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Design Entrepreneurship in Innovation

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The paper demonstrates the need for an entrepreneurial attitude and competence in designers of today in order to ensure innovation.

The paper considers evidence from four design innovation case studies to explore the relationship between design capabilities and the wider conditions necessary for innovation. All four case studies have been conducted in collaboration with commercial organisations seeking innovation, and designers and academics based in a university in the United Kingdom.

First, a review of design's capabilities is presented from the literature. Second, evidence from each case study is mapped to the UK Design Council's popular model of design process: the double diamond. This allows findings across the four cases to be compared and discussed, considering how design's capabilities contribute to the conditions necessary to transform design effort into innovation. Third, the role of design within the 'define' stage of the double diamond is articulated.

The initial findings state that the lack of connector-integrator capability in designers during the 'define' phase lead to weak interpretation of the problem space, and consequently contributed to design's inability to convert ideas into real products in the 'delivery' phase.

The paper concludes that for design to effectively drive innovation it needs to secure entrepreneurial support i.e. with an appetite for risk/reward; in the early part of the design process.

***Keywords**: Case Study, Design Innovation, Design process, Double Diamond, Entrepreneurship.*

Introduction

Design's contribution to the exploration, identification, and creation of innovative products has been widely celebrated. IDEO's Tim Brown has proposed that design excels in discovering new value propositions through the use of creative thinking (Brown, 2009). Kazmierczak (2003) discusses design's value in terms of meaning-making and bringing ideas to life through ideation. Naussbaum (2013) however, argues that design's contribution to translating ideas into real marketable products is very low. Also, Hirsch (2012) concluded that it is the lack of critique and risk taking within designer's that makes them shy of being innovative.

Whilst design's growing contribution towards business is on a rise (Jhanke, 2013 and Leidka & Ogilvie, 2011), the complexities within organisations have seen to be a barrier for using design at its full potential. Many would argue here that the nature and structure of the organization itself could have a detrimental effect on budding entrepreneurs. However, as the focus of the current investigation is on the gap within designer's capabilities, the authors would like to focus on designer's capabilities more.

The discussion of design's contribution in innovation is highly topical in the UK and linked to current government economic policy (Design Council 2015, Sajid Javid, 2015), nevertheless design and designers do not always get a chance to work within these contexts and make an impact. It is relatively rare for designers to find organisations that allow them to be equal partners in innovation, and rarer still for design to drive organisational-change to build a more innovative organisational culture. So, can design answer its own and the Government's aspiration to drive innovation and economic growth?

In this paper the authors have discussed four case studies, all conducted in collaboration with commercial organisations seeking innovation, and designers and academics based in a UK university. The paper authors constitute the academic and design teams involved in the case studies, providing a unique opportunity to examine the design role in relation to the innovation ambitions of the partnering organisations. Evidence from each case study is mapped to the UK Design Council's popular model of design process: the double diamond. This allows findings across the four cases to be compared and discussed. In particular, the 'define' phase in the double diamond design-process model is discussed, as a potential lynchpin for the translation of design effort into commercial innovation.

Design Capability

Design not only has a role in the development of products and services for today, but has the capability to influence the future. Designers have a chance to play an influential role in building future realities and in humanizing people's experience in the world. Miemis (2010) identified design's capability to understand, impact and interact with people's emotions or actions and their long-term view in every aspect of life – from political, psychological to social. Brown (cited in Yee, Jefferies, and Tan, 2013, p.6) supports this viewpoint and emphasized that, 'Design is what we do to shape the world around us.'

In terms of business, great design has the capability to build indirect relationships between a company and its customers, and to give greater value in their lives (Brunner, Emery, and Hall, 2009, p. 212).

Design also has a capability to provide meanings (Kazmierczak, 2003, Jahnke, 2013). In his book; Design-Driven Innovation, Verganti (2009, p.27) clarifies that design is not only about shape and styling, but 'it is about a particular type of innovation: the innovation of meanings'. As Krippendorff (1989) stated that 'Design is making sense [of things],' People buy meanings - instead of product – not only for functionality, but also for deep emotional, psychological, and sociocultural motives.

