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THE TIMES THEY ARE A-CHANGIN' – PERSPECTIVES ON DESIGN INDUSTRY BUSINESS MODELS

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ABSTRACT

This paper draws upon Design 2020 (Cooper, Evans, and Williams, 2009; Williams, Cooper, Evans, and Sun, 2009), a research project that investigated the threats and opportunities for the UK design industry towards 2020, and reflects on the dynamic nature of the design industry. The project identified ten design industry business models that were emerging in the latter part of the noughties and were business models that would be prevalent in the UK in 2020. Since Design 2020 was conducted, the design industry has undergone further change, and therefore, it is valuable to revisit these business models, and comment upon the changes and refinements which reflect the ever-changing design industry ecosystem. Indeed these design business models continue to evolve and therefore there is the need to develop skills in our designers and design graduates that equip them to engage with design business models of the future.

Keywords: Design management, business models, design education, skills

INTRODUCTION: THE DRIVERS WHICH IMPACT UPON THE DESIGN INDUSTRY

The business environment in which the design industry operates is changing. Increasingly, organizations are operating in a dynamic, global environment. As a result, the needs and challenges they present to design consultancies has evolved greatly in the last 20 years, e.g. from the design of tangible outputs such as products, to the design of the intangible, such as processes, services or experiences (Williams et al, 2009). In order to deal with these diverse organizational client challenges, the role of the designer is expanding, and increasingly they are fulfilling a more strategic role, rather than a tactical one (see for example, Borja de Mozota, 2003; Best, 2010; Murphy, 2010), where they apply design capabilities to the wicked problems that they are now presented with. Within this complex ecosystem of designers, clients and organizations however, it's not just the role of the designer that's evolving; by collaborating with designers, non-designers in organizations are extending their own knowledge and awareness of design. By working with designers and in some cases, co-designing strategies for complex problem spaces, clients are becoming more design aware, design sensitive, and design savvy. Importantly they are becoming more demanding. In the most fruitful of partnerships, clients can even be said to develop more designerly ways of thinking and doing (Cross, 2006). This contributes to the development of discourse into design by non-designers (see for example, Gorb and Dumas, 1986; Sanders and Stappers, 2008; Siegel and Stolterman, 2009; Pacey, 1992).

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Considering this complex ecosystem of design consultancies with ever-expanding skillsets, and more demanding and design-savvy clients, we now see a competitive landscape where client businesses are expected to provide, exceed — and in some cases predict — not only what consumers and businesses want, but also what they need and desire. This is shaping the dynamic roles that design consultancies must fulfil. As a result, design industry business models are evolving; designers are essentially designing their business models in response to this changing ecosystem. Consumers and businesses are increasingly savvy and demanding. They know what they want. Fuelled by easy and fast access to information through technology and social innovation, consumers are setting the bar high, and their expectations of new products and services has never been greater. Organisations are calling upon designers to create engaging, meaningful and memorable user experiences, be they product or service based, to design with citizens, social wellbeing and the quadruple bottom line in mind (Walker, 2010), and also to design at a time of economic anxiety and austerity, to meet this ever-demanding consumer and ever-changing design ecosystem. As Dylan once sang, *"You better start swimmin' or you'll sink like a stone, for the times they are a-changin'".*

IMPLICATIONS OF THESE DRIVERS FOR DESIGN INDUSTRY BUSINESS MODELS

These changes to the business environment that design serves are, in turn, changing the way in which design businesses operate. With such a fast-paced ecosystem of savvy consumers, design consultancies may need to respond to opportunities before knowing whether they can actually do the job. Indeed designers are no strangers to saying yes to a job – and then figuring out the 'how' later (Murphy, 2010) In order to provide an unknown service, or develop a co-designed capability for a client, they may collaborate and test the water before committing to providing a new or augmented service, and especially before adapting their business model. In response to this, there have been evolutions of more agile and flexible partnerships which are temporary or short term (Yee, Jeffries and Tan, 2014).

The features of these design business models can vary hugely; they can be temporary or experimental, they can be project-based, or even collaborating with a competitor to bring a joined-up comprehensive offer. They could be commons-based or open, and even employee owned. All of these features make for very different organizational forms and operations in the design landscape. In essence, the design industry is changing, and as a result, the business models which represent design businesses are also changing and constantly evolving. What is clear is that design business models are experiencing considerable evolution and in some instances considerable revolution.

