Design Council

Design Economy 2021

Scoping Project

Business Understanding and Use of Design

BOP Consulting

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This report was commissioned by Design Council as part of the Design Economy 2021 research programme.

Design Council is the government's advisor on design. Our mission is to make life better by design. We work with people to create better places, better products and better processes, all of which lead to better performance. We commission research, develop programmes and influence policy to demonstrate the power of design. We bring together non-designers and designers from grassroots to government and share with them our design expertise to transform the way they work.

Contents

1.

Introduction

The idea that design and applying design skills is good for business, and central to delivering innovation, is now widely accepted. Design skills are evident in a range of ways that businesses innovate, from prominent design consultancies operating in the UK and internationally such as IDEO, Bluefrog and UsTwo, celebrated individuals such as the designers who co-founded Airbnb, to the design capabilities built into large businesses in different sectors such as IBM, Google Ventures and Proctor & Gamble, as well as offerings developed in professional services firms such as Accenture or McKinsey, often through the acquisition of design firms (Maeda, 2019). For example, one study showed that 21% of start-up businesses with valuations exceeding one billion US dollars were co-founded by people who embraced design or come from a design, arts, or other creative background (Maeda, 2016). Architecture firms at different scales from Adjaye Associates to WilkinsonEyre are also engaged by businesses for a range of projects, both industrial, public and retail, resulting in innovations in how business users, stakeholders and citizens experience the built environment. In this context, the past 20 years have seen an intensification of efforts to understand what goes on when businesses invest in and use design and designers to help them achieve their goals and assess the resulting outcomes, both intended and unintended[1].

The value of design to business is increasingly built into narratives about innovation in the UK in terms of policy, investment and infrastructure. The Industrial Strategy (UK Government, 2017), which identified four grand challenges (AI and data; ageing society; clean growth and the future of mobility), resulted in several stimulus projects that created opportunities for design skills and design firms. After the Covid-19 pandemic and the exit from the European Union, the UK Government's emphasis on building back better has a strong focus on innovation, skills and infrastructure to achieve economic growth, net zero and "levelling up" to equalise historic and structural inequalities across the UK (HM Treasury, 2021). Other recent developments include a national industrial decarbonisation strategy (UK Government, 2021). The focus in the UK government's decarbonisation strategy, for example, on circular economy value chains, smart product innovation to increase durability, repairability and recyclability, and net zero manufacturing represent opportunities for firms to use design skills to innovate. What is clear is that competencies associated with design are aligned with such government strategies and broader narratives about business innovation – including a focus on understanding user needs, enhancing customer experience, engaging with customers, beneficiaries and stakeholders, prototyping and piloting ideas, and agile, collaborative working.

This paper draws on the extensive existing literature to enable analysis of design's contribution to business across the regions and sectors of the UK. It recommends how research for Design Economy 2021 can produce additional evidence about how businesses understand and use design, and the consequences, combining approaches and insights from previous studies and building on the 2018 Design Economy report, looking backward as well as forward, as well as connecting with the work in the other methodology papers which examine the social and environmental impact and value of design.

[1]There is extensive literature on this from within different disciplines including design studies, design management, innovation management and operations management, as well as reports and grey literature from business, including by the Design Council. See for example Design Council, 2017; Verganti, 2009; D'Ippolito, 2014; Galindo-Rueda and Millot, 2015; Fayard et al., 2017; Roper et al., 2016; Na et al., 2017; Topaloğlu and Özlem, 2017; Hernández et al., 2018; Arico, 2018; Sheppard et al., 2018.

2.

Key concepts

Over the past two decades, the organisational imperative to innovate has become the context for much design activity in business. The evidence base to support making claims about links between design and innovation is varied, but consistent in the finding that using design approaches enables innovation (e.g. Stamm, 2013; Galindo-Rueda and Millot, 2015; Design Council, 2017; Na et al., 2017; Hernández et al., 2018; Liedtka, 2020). For example, a study by the OECD (Galindo-Rueda and Millot, 2015) found that design is positively related to innovation across all sectors of activity. Further, integrating design into a business led to more innovation, according to the OECD in a study of Danish firms. It found that "in all sectors and for all types of innovation the proportion of firms innovating is significantly higher among firms using design as an integrated element than among other firms" (Galindo-Rueda and Millot, 2015, p.30).