The Capability of Design Thinking for Innovation

Design is not an event, but a process, where design thinking plays a very important role (Brunner, Emery, and Hall, 2009). Design thinking is a human-centred innovation process that eventually affects business strategy and innovation (Lockwood, 2010). Design thinking can be applied not only by designers, but also by non-designers. It gives autonomy to discover methodologies and techniques of the design process, which can be applied in organisations in order to solve problems.

Miemis (2010) stated that in the era of uncertainty and complexity, both design thinking and thinking are tools for creating and developing the flexible viewpoint that is necessary for 21st century design types: *adaptive*, *resilient*, and *transformational*. Lockwood (2010) supports Miemis (2010), and confirms that within a company, design thinking is applied as a methodology that embraces innovation; it provides business with tools and methods to create services, products, and experiences and to visualize the future market conditions.

However, Brown (2009, p.227) argued that 'design thinking can not only contribute to the success of the companies but also promote the general

welfare of the humanity.' Brown (ibid., p.18) identified that successful ideas are developed from three constraints as overlapping criteria, which are:

- Feasibility (what is usefully possible within the predictable future)
- Viability (what could be the component of sustainable business model)
- Desirability (what seem right to people and for people)

Brown (ibid., p.18-19) pointed out that design process has the capability to explore which constraints are vital to be evaluated within the established framework, whilst design thinkers consider the three constrains in harmonious balance. However, Nussbaum (2013) argued that design thinking is ending, and now is shifting to another theoretical framework: Creative Intelligence. Although he agreed that design thinking initially offered the new process that promised to bring creativity to big business, he believed that design thinking process deliver a very low success rate. He claimed that 'in a few companies, CEOs and managers accepted that along with the process and real innovation took place. In most others, it did not.'

Navigating Design Process as Capability

The authors recognise that designing usually involves a complex creative process. Understanding this process helps designers to work in a knowing way; working more efficiently and effectively and allowing them to apply appropriate tools and methods, and create better outcomes. Building and applying appropriate processes for the circumstances is itself an important design capability. Dubberly (2008) in his book 'How do we design?', states 'If we wish to improve our products we must improve our processes…that's why we study the design process'.

Through careful research the UK's Design Council (2007) developed the double diamond as a simple way of communicating key stages in a design process. To create the model, the Design Council researched eleven leading companies (Design Council UK, 2007) while they all used different terminology and different ways of managing the process they found that four core activity-stages were common across the participating companies. This was captured in their double diamond visual form and has become one of the most widely recognised design process models.

The double diamond has four distinct phases: discover, define, develop and deliver (Figure 1). The visual form of the model not only describes the

different phases in the design process, but also expresses when divergent and convergent thinking takes place.

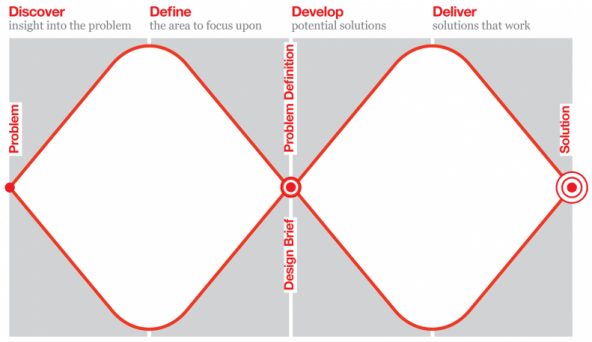

Figure 1: Double Diamond Design Process (Hunter, 2015)

- Discover – the initial exploratory phase, one of research in which designers 'notice new things and discover insights' (Hunter, 2015) allowing them to identify problems and possibilities. This is a phase of opening up to ideas and divergent thinking.
- Define – the second phase, one of synthesis in which designers try and make sense of all ideas and insights; working out what is important and what is possible. This is a phase for convergent thinking; narrowing down, allowing the designer to frame the problem, and develop the specific design brief.
- Develop – the third phase is one of development where potential solutions are identified, prototyped, iterated and tested. Here divergent thinking allows these ideas to be explored in an open way.
- Develop – the final phase in which the product or service is finalised and launched. Convergent thinking narrows down ideas to a specific solution.