Business model innovation is increasingly being viewed as a major factor in rethinking an organization's competitive advantage. It is more difficult for competitors to copy a whole business model and system than a new product (Amit and Zott, 2012). One could argue that designers are using their design skills to prototype, hone and evolve their business models. The dynamic global environment in which businesses and thus design operate has had a profound impact on how organisations create and capture value. The design sector has been subject to significant change in recent years, with the emergence of

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alternative providers of design and innovation services, diversification in the range of design services offered, greater integration of design and responsibility for implementation, the emergence of the service sector, and growing consumer awareness of corporate social responsibility issues such as eco-sustainability. Many designers recognise that the industry is in constant transition, and that it needs to become highly adaptive to allow it to manage rapid, continuous and disruptive change (Cooper et al, 2011). Internally, the design industry would appear to be polarising between commoditised design and high-value strategic design. And so, design also is a-changin'; however, the business models that endeavour to support the plethora of avenues that the design sector is engaged in have received limited academic attention (Cooper et al, 2009).

Cooper et al (2009) offered a summary of the emerging issues which are impacting upon design and designing - and thus the manner in which the design industry operates, resulting in changing design business models. These include:

1. Changing attitudes towards materialism and the refocus of design towards quality of life.
2. Design and self-actualisation with a focus on the top layers of Maslow's hierarchy of needs and an emphasis on socialisation, tribal connectivity and quality of life.
3. Ecological design in which designers are looking at systems/structures and solutions to enable us to live more sustainably.
4. The emergence of two types of designers; designers who continue to design products, and facilitation designers who design the systems, processes, software, that enable people to make their own things.
5. Bespoke design with products that evolve and adapt with you and your life changes and that reflect your personal requirements.
6. Localisation of manufacturing increasing digital design and rapid manufacturing enabling designers to help people design and manufacture for themselves; and consumers even taking charge of their own design process.

Five years after research into the future of the UK design industry was published (Cooper et al, 2009), these issues are ever present in our design ecosystem – and this paper will discuss the implications of these issues in line with the drivers outlined in the previous section, and how these implications enrich four key business models first offered by Williams et al (2009).

While we have outlined the factors impacting upon the ecosystem of the design industry landscape, and how these demand emerging and agile business models, it is useful to briefly highlight the components of mainstream business models.

Mason and Spring (2011:1034) propose “three core elements of business models: technology, market offering and network architecture”. Amit and Zott (2012: 44) suggest that business model components can be innovated in several ways – content (adding new activities), structure (linking activities in novel ways), and governance (changing who performs the activities). Similarly, Amit and Zott (2012) offer that business model innovation is core to rethinking competitive advantage, alongside – and sometimes as an alternative to – product or process innovation. In simple terms organisations needs to consider how they create, capture and communicate value to their clients – and design consultancies are no different in this respect.

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While it is clear that the design industry are no strangers to responding to a complex and rapidly changing business landscape, they have for many years been wedded to the *time-for-fee* business model that had been the standard for design consultancy since the professionalization of the industry. While this model still exists and is profitable for many designers, there has been an emergence of alternative business models within the design industry that continue to evolve.

In order to evidence and make accessible emergent business models, this paper augments the work undertaken in Design 2020 which investigated the future of the UK design industry and the resultant design business models which it proposed. Our observations have been synthesised into four emergent business models and their implications for the skills needed by designers to capitalise on these new opportunities.

METHODOLOGY

The overall aim for the research for this paper was to review ten future business models, developed by the lead author, in light of the current design industry landscape. This research takes place at the halfway point between when these models were developed (2007), and the future which they were intended to represent (e.g. the year 2020). Based on a review of literature and analysis of existing research, the authors developed an initial research aim, which was to identify key contextual drivers of the design industry today. These are highlighted in the Introduction section of this paper. We then used these design industry drivers as a lens through which to reflect upon each of the ten business models, and to then validate our insights through primary research. The methodology for the primary research is best described as case study research (Yin, 2009; Stake, 1995). This research methodology was consciously chosen because it provides the best opportunity to gain in-depth insights into complex and evolving issues which, in this ever-changing state are not sufficiently explored, accounted for or meaningfully communicated in the academic literature to date. Based on the findings from early research by the lead author, ten business models were been identified. A number of UK-based design consultancies who trade nationally and internationally form the case study organisations for the primary research which informed the development of four key design business models. Within these case studies, the authors conducted a series of semi-structured interviews with key stakeholders at these design organisations and the findings of these case studies have then been synthesized into the emergent design industry business models detailed in this paper.