Research into how this takes place, with what results, in what contexts and under what conditions, as well as emerging understandings of the kinds of innovation design is most aligned with, is ongoing. One changing factor is shifting understandings of innovation itself, whether understood as process, or outcome, and its relations with technological, social and organisational change. Studies of exactly what kinds of innovation designers and design skills help achieve, and broader questions of the relations between design and innovation, are often tied to specific firms or sectors. Therefore, it is helpful to distinguish between different kinds of innovation that might result from designing. For the purposes of Design Economy 2021, through which Design Council aims to demonstrate the value of the design economy including its social, environmental, public sector and business impact, we suggest adopting the simplified distinction made between four types of innovation defined by the OECD Oslo Manual (2018): product and service innovation; process innovation, including business models; organisational innovation; and marketing innovation). The 2018 OECD definition of design shifted from earlier versions of the Oslo manual from linking product design with marketing innovation to explicitly linking design with product and service innovation.

However, a survey of businesses in the UK carried out in 2015 (Hernández et al., 2017) found that although respondents reproduced language about their use of design as part of product and service development, the prominent relationship recognised by these businesses was the role of design in marketing innovation. Other studies of design show that there are complex links between design activity and innovation, with the potential to impact positively on business and on society as well as negative impacts. And as Maeda (2019) and many other commentators demonstrate, the kinds of intersection between design and other aspects of a business remain in flux. For the purposes of Design Economy 2021 therefore we propose recognising all four forms of innovation defined by OECD (2018) as being a potential outcome from applying design skills, in order to produce new insights into the types of innovation that firms see as resulting from design.

However one important point to note relevant to this discussion of the understanding and use of design in business is that not all design leads to innovation, if innovation is defined (as by the OECD, 2018) as producing something new, or substantively changed. There are many design projects and uses of design skills that result in outcomes that are not categorised by OECD as innovation, although they may result in a change and value creation. So in what follows we propose foregrounding the innovation potential of design in business, as much of the evidence base focuses on this, while at the same time enabling capturing data about more routine uses of design to re-design buildings, communications, packaging, interfaces, systems, products and services, resulting in change, and creating value, but which are not necessarily 'innovation' in OECD terms.

3.

Research questions

Building on previous studies, and adapted to the specific context of the UK with its service-based economy, we propose asking questions grouped as follows. This set of questions is similar to the paper focusing on the public sector (Paper 4), because what they each share is the context of design skills being used and resourced within and through organisations, who are the main actors understanding and using design in their specific context or market to try to achieve their objectives.

In what follows, the questions are underpinned by the organisational design logic model (see Figure 1) outlined in the accompanying introductory paper (Paper 000). This is intended to be a simplifying framework to model what goes on in organisations, rather than an accurate representation of how organisations or design projects work in practice. As outlined in our introductory paper, too, we make a distinction between designs, as one output of designing, and implementation, as a secondary type of output. Extensive research in academic design literature suggests that outcomes result from the process of designing, and people's engagement with outputs of designing results in spill-over effects such as new insights, reframing of how things are understood, new relationships and collaborations, even if the designs-as-proposed are not implemented. Recognising this, we distinguish between outputs that we call 'designs' – which result from the application of design skills (eg in the form of proposals for new products, services, buildings, processes, organisational practices and marketing outputs) – but which may not be implemented or realised as proposed, and outputs and spill-over effects that result from implementation (or delivery, or build, or use, depending on the specific design discipline or sector).

1. Business understanding of design

1a. How do businesses understand design?

1b. How do businesses enable and support design?

These questions enable exploration of the front end of the organisational design logic model, assessing the enabling factors that underpin the use of design – and ultimately design impact – in businesses.

2. Use of design in business

2a. What sectors/types of firm is design used in?

2b. What kinds of design are carried out?

2c. What technical design skills are deployed?