Although the Design Council recognises that the design process is iterative and that an essential part of good design is the re-working and refining of ideas (Hunter, 2015), the visual representation of the double diamond does not reflect this, but suggests a smooth move from one phase to another. In reality the designer may go back through the different stages several times as the idea is developed. This brings us to another key design

capability i.e. the right skill, competence and attitude of designers that enables them to innovate.

Entrepreneurial Skill, Competence & Attitude of Designers as Capability

Michlewski (2008) identified that 'there is a growing body of literature that suggests design attitude is an important capability for organisational studies (Boland, Richard, and Collopy 2004; Dunbar and Starbuck 2006; Yoo et al. 2006)'. Brown (2009, p. 18) complemented Michlewski (2008), and concluded that for a foundation of design thinking, a competent designer should have an attitude of acceptance of opposing constraints (*feasibility, viability, desirability*), and willingness to tackle the three constrains in harmony.

Michlewski's (2008) investigation of the professional designer's attitude, provides five theoretical classifications describing design attitudes:

- *Consolidating multidimensional meanings*: designers have the capability to look at a situation in many different perspectives, unify the standpoint of humanity, and understand the technical limitations (senior commercial partner, IDEO).
- *Creating, bringing to life*: designers have capability to alter the current invisible and intangible ideas into visible ideas (general manager, IDEO).
- *Embracing discontinuity and open-endedness*: designers have willingness to involve in the process, that which is unplanned, and not prearranged in detail, risk taking and temporary loss of control with the consequence that the outcome is uncertain
- *Embracing personal and commercial empathy*: "Designers are trained by hard work and practice to tune in to how people relate to things around [them], in quite a deep way" (senior commercial partner, IDEO).
- *Engaging polysensorial aesthetics*: designers are keen to use their aesthetic intelligence and judgement while interacting with the environment. The capability to 'think through drawing' and visualisations is one of the most essential skills of designer to attain (Schön 1983; Cross 1999).

In addition to Michlewski's five attitudes, research in innovation and entrepreneurship revealed five key elements that have been used to

characterise and illustrate the entrepreneurial spirit: *innovativeness, autonomy, risk-taking, pro-activeness* and *competitive aggressiveness* (Kariv, 2011). These five dimensions form the concept of entrepreneurial orientation and were described in detail by Lumpkin and Dess (1996):

- Innovativeness refers to a willingness to support creativity and experimentation in introducing new products/services, and novelty, technological leadership and R&D in developing new processes.
- Autonomy is defined as independent action by an individual or team aimed at bringing forth a business concept or vision and carrying it through to completion.
- Risk-taking means a tendency to take bold actions such as venturing into unknown new markets, committing a large portion of resources to ventures with uncertain outcomes, and/or borrowing heavily.
- Proactiveness is an opportunity-seeking, forward-looking perspective involving introducing new products or services ahead of the competition and acting in anticipation of future demand to create change and shape the environment.
- Competitive aggressiveness reflects the intensity of a firm's efforts to outperform industry rivals, characterised by a combative posture and a forceful response to competitor's actions.

Hansen-Hansen (2012) adds that entrepreneurship is not same as invention. He goes on to explain that if innovation fails to produce a profit opportunity in the market, then it is not an entrepreneurial innovation. Product differentiation, exploration of new market opportunity or creating new markets, all these are part of entrepreneurial endeavors that designers have been part of, but have not led as a business graduate would.

By consciously developing above mentioned capabilities (by Michlewski and Lumpkin & Dess) in an appropriately facilitated way designers could have a more proactive role in innovation. An entrepreneurial orientation could stimulate insightful approaches into a problem: doing so, a designer could spot spaces in markets, that is, discovering and defining a market opportunity.

Methodology

The paper uses four case studies, all conducted in different contexts to identify the contribution made by design within 'define' in the double

diamond. The focus on this stage of the process emerged from the data obtained from the four cases themselves, when it became evident that connections between design activity and commercial innovation could be established in this phase.

