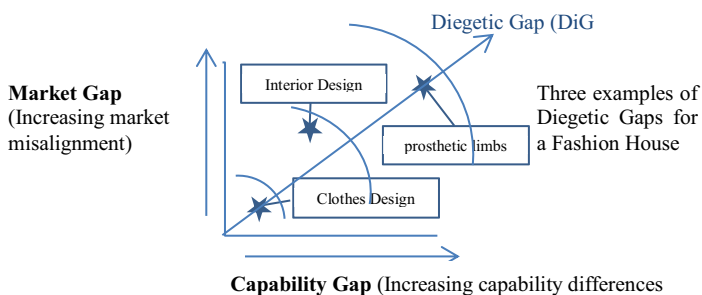


Figure 1 - Three examples of Diegetic Gaps (DiG) for a Fashion House

As the purposes of DiTs are to create real-world innovations, we have developed a metric, the '*Diegetic Gap*' (DiG), which describes how closely connected a given fiction is to a particular industry or how realisable it is. There are many ways to represent this gap since this gap is multidimensional. By way of an illustration, consider figure 1 which depicts the situation for three different fictions, one in which the *Diegetic Innovation Templates* (DiT) are clothing, another where they are living

environments and a third where they are prosthetic limbs generated by 3D printers. As the fashion house is unlikely to have any medical experts, nor experience of selling to that market, the *Diegetic Gap* (DiG) would be high for both dimensions. Should this diagram have included a third axis, showing the diegetic gap for feasibility (how close the fiction is to reality) that would have been small, since prosthetic limbs are common place in medicine. For the other extreme, clothing design, since that is the business of the fashion house then the *Diegetic Gap* (DiG) would be essentially zero. Of course the diegetic gap can be presented in various ways to match the focus of the analysis in question. As fantasy is generally seen as being less connected to scientific principles it might be expected to have a much larger *Diegetic Gap* (DiG) and be less useful to business innovation concept but as our case studies will illustrate, this is not necessarily the case since the *Diegetic Gap* (DiG) is dependent on the industry and product (e.g. in a research organisation, more fantastical stories might be closer to their needs).

To illustrate these methods the following section presents an example based on the application of *Diegetic Innovation Templating* (DiT) to the fashion design industry in China.

3. Case Study Illustration: Sunfed Fashion

Small and medium size enterprises (SMEs) make significant contributions to economic growth, yet most studies into innovation have focused on large organisations or technology based firms [7] [8]. Thus this paper seeks to counter this trend by presenting an example from a non-technology entrepreneurial SME, Sunfed Fashion.

Sunfed Fashion is a Chinese SME with a marketing centre in Beijing and a R&D facility in Shanghai, affiliated to a USA parent, the Sunfed Group. It has established a branding reputation in the Chinese market for producing distinctive professional women's fashion-wear, being awarded the "*Best of Ten*" in ladies fashion for five consecutive years at the Dalian International Fashion Festival. Sunfed has exhibited a high growth over its operating period (almost 20 years) reporting annual sales of US\$45 million in 2012. Despite this success, it remains small with only 270 employees.



Photo 1. Harry Potter Movie: design inspired design by the film's capes (photos courtesy of Sunfed)

Various researchers have shown that artefacts described in fiction that are attractive to audiences (potential customers), are likely to be so in real life [9] [6]. This is the central tenant of the strategy adopted in this work. Part of the power of using such fictions for design is that they are rooted in our societies and cultures but at the same time encapsulate our aspirations for the future [5]. The concept of diegetic innovation templating distinguishes itself from other approaches based on its unique source of creativity that both reaches beyond reality while linking to reality for the explicit purpose of product or design innovation. Earlier in this paper we introduced the notion of the '*Diegetic Gap*' which refers to the separation between the fictional and real-worlds. Since for the purposes of this paper we wish to illustrate the principles using a company that has successfully deployed DiT, we are inevitably looking for opportunities displaying low *Diegetic Gaps*. As the discussion in the previous section suggests, the fashions industry is one such area as the fiction readily enables people to realize their aspirations, even fantasies, by modifying their visual persona to match their desires or alter-ego that, in turn, may be driven from popular fiction. Thus, materializing ideas from science-fiction or fantasy can take customers to an alternative world that may be filled with impossibilities and fantasies which may add a whole new experience to customer satisfaction. As the president of the company said:

"Fashion is about constantly catching the popular trends at both national and international levels. What influences people the most is the cultural, art and fictional work as well as those popular fictional films which connect vogue and fashion. Fashion customers need more new and exciting experiences from a brand design. Science-fiction books and movies are our never-ending source of new ideas to keep up with customer's demand... the ability to identify and generalise ideas from science and fantasy fiction is critical as not all fiction is appropriate so you need to know what customers expect and what can be used to transform these 'fictional imaginations' into a tangible product."

The chief designer explained:

"We understand the need and expectations of the customer. Our design targets are young professionals and middle class income women, who live a busy and high-pace life style, who need an escape from the hectic reality to relax their mind and enjoy some very different experiences. ... For example, the Twilight movies became very popular in China, which inspired me. I have thus taken a cue from the vampire look, dress style and blood colour to integrate into my autumn 2011 collection. The runway shows are fully embodied with references to the movies in terms of models' make-up, music, lights, sound, forest background (eg fighting scene), smoky and scary atmosphere..."

To illustrate this, photo-1 depicts a diegetic innovation template taken from the Harry Potter movie in the form of Professor Severus Snape's cape. The imagery of the film inspired the Sunfed design which was shorter and used more elegant material. This cape became the best-selling item in Sunfed's autumn 2011 collection. It is important to emphasise that the benefits to Sunfed from using the diegetic innovation template

method concern both the clothing design and the market socialisation aspects, giving them a competitive advantage in both.