EMERGING DESIGN INDUSTRY BUSINESS MODELS

Previous research (Cooper et al, 2009; Williams et al, 2009) has revealed that in the remainder of this decade, designing will focus further on enhancing the quality of life, not only the quantity or aesthetics of things. It identifies that it is time for designers to take more responsibility and think about the quality of life and impact on the planet in all that they are designing. This landmark study also reveals a complex business landscape in which the design industry operates and a series of divergent business models. Traditional time-for-fee models are contrasted by democratised developmental processes that draw upon special interest groups to provide highly tailored insights. The research also identified the rise of designers as strategists providing services in strategic innovation and change management stand out against designers investing in their own and/or others innovations using equity share models.

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Although Design 2020 (Williams et al, 2009) was published in 2009, the majority of fieldwork was conducted in 2007 – and therefore we are now at the half way point towards being able to see if these research insights are helpful in sensemaking as we move towards 2020. Seven years on from the fieldwork, this paper will discuss four of the ten business models from Design 2020, and comment on how these business models are evolving to cope with the dynamic client-designer ecosystem. The authors conclude with a reflection on the skills that should be nurtured to help equip future designers with these new ways of working, and the implications for design education, both in further education, higher education and in the workplace.

So what are the four prominent business models, and if we are to teach the skills necessary to develop such enterprising and opportunistic business models, which design movements do they represent? Could aligning these skills to established design disciplines help us to better frame the skills required for such an opportunistic and undefined skillset, and be mindful of emerging business models?

- 1. Design Strategists:** Top-level service designers resonate with this model as the focus is on strategic innovation and design management leadership. The extension into non-design and service sectors means greater engagement with other business disciplines and therefore there is opportunity to nurture 'designerly skills' in non-designers. Aligning this model (but not pigeonholing it) with service design may enable a coherent approach to teaching these skills. For example, by recognising this business models as aligned to service design, this could give it a place on the curriculum and CPD as a skill set that designers should develop in themselves and in others.
- 2. Independent Specialised Innovation Services:** This model is driven by independent micro enterprises (1-10 employees) working with specialist freelancers that are often personality led and regionally or sector focused. They work with diverse yet specialist disciplines such as engineering, software development, and service design. These would be highly focused aimed at niches with fewer clients and would need to sustain leading edge capabilities to ensure their sustainability. Moving forward these design businesses may adopt a loose affiliation model, e.g. where these businesses can co exists as independents, but could collectively come together to provide a comprehensive one-stop-shop. This model isn't specific to any one design movement but has parallels with the traditional fees-for-time model albeit in a specialised context.
- 3. Own Brand Entrepreneurs:** Design-led entrepreneurs who operate design-manufacturing collaborations around luxury, craft, homeware and apparel sectors. The focus is on early stage design-led start-ups that increasingly utilise the Internet to secure investment via crowdfunding - funding a project by raising many small amounts of money from a large number of people. Often based around a personal passion or 'pet-project' these design-led entrepreneurs can supplement their income via freelance or consultancy roles and develop their own-brand on a part-time basis. Collaboration with manufactures to develop own brands often in niche areas can complement crowdfunding models. This model resonates with the open design movement.

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4. SIG Niche Network: Based on the expertise of special interest groups (SIG) – a community with a shared interest in advancing a specific area of knowledge - this model exploits social media to support communication and is essentially a C2B2C model that relies on hubs and communities. The structure involves co-design and participation between design communities and special interest groups. The designers' role is as facilitator and mediator. Income model would be based on scale of contribution and would be reliant on long tail economics, outsourcing production and distribution. High public sector engagement such as the redesign of services, empowered communities, and local authorities. This approach is aligned with the co-design movement.