The process from each of the case studies was first superimposed on to the double diamond process, which provided the researchers with a robust framework on which the data could be visualised and organised.
An advantage of the double diamond was its simplicity, which made it easy to explain to company staff across the businesses, who were new to design processes. In all the stated case studies, the model felt like a very good fit to the more scientific R&D activity in the business as well as the commercially oriented product development and manufacturing.

Case Study 1- Design's Capability to Connect and Integrate (a Multinational context)

The first case study demonstrates the gap in design capability within a very large organisation. This case study was conducted with a multinational based in The Netherlands. This multinational aimed to establish design as a leading functional discipline within the organisation. This entailed an explicit definition of their design innovation process called the value proposition and development process, which led to a partnership between the university and the multinational leading to a collaborative studentship for a PhD. The lead author was established as a participatory observer within the 'research development and innovation team' (RD&I) for a nine month internship to explicitly define the value proposition and development process.

The investigation combined methods such as action research, Delphi technique and interviews to explicate the tacit knowledge from each individual innovator and make it explicit (Anonymous & Young, 2014). The conclusion was the explicit definition of the innovation process which comprised of 10 steps and several cross functional collaborations (Anonymous, 2013), carried out subsequent to the multinational's strategic level marketing process called the 'high design process', with no explicit collaboration between the two functions.

In order to compare the significance of contributions, both the value proposition and development, and the high design processes were mounted on to the double diamond model (Figure 2).

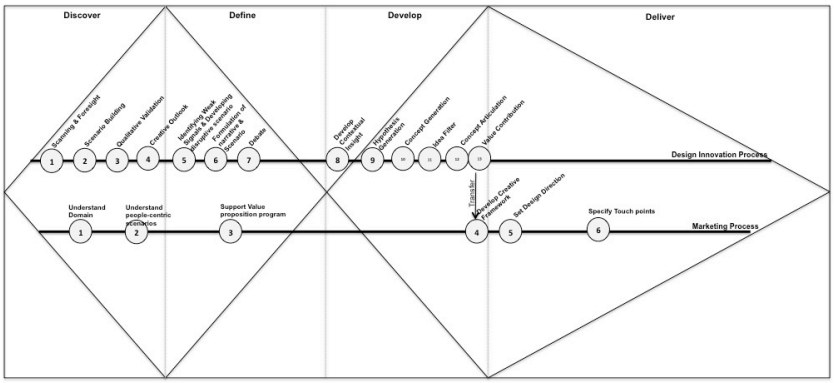

Figure 2 – Value proposition and innovation process and the marketing process at the multinational.

Finding

Evidence demonstrated that design mostly contributed to the first three phases of the double diamond (discover, define, develop), whereas the marketing process contributed to the delivery phase of the double diamond. Consequently, creating a disconnect, which posed a significant barrier for design i.e. design could not 'deliver' new products to the market.

Also, whilst design's contribution in the early stages of the double diamond was visually strong, all the work under 'define' stage was conducted in isolation without much collaboration with other important and recognised functions within the multinational. This again posed a significant barrier i.e. the problem space definition was solely based on insights coming from design, and no collaboration was established with other functions. Whilst this allowed complete ownership of the 'define' phase by design, there was minimum involvement of internal interpreters, which according to Verganti (2009) is an important driver for design driven innovation.

The important question to ask here is, why was design not able to integrate its work with the function of marketing and transform its ideas into real products?

Evidence confirms that the design function in the multinational was missing a design capability that enabled designers to play the role of a 'connector-integrator'. Kyffin & Anonymous (upcoming 2016) confirm that designer's ability to work, as a connector-integrator is a critical enabler for innovation. Whilst a connector-integrator needs to be aware of cross-functional capabilities that exist within an organisation, he/she also needs to

have an in-depth understanding of the missing design capabilities and knowledge. In this role a designer identifies missing capabilities in the existing design process and establishes new connections, aiming to develop new capabilities and new knowledge for the function of design. In the connector-integrator role designer's need to have business acumen, a deeper understanding of the structure of the organisation/teams and functions, and an *entrepreneurial attitude*.

Case Study 2: Developing Entreprenuerial Design Capability in a Student-led Innovation Partnership with a Large Firm

The second case study provides a glimpse into a student led innovation project with a large firm, where the student teams became the sole source of entrepreneurial capability for the organisation in the early stages of the double diamond.