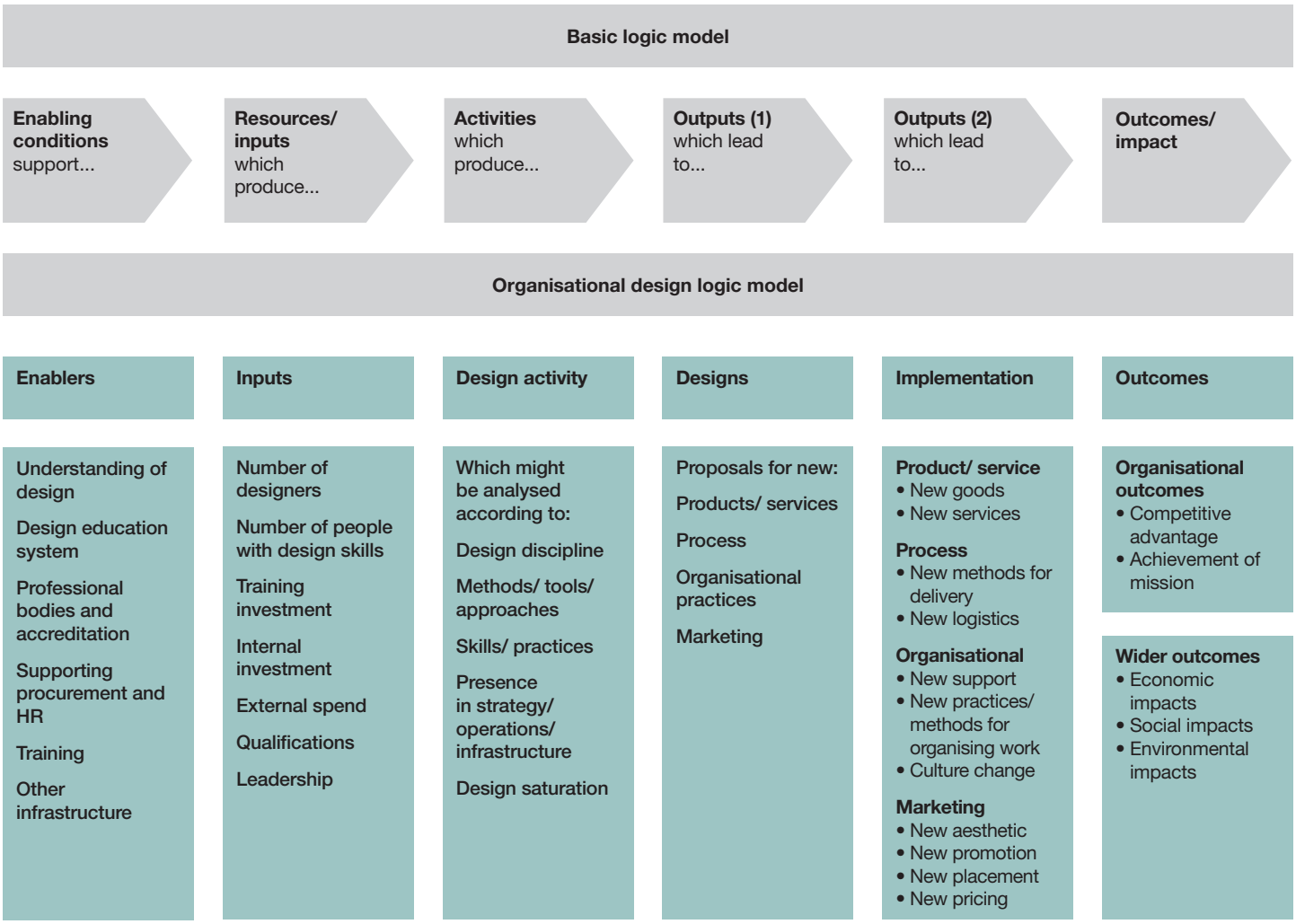
2d. What design mindsets and practices are deployed?

2e. Is the use of design in business changing?

2f. Who uses design skills?