Photo 2. The Lord of the Rings Movie: coat design inspirations (photos courtesy of Sunfed)

By way of another example, photo-2 illustrates a diegetic innovation template from 'The Return of the King' movie (one of the 'Lord of the Rings' trilogy) that also takes the form of a coat. In this Sunfed mimicked the fur collar and used sophisticated fabric to capture the power and mystery from the magical world. As a result this design turned out to be another success for the fashion company's winter 2011 collection.

In more general terms, Table 1 summarises the qualitative findings from the application of *Diegetic Innovation Templating* (DiT) to the design of Sunfed's main fashion lines. The nature of Sunfed (a fashion company) meant the 'Diegetic Gap' was particularly small and so the method was relatively easy for them to apply. As can be seen from reading their comments, these methods are core to the company's business strategy. Beyond the perceptions recorded in table 1, the introduction of DiT to Sunfed has changed its dynamic capabilities giving it a very short new product innovation cycle that outperforms its competitors. Being based on films, DiT provides an almost 'endless' stream of new ideas, enabling it to efficiently create new product concepts with a competitive edge. The speed of introducing DiT oriented new products becomes an effective means against copycats since it is difficult for competitors to keep up with the DiT process. The introduction of DiT into the design process involves understanding the Diegetic Gap of different sources of science fiction and choosing, tailoring and customising them to meet the company's needs. Also, successful implementation of such DiT-oriented strategies results from combined efforts, e.g. marketing communications, promotion, sales team, strategy, leadership and culture etc. The net result of mixing these aspects makes it difficult to identify a particular or a single casual factor for success, which in turn, mean it is almost impossible to be

imitated by competitors or purchased in the market, safeguarding such companies from flash competition [10].

Table 1. Summary of Interview Data

DiT Criteria	Sunfed Fashion	
Perception	Strong	<p>“... Science fiction films and stories provide interesting philosophies from different perspectives. I enjoy reading SF stories.” (President)</p> <p>“Science fiction gives new ideas and fantasy for our cloth design and creates a vision of what virtual reality we are taking our customers to.” (Designer)</p>
Ideation	Direct	<p>“... Taking creative ideas from science fiction movies, novels, and internet is our ‘secret weapon’ of idea generation. It plays very critical role in maintaining our leading design position ahead of the market competition.” (President)</p>
Products linkage	Explicit	<p>“... ‘Harry Potter’ is the inspiration for ‘Magic Series Cloth’ and another best-seller design is based on ‘Twilight Breaking Down’ film series... (see more sample design photos as attached).” (Designer)</p>
Policy	Deliberate	<p>“... It is essential for our designers keep a close eye on popular films, science fiction elements, internet, TV shows and popular trends worldwide for new opportunities and new idea generation.” (President)</p> <p>“We play science fiction movies and tell fantasy stories in our regular training workshops to show employees the source of and links to creativity....” (Manager)</p>
Vision	Customer-oriented	<p>“...We will be the leading brand for a wide range of product portfolio. Future technology will enable us to use high-tech materials to create new experience, unique style and quality reliability to the market and customers...” (President)</p> <p>“Future fashion market will become more generalized and converged at worldwide, thus it may require either highly integrated and standardized product for a mass market expansion” (Designer)</p> <p>“It might be a completely digital world and based on virtual online shops instead of physical present.” (Manager)</p>
Outcomes	Product Oriented	<p>“... SFP plays very critical role in maintaining our leading design position ahead of the market competition.... We use the speed of launching new designs, constant updates and continuous creativity to beat the imitators as they can’t keep up with us and they don’t have the capabilities of creativity as we do.” (President)</p> <p>“Science fiction is the foundation and sources of ideas and imagination for extraordinary designers. Transforming the science fiction prototype to the reality is a creative process for product design.” (Designer)</p>

This paper presents just one case from a much larger study of *Digenetic Innovation Templating* that monitored the application of this creative process in four Chinese companies over a number of years. Our motivation in writing this paper is to provide an introduction to *Digenetic Innovation Templating*, but for those requiring a deeper analysis than this paper allows, we refer you to our more substantial journal paper [11].

4. Conclusion

In this paper we have introduced the concept of *Diegetic Innovation Templating* as a tool to identify and extract innovative ideas from entertainment fictions. The advantages of this approach over methods, such as Science Fiction Prototyping which involve writing bespoke fictions are that firstly, they offer a cost-free source of high-value imaginative ideas which can be used by employees without creative writing skills. Secondly, the social roots of these fictions provide a currency that is shared across a broad section of society, providing strong synergy with branding and marketing. Thirdly, and for the same reasons, the process readily engages with a firm's workforce making it easier to implement. However, the most significant contribution that *Diegetic Innovation Prototyping* brings to an organisation is its role as a tool for creative design where it provides an intrinsic framework for “*thinking outside the box*”.

In addition to introducing *Diegetic Innovation Templating* we presented a metric called the ‘*Diegetic Gap*’ which describes how closely the fiction and actualised product or process is, and how relevant the proposed methods are to a particular industry, organisation or product. In our example of a fashion company, the ‘*Diegetic Gap*’ was particularly small and so the method was relatively easy for them to apply.

Another interesting outcome of this research is that the impact of science fiction is multi-dimensional. Most prior studies have focused on technology innovations but through our example we show how the technique is also relevant to other types of company.

Finally, we hope our work has shown DiT can be useful to researchers, managers' scholars and policy-makers since it provides a possible means for improving innovation capabilities and a way to inject creativity so as to develop a competitive edge. We believe that it has important implications for the way in which managers can train and develop employee creativity to improve a firm's innovative capability.

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