This case study relates to a collaborative postgraduate student project with a leading UK based (Multinational) kitchenware brand to create value propositions in form of product ideas. Thirteen multicultural and multidisciplinary design student teams were tutored by four academics. In an attempt to unravel the needs of consumers of the future, these teams combined several design ethnographic techniques to create new ways of investigating social, behavioural, and habitual aspects of the kitchen users. They also applied mind mapping and mental models to identify the problem and their potential solutions spaces. Clear identification of problem space in the early stages of the design process led to a better interpretation of the product idea in the later stages of the design process.

Due to the continuous interaction between the client and the students, the student teams became integral part of the client organisation, and contributed to the early phases of the double diamond (figure 3). The student teams followed a *project level double diamond* (shown in blue in figure 3) comprising of the stages, *explore-observe-translate-communicate*, which fit within the first quadrant of the client's double diamond.

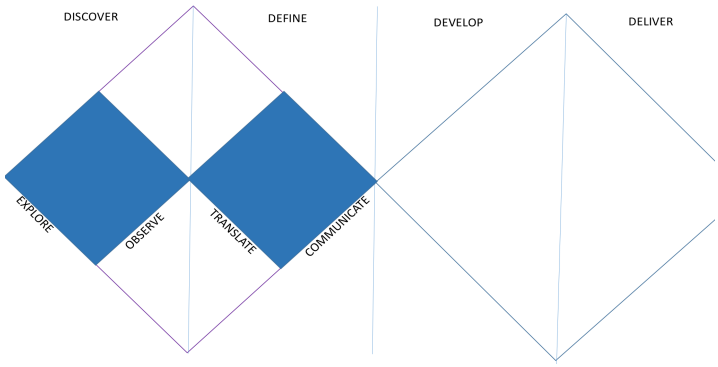

Figure 3: Student team double diamond in blue within client organisation double diamond

Finding

Integration of several stakeholders in the early stages of the design process as 'interpreters' made the proposed ideas viable, desirable and feasible for the client organisation. As a result, three product ideas were selected by the client organisation for development to manufacture.

The students made significant contributions towards strengthening the 'define' phase for the client, consequently, increasing the application of design's role for innovation for the client organisation. As a result the internal team in the client organisation could easily commercialise the largely developed ideas in the 'deliver' stage.

Also, there was significant evidence demonstrating student's engagement and learning as a result of the project. The client repeated the project the following academic year and increased their engagement with the students.

Case Study 3: Design-led Innovation Capability in a Small Firm.

The third case study demonstrates the gap in the design capability of a small firm. The setting for the third case is a 21-month collaborative partnership between a UK Design School and a technology manufacturing start-up company. The company had between ten and fifteen staff, half involved in scientific R&D and half involved in the manufacture of bespoke solar photovoltaic modules, which could be integrated into a range of product applications. The collaborative partnership with the Design School

was jointly funded by the company themselves and through the UK Government's Knowledge Transfer Partnerships programme, which helps companies to bring University expertise into their own strategic project plans.

In this case, the strategic aim of the partnership was to build a design-led innovation capability into the company, in order to support the manufacturing half of the business through it's start-up phase. The method for embedding this expertise was to establish an industrial designer in the business, who was jointly supervised through a 21-month period by the design scchool staff team and company staff. Together they comprised the CS2 project-team.

After around 14-months of the collaboration the CS2 project team wanted to model the progress being made in establishing design-led innovation approaches in the business. The purpose was two-fold, first to provide a new 'design-lens' for the whole business (from R&D to Production) to better cross-relate its own diverse range of project activity, and second, to provide a framework for reviewing the extent to which the new functions and expertise were becoming embedded in the business. The CS2 project-team applied design-led innovation approaches to a series of live projects in the business, considering and mapping this project activity to the four-phase, 'double-diamond' design process model (UK Design Council). This project-mapping approach revealed how effectively each of the four design process phases connected with the existing business processes.