These questions are designed to draw out a picture of design activity across business – the middle part of the organisational logic model. They address the challenge of assessing more diffuse forms of design carried out by those who might not be classified professionally as 'designers' by asking about design mindsets, practices and skills. This approach recognises the diverse forms of designing including design thinking, explored in several academic studies (eg Liedtka, 2020) and recognised by the OECD (2018) as a distinctive form of design practice relating to innovation, not necessarily practiced by people who think of themselves as designers.

Figure 1: Design in organisations logic model



Source: UAL Social Design Institute (2021)

3. The impact and value of design in business

3a. What organisational purposes is design used to address?

3b. What are the outcomes of design for business?

These questions explore the right-hand end of the organisational design logic model – outputs and outcomes. They help answer the questions of why design is used, what it is used for, and what impact it is seen to achieve. This includes uses that are of interest to government such as use of design for R&D and for innovation. These questions overlap with the economic and social and environmental impact methods papers, but are at the scale of businesses. This can include intended outcomes directly attributable to a design project, and implementation, as well as spill-over effects. Asking these questions will offer insight into how firms that use design relate to their wider context and stakeholders, including their environmental, social and governance (ESG) commitments and priorities.

4. The future prospects for design in business

4a. What enablers and barriers impact on understanding and use of design in business?

4b. What might the future use and impact of design in business look like?

These questions build on the picture of the present – which will be established through answers to the previous questions – to explore what the future might look like: What could the understanding and use of design in business look like in ten or twenty years' time? What would the future Design Economy look like? What needs to change to ensure the positive value and impacts of design are maximised and harms are minimised?

4.

Approach

4.1. A combination of methods

To answer these questions, the proposed approach is both retrospective (looking backwards) and anticipatory, enabling making assessments about the future of the UK design economy. The combination will facilitate the production of a nuanced account of how businesses understand and use design and how this is changing, grounded in the lived experiences of designers and those using design skills in different kinds of business. A combination of data collection methods will generate insights at different scales, revealing large scale patterns as well as rich, qualitative insights, including about emerging developments, barriers and enablers, and futures for businesses in the design economy.

To answer the research questions fully, a combination of methods is needed.

- Surveys of businesses using design, and professional designers servicing them. These will produce data that will allow verifiable claims at scale across the UK to be made about design and its understanding and use in business. It will allow testing hypotheses by combining data to probe assumptions in the current state of knowledge about use of design and the outcomes it achieves for business and society more broadly.

- Desk research. This will allow combining data about design occupations, and organisations associated with design, in ONS data, using standard classifications in national datasets.

- A series of impact case studies about organisations in the design economy which use design in different ways, in different sectors and parts of the UK. Using a common framework, and drawing on small-scale data-gathering, these case studies will enable drawing out the specifics of some locations and sectors to inform programmes and policy proposals.
- A series of workshops with expert practitioners and stakeholders will enable the creation of outputs that highlight changing practices, which are less likely to be visible in large scale datasets. Deliberative and future-facing in character, and informed by equalities, diversity and inclusion (EDI) principles to surface intersectional perspectives and positions, this method will reveal some of the hidden potential and early-stage innovations in contemporary practice and variations in different sectors and parts of the UK.

4.2. Analysis of data

As with the proposed methodology for the public sector, the benefit of this joined-up approach is to enable analysis of the extent to which there is a correlation between understanding of design, use of design, and positive outcomes and value from designing in business. Does a higher degree of 'saturation' make a difference in terms of forms of innovation or outcomes in business? Do some design disciplines or skills more reliably lead to implemented results? Do organisations that have been working with design for a longer period of time show a greater degree of saturation? Although causal relationships would be hard to prove, the data should at least show whether there is a connection. Further, the qualitative data, analysed through the frameworks we have proposed, will allow depth of insight into the enabling conditions (or barriers) in firms using and creating value through design.