These four design business models embody emerging agendas in design consultancy. They point to the increasing importance of non-designers in design activity and the 'power of the masses' where experts in given areas feed the innovation process. This democratisation of design means that designers need to identify and articulate clearly their specific contribution to the innovation process. Without this there is a risk of designers designing themselves out of a job! In parallel designers are looking to shift their focus by moving beyond traditional design activity and go it alone and develop their own brands. This, like the democratisation of design, utilises advances in technology and particularly the use of the Internet. Since the research conducted for Design 2020 in 2007, advances in digital and communication technology have had, and will continue to have a profound effect on the working practices of the design industry, This, like the power of the masses is set only to increase.

DISCUSSION

This research makes a contribution to both the ever-expanding field of design and the field of business. Design gains from accessible academic insights into current and emerging business models which are of interest to them for a number of reasons. They reflect the business activity of their peers - information which is often inaccessible due to time constraints, commercial sensitivity, competition, and also the lack of critical distance design practitioners have to make sense of and make explicit these business models (as anecdotal evidence suggests the tendency and need to operate more than to reflect). What is more, the field of business gains insights into the kinds of business models which are emerging in the creative industries, rather than mainstream models offered by more traditional commercial operations.

Analysis of these design business models also draws out implications for design practitioners and design education. There is a distinct lack of research which offers academic perspectives on the business models adopted by design businesses and as such this research aims to formalise insights that can be of use to design businesses on a practical level. Design practitioners operating in industry are consumed by the need to generate income and seldom have the time to reflect upon the changes in their business models. We contend that successful practices adapt and continue, but they rarely take the time to make sense and explicate how they do this. In addition, beyond the time-for-fees model practitioners have limited reference points from which to consider their business models and how they compare to other sectors. This research aims to advance the view of practice by formalising business models, underpinned with academic rigour, making them accessible to academics and practitioners alike.

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Given the four design business models summarized in this paper, and the relationships that enable this kind of business model innovation, we now consider what are the skills that need to be nurtured in design and the supply of designers, i.e. design education, to enable design businesses to work in this way?

The co-author of this paper has considered this question in relation to postgraduate teaching in the UK and is researching the implications of design industry business models in relation to both design students, and those studying design as part of a business degree. The everyday business of design, where there is increasingly non-hierarchical and fluid collaboration between designers and clients, coupled with the need for designers to capitalise on opportunities, prototype new services and ultimately make sense of business models, requires designers to have solid business awareness as well as design skills. In these more collaborative, co-design partnerships the authors have seen from their fieldwork, in some cases, non-designers developing designerly skills – e.g. appreciating the visual, taking the time to understand context, and framing the problem before responding. This points to a skillset in design students, in terms of the skills they bring to the table in their collaborations, and a skillset for business students who are learning about design as part of their degree. Enriching the skills of both student profiles could have great benefit for future collaborations when they move to practice.

At the 2014 Design Management Institute Academic conference, Bason (2014) offered insights into design attitudes, citing extensive research by Michlewski (2015) as a frame for articulating emerging design agendas. These can be summarised as follows (Adapted from Bason, 2014, cited in Bohemia et al (2014: 2321):

- Embracing uncertainty and ambiguity;
- Using the power of five senses;
- Engaging deep empathy;
- Playfully bringing ideas to life;
- Creating new meaning from complexity.

Richard Buchanan (2014), at the same conference, also referred to this forthcoming book by Michlewski (2015), but summarising these five design attitudes as follows:

- A passion for seeing ideas brought into concrete form;
- Delight in engaging all the senses when exploring a problem;
- Risk taking;
- An ability to see the whole situation;
- Empathy for the organisation as well as the user.

These five principles, as synthesised by Buchanan (2014) are useful as a summary of the kinds of 'design attitudes' that design consultancies needs to develop and hone if they are going to successfully embrace, and exploit, new business models. While Michlewski's work focussed on attitudes of designers, it is clear that as clients become more design savvy, and the role of the designer is democratised, non-designers are also adopting design attitudes. To the above list, the authors would add '*taking the time to understand the context before reacting*'. Typically, management consultants are employed to add value and to diagnose a problem as quickly as possible. A design consultant however, will see time in the opposite way – e.g. the more time spent on understanding the

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problem, the better – and so it's depth of understanding that counts above a quick diagnosis.