In some cases, projects had arrived from a customer in a form that was already tightly defined (see Figure 4 – Version 1 - Project A) where the company's expertise would be focused on material selection and optimisation for manufacture (Develop) and production (Deliver). In other cases the company was engaged earlier with a customer's concept, determining design criteria through researching technologies and context of use (Discover) and potential feasibility (Define) (see Figure 4 – Version 1 - Project B). The company's R&D team projects sometimes sat in the Discovery column only (see Project C, Figure 4.).

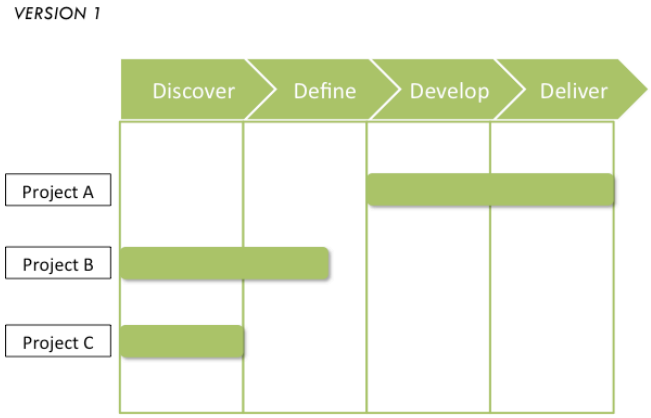

Figure 4: Version one of mapping

At this stage the academic team debated representing every project across all four columns with varied weighting to represent where the bulk of the project activity sat in the model. Instead, the project lozenge was inflated in the column that described the point of 'arrival' in the company e.g. from a customer or from an emerging market or technology (see Figure 5 – Version 2).

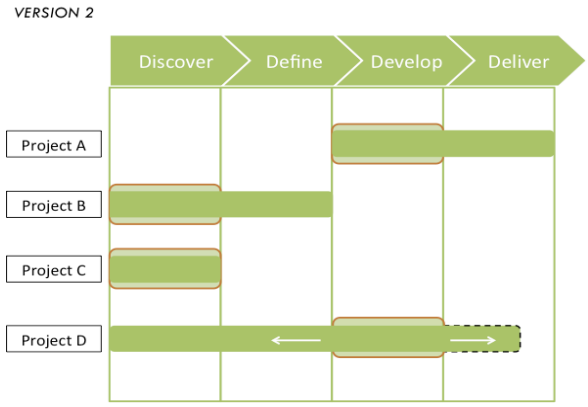

Figure 5: version 2 of mapping.

A further observation at this point was that projects sometimes arrived towards the right of the model, but further enquiry suggested those projects

really needed to be reversed back into the earlier development stages to be reconsidered and reframed. This may be to take advantage of alternate markets, materials, processes for example. (see Project D in Figure 5).

With the core principles agreed, the CS2 project team, led by the Industrial Designer, mapped the 17 significant live/ongoing projects onto the model in this way (Figure 6).