4.3. Equality, diversity and inclusion

This methodology explores issue of equality, diversity and inclusion first by inquiring into who is designing (the individual) and where they are based (organisationally, geographically) as part of the survey: do some groups, organisations, or regions have better access to design than others? How are people from different groups and with different lived experience represented in different organisations using design? Second, in conjunction with the social and environmental value survey, and through the impact case studies, the methodology will identify how commitments to or advances in equality, diversity and inclusion are (or are not)

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Credits

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About BOP Consulting

BOP is a research and strategy consultancy specialising in culture and the creative industries. Over 20 years it has supported government bodies, leading arts and cultural organisations, property developers and international agencies through over one thousand assignments resulting in strategies, programmes and impact.

About the Social Design Institute, University of the Arts London

The Social Design Institute is one of UAL's new institutes. Its mission is to develop and use research insights to change how designers and organisations go about designing, resulting in equitable and sustainable outcomes. Its focus areas are the intersection of design and value, systems and public policy through original research, knowledge exchange and collaboration.

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Appendix 1. Previous studies

To develop this methodology we carried out a brief review of literature to identify relevant concepts and insights from existing studies. To do this, we conducted desk research in the following areas:

- Review of technical documents about the value of design to business, e.g., those produced by OECD
- Academic studies of design and design management, published in design journals and through doctoral research
- Studies of design, innovation and management, published in academic literature in management and organisation studies such as journals and doctoral research, and
- Insights from projects that explore an aspect of design such as design management, design policy or design leadership, including European funded projects.

There are many previous studies that aim to capture the value of design and design skills being used in businesses. While this brief review does not aim to be systematic, it does point to some of the possibilities, and some of the limitations, in assessing how firms understand, use and create value from design.

Assessing design activity

While there are long histories of designers and professional design being understood and used in firms tied to industrialisation, there are multiple and inconsistent ways to assess types of activity associated with design in firms. Reviewing several studies that aimed to build evidence about design use and impact in business, Topaloğlu and Özlem (2017) identified a variety of approaches, often tied to manufacturing (see Figure 3). They include audits, assessment tools and conceptual frameworks. Many rely substantially on self-reporting by individuals in firms.

Figure 3 Tools and methods for evaluating design and design management

Corporate design sensitivity and design management effectiveness audit	Kotler & Roth (1984
Self-assessment of design management skills	Dickson et al. (1995)
The Design Atlas	Design Council (1999)
The Design Ladder	Danish Design Center (2001)
Design audit tool for evaluating design performance in SMEs	Moultrie et al. (2006)
Design Management Staircase	Kootstra (2009)
A model for design capacity	Heskett & Liu (2012)
Design Capacity Model	Storvang et al. (2014)

Source: Topaloğlu and Özlem, 2017.

Topaloğlu and Özlem proposed a new Design Management Audit Framework, with the aim of updating existing tools and methods. This offers an integrated framework to show the kinds of business activities in which professional design can be deployed, relating to business functions. It includes awareness, investment in design and use of design to inform strategy, management of design, training and integration with other functions. While attempting to be wide-ranging, this framework does not distinguish between enabling conditions, activity, outputs and outcomes (as in our Design Logic model proposed in the introductory paper). Further, it is very 'design-centric', which is to say data-gathering within this framework has a starting point of looking for design and how it is managed and integrated, rather than analysing organisational activities which might not be labelled as design but which could nonetheless be considered as design and included in any audit or assessment if they meet relevant criteria and definitions. For example, regular engagement with stakeholders, consultation about new developments with stakeholders, gathering insights about end users or staff, launching pilot initiatives are all activities that organisations in many sectors routinely do, but may not label as 'design'. Skills, practices and processes required to carry out such activities might be spread across an organisation, rather than existing in a single 'design' team. This produces methodological issues when trying to account for the extent of design skills and activities in an organisation.

Design, design management and design leadership

Practitioners and researchers distinguish between design, design management and design leadership to characterise the relations between design and business (e.g., de Mozota, 2006; Chiva and Alegre, 2009; Cooper, Junginger and Lockwood, 2013; Wescott et al., 2014; Design in European Policy, 2014). These distinctions build on research as well as extensive practitioner knowledge about practices in organisations that have invested in and built up design capabilities. Design leadership can be defined as a capability beyond the characteristics of individual design leaders, tied to defining the strategic choices of the organisation – thus blurring with discussions about the different roles that design can play in organisations, which frameworks like the design ladder try to articulate. Design execution or implementation is tied to organisational processes and the availability of design resources (such as people with design skills) to carry out organisational tasks. Design management can be seen as the ability to manage those processes and resources. Such distinctions can be useful but require more precision to identify the specific inputs, activities, outputs and outcomes that are associated with and attributable to design and the ways it is built into organisations.