CONCLUDING REMARKS

This paper has outlined four key models of emerging design businesses which have been augmented from Cooper et al (2009) in their research which outlined these as forecasted models for 2020. These models are still relevant today, however, the authors have tailored these to reflect today's design consultancy ecosystem which shows an increasingly strategic role of the designer, design savvy consumers and clients, and designerly attitudes in non-designers as clients. In response to this, we proposed that the four business models outlined can be likened to particular movements in design - from traditional design practice to co-design models, or from service design models to towards open design models. While the authors acknowledge that these models are not exclusive to these design movements, it is useful to consider these business models in parallel with these movements so that a curriculum of skills can be designed which starts to develop the necessary skills in designers, design students and non-designers working within design.

REFERENCES

- Amit, R., and Zott, C. (2012). Creating Value Through Business Model Innovation. Sloan Management Review, Vol 53 No 3, pp41-49.
- Borja de Mozota, B. (2003). Design Management: Using Design To Build Brand Value And Corporate Innovation. New York: Allworth.
- Best, K. (2010). The Fundamentals of Design Management. Lausanne: Ava Publishing SA.
- Buchanan, R. (2014) Leading Design: Managing the Challenge of Innovation. Unpublished Keynote presentation at 19th DMI: Academic Design Management Conference, London, UK, 2-4 September 2014.
- Cooper, R, Evans, M., and Williams, A, (2011). New Design Business Models: Implications For The Future Of Design Management. In Cooper, R., Junginger, S., and Lockwood, T. (eds), The Handbook of Design Management. Berg: Oxford, pp495-511.
- Cooper, R., Evans, M., and Williams, A. (2009). The Future of the UK Design Industry - An Investigation into the Threats and Opportunities for the UK Design Industry over the Next 10 to 15 Years. UK: Lancaster University.
- Cross, N. (2006). Designerly Ways of Knowing. UK: Springer-Verlag London Limited.
- Gorb, P., and Dumas, A. (1987). Silent Design. Design Studies, Vol 8, No 3, pp150-156.
- Mason, K., and Spring, M. (2011). The Sites and Practices of Business Models. Industrial Marketing Management, Vol 40, No 6, pp.1032-1041.
- Michlewski, K. (2015, Forthcoming) Design Attitude. Farnham: Gower. Cited in Bason, C. (2014). Redesigning Assumptions: Challenging public problem spaces. In Bohemia, E., Rieple, A., Lieddtka, J., and Cooper, R., (eds.) Proceedings of the 19th DMI: Academic Design Management Conference, London, UK, 2-4 September 2014, pp2314-2330.

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Murphy, E., and Evans, M.

Murphy, E. (2010). Learning To Practice: A Case Study in Dynamic Learning at the Interface of Design and Business', PhD, University of Dundee, Dundee.

Pacey, P. (1992) 'Anyone Designing Anything?' Non-Professional Designers and the History of Design. Journal of Design History, Vol 5, No 3 pp217-225.

Sanders, E. B. N., and Stappers, P. J. (2008). Co-creation and the New Landscapes of Design. CoDesign, Vol 4, No 1, pp 5-18.

Siegel, M. A., and Stolterman, E. (2009). Metamorphosis: Transforming Non-designers into Designers. In: Undisciplined! Design Research Society Conference 2008, Sheffield Hallam University, Sheffield, UK, 16-19 July 2008.

Stake, R. L., (1995) The Art of Case Study Research. CA: Sage Publications Inc.

Williams, A, Cooper, R, Evans, M & Sun, Q 2009, 2020 Vision - The UK Design Industry 10 Years On: Implications for Design Businesses of the Future. In Inns, T. (ed.), Designing for the 21st Century: Research Methods and Findings. Vol. 2, Gower: Farnham, pp39-54.

Walker, S. (2010). Wrapped Attention: Designing Products For Evolving Permanence and Enduring Meaning. Design Issues, Vol 26, No 4, pp94-108.

Yee, J., Jeffries, E., and Tan, L. (2014). Brave New Worlds: Transitions in Design Practice, In Sangiorgi, D., Hands, D. and Murphy, E. (2014). ServDes.2014 Service Futures: Proceedings of the fourth Service Design and Service Innovation Conference; Lancaster University; United Kingdom; 9-11 April 2014.

Yin, R. K., (2009) Case Study Research: Design and Methods. Fourth Edition. CA: Sage Publications Inc.