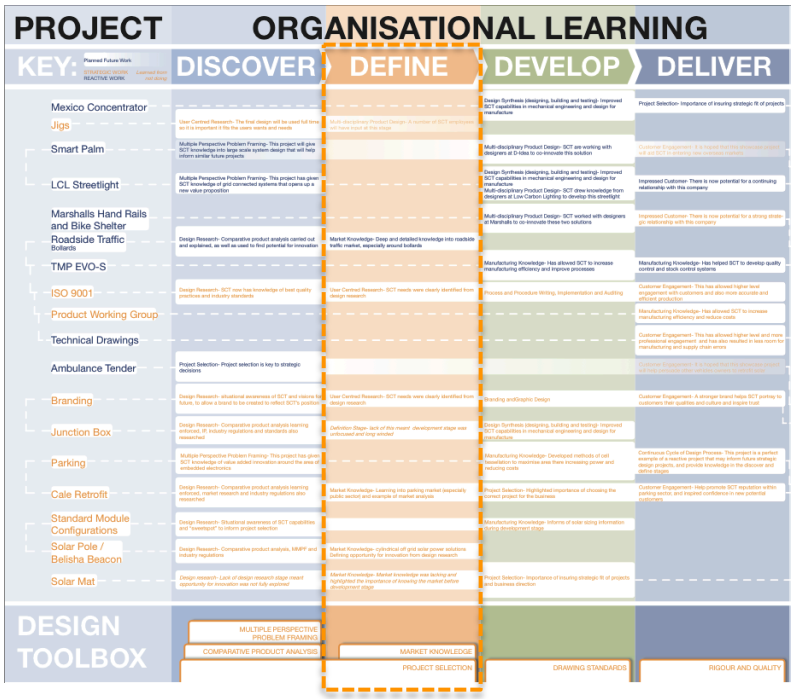

Figure 6: Full knowledge map

Findings

Looking across the eventual map of project activity in the company there was significant design engagement in customer projects falling into 'Discover', 'Develop' and 'Deliver' columns, but very little in the 'Define' column. Design's contribution to the 'Discover' column was a significant design engagement in customer projects and also internally-initiated projects falling into the 'Discovery' column. This illustrates design's contribution to exploring new market segments through competitor reviews

and attending key trade shows and meeting customers directly. These design activities integrated with existing functions of the business, sometimes connecting opportunities generated through the technical R&D function with market opportunities for example, but also exploring the potential of strategic self-initiated projects with the company's senior management team (i.e. being proactive, rather than always being reactive and trying to execute customers' proposed solutions, even when they may have seemed poorly conceived).

Design's contribution in 'Develop' and 'Deliver' could be explained in relation to the new CAD facility that had been established in the company, capturing each product's information in the form of digital models, drawings the associated bill-of-materials (BOM). These Design for Manufacture and Assembly (DFMA) elements of the overall design process were tangible, integrated with the company's existing systems through their quality processes (ISO9001) and were starting to directly drive the way production was planned and managed through the BOM.

The mapping process illustrated that the 'Define' column of the model captured comparatively little design activity compared to the other three. Some of the design work in column one should have led into the define activity but was squeezed out by an absolute necessity to focus on cost-effective delivery of live orders at that time. That in turn preoccupied the design resource with DFMA. Where other design stages had found a fit with existing business processes (as described above), the 'Define' stage didn't. And yet it needs buy-in at the highest level because it is attempting to answer questions about the direction of the business in terms of the products/services it commits to. In other words, the 'Define' phase affects strategy as a whole, not just specific business functions. The decisions framed in the 'Define' phase require the decision-makers to act not as *managers* but as *entrepreneurs.*

Case Study 4: Design Capability to Define in a Product Design Project In a Small Firm

The fourth case study illustrates one of the ways in which design could contribute to all the four stages of the double diamond process. In this case study different protagonists orchestrate the different sectors of the double diamond model, CS3 reinstates the importance of ownership of the 'define' phase by design. The 'discover' sector is led by 'A' the CEO of an SME specialising in the design and manufacture of exhibition systems. The 'define' and the early part of the 'develop' sector is led by 'B' an academic

expert in innovation method. The later ‘develop’ sector and the ‘deliver’ sector is driven by ‘C’ a team of industrial design placement students managed by both ‘A’ within the business and ‘B’ within the University.

This case study involves the design and development of an inexpensive fully recyclable cardboard roller banner that was launched onto the market in October 2015. The foundation for the project was established by ‘A’s knowledge of the banner stand market place and advances in ink and printing technologies as well as recyclable substrates.

The discussion between A and B led to the emergence of a number of questions and technical challenges:

1. Can an enclosure produced from easily and practically recyclable sheet material such as cardboard be strong enough to house a rolled-up banner?
2. How can a banner retraction mechanism be incorporated without incorporating a large steel spring typical of existing roller banners?

B reflected on these questions and produced some rough cardboard prototypes figure 7.

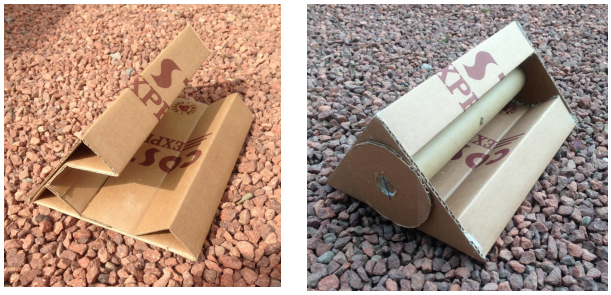

Figure 7: Rough cardboard prototypes 2013

The prototypes produced by ‘B’ answered question 1 however the banner retraction mechanism did not work well enough and required further development. At this point ‘A’ and ‘B’ explored other banner retraction mechanisms and ‘B’ developed a range of possible concepts. Three industrial design students ‘C’ were then employed on placement to help develop and prototype the retraction mechanisms envisaged by ‘B’. By prototyping various configurations ‘C’ created a functioning prototype of ‘B’s original retraction mechanism. It was then possible to develop a production prototype as shown in figure 8.

Figure 8: Recyclable roller banner production prototype

Findings

This case study demonstrates design interventions at three key points within the double diamond model.

1. Framing the problem in a way that could allow for an innovation to evolve. (Define)
2. Reflection on the challenges of this framed problem and synthesis of these relevant factors to conceptualise a possible solution. (Develop)
3. Technical problem solving through trial and error leading to detailed specification. (Deliver)

As already discussed, 'B' applied a 'multiple perspective problem framing' method (Anonymous 2010) to build a value arena using the detailed and up-to date technical and market knowledge provided by 'A' (discover). 'A' and 'B' defined the problem by identifying the following 'cornerstones of innovation' (Engish 2007):

- Biodegradable inks
- Recycled/recyclable printable sheet substrate
- Customers can use and dispose
- Durable container provides stable footprint
- Retractable banner
- Low cost

This multiple perspective framing approach (define) enabled 'B' to generate and patent a retractable banner concept, however further refinement of the mechanism was required in order to realise the concept as a mass manufacture-able product specification.

Conclusion and Discussion

The paper highlights the need for design to secure an entrepreneurial capacity early on in projects to enable design activity to translate into commercial innovation. That entrepreneurial capacity may be provided through the capability of the designers themselves or might be provided through the commitment and ownership of design propositions by complimentary business functions. To be effective, that ownership needs to own business risks not just business processes, so it calls for design to act cooperatively with strategic decision-makers and the business entrepreneurs and intrepreneurs. This has to be established as early as the 'define' stage in design processes, if design activity is to be successfully translated into commercial innovation and the economic growth the UK Government craves.

There is no doubt that entrepreneurship is a powerful capability of design in innovation. The paper demonstrates the significance of entrepreneurship within the 'Discover' and 'Define' phases of the double diamond. The cases one and three illustrate the gap created in a large and a small firm due to the lack entrepreneurial attitude and skills of a designer. The lack of connector-integrator capability in designers during the 'define' phase of the design process of a multinational (case study 1), led to their inability to effectively collaborate and integrate with other recognised functions, leading to weak interpretation of the problem space, and consequently contributed to design's inability to convert ideas into real products in the 'Delivery' phase.

Further, in the second case study the contribution made by design (student teams) whilst taking a more pro-active approach towards defining the problem space in a large organisation was re-instated, and offered a possible approach for large organisation to instill entrepreneurial energy.

The missing entrepreneurial orientation in case study three was a consequence of the lack of capacity of a small-firm to commit resources to the new opportunities framed by the designer when the focus was to deliver the current order book. On the other hand, complete ownership of 'Define' stage by a designer (case study four), supported by constant collaboration and dialogue with the client (A) led to the definition of a concise problem space, which contributed towards delivering a successful solution.

We conclude that our potential for innovation relies not only on our up-to date knowledge of the interrelated factors that constitute the problem space ('Discover') but also on our ability to synthesise and interpret these factors through our own skillful judgment. This skill of framing the problem

('Define'), whilst crucial to strategic innovation, requires specific skills, competence and attitude in a designer; and we claim it to be interlinked with entrepreneurship.

We acknowledge that not all designers are entrepreneurs, and not all entrepreneurs are designers; however, it seems that the more intense this relationship is, the better its odds of creating successful commercial innovation. That is, designers can and should be encouraged to increase entrepreneurial capabilities within their projects in order to foster successful innovation.

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