Articulating outputs of design

Researchers have suggested a variety of ways to define the outputs of design. What designers in specific specialisms might recognise as an output – such as a prototype, product specification or blueprint articulating a proposed design – are not necessarily what other specialisms, disciplines or business functions see as an output.

A study as part of a European project on design policy proposed a set of indicators at firm level, to capture different levels of activity and outputs in design execution, design management and design leadership (Design in European Policy, 2014). The focus of this study was on assessing national policies for design in Europe (which are often aligned with or tied to innovation policy), rather than policies or strategies in businesses. In order to develop an evidence base about the impact of such existing or future policies about design, the authors proposed a framework for data collection at national and firm level to produce evidence about design in the national economy. Here, they distinguished between outputs produced from "design execution" (e.g., new products launched

that improved customer experience) and the outputs at the level of the firm (e.g., revenues from new products launched, awards, design rights, prototypes, etc.). The indicators for design at firm level include both assessing levels of activity and outputs and outcomes. The authors recommended to the European Commission that member states develop, integrate and promote qualitative and quantitative design indicators to capture the value of non-technological innovation associated with design.

As a specific output clearly associated with design, at first glance the form of intellectual property (IP) known as design rights might offer a means to link design inputs and activities with value creation recognised in business terms. A design right is a form of IP which results from producing a three-dimensional form tied to its appearance, but not its function (Clarke Willmott LLP, 2021). Design rights can be unregistered and registered. When registered, a design right is protected for up to 25 years, and can potentially be considered a business asset.

However, researchers suggest that this category of IP rights neglects to tell the full story about the outputs to which design activity and investment in a firm might lead (Barcelona Design Report, 2014). For example, a business that produces a design for a new product, with new functionality, in the production of which designers and design skills may have been central, may register a patent which is a different form of IP (Hernández et al., 2017). Analysis that only looks at design rights, and neglects other forms of IP, misses some of the value produced through the use of design in a business. For example, the Design in European Policy project (2012-2014) proposed including both design rights and patents associated with design projects. Similarly, the Oslo Manual (OECD, 2018) notes a variety of IP outputs associated with innovation which can be traced to design inputs. But as yet there is no commonly agreed framework to link design activities with outputs such as IP rights at organisational level.

Connecting design activity and outputs to business performance

Over the past two decades, design skills and professionals have become more visible in discussions within management studies about business performance. There have been many studies showing how design impacted not only on how firms develop strategy, but also on the way they interpret – and sometimes influence – consumer behaviour and operations, thus impacting on business performance (D'Ippolito, 2014). Such discussions rest on a broader range of understandings of design than those available in the data currently collected at national UK level. They rely on a variety of research methods and kinds of data, often case studies, although rarely using quantitative methods.

One way of thinking about how design activity connects to business performance is to link investment in and use of design in an organisation to a firm's stock market performance, i.e., changes in its share price (e.g., Rae, 2014). However, share price is only associated with companies listed on stock markets, and the behaviours of such companies vary widely depending on the type of market and regulations about listing as well as investor behaviour. Further, there are much broader financial measures of firm performance, including revenue growth, profitability, and returns to shareholders. Further, as our accompany paper on social and environmental value of design shows (Paper 1), there is growing awareness of the responsibility of businesses to address environmental, social and governance (ESG) issues, such as the climate emergency and fair work practices in supply chains. These have highlighted the idea that business performance does not have to be conceived of as narrowly financial. Other kinds of exploration of indicators for assessing the contribution of design to performance include design awards (Self, 2014).

A high-profile contribution to the discussion about design and business performance was published by global management consultancy McKinsey (Sheppard et al., 2018). Using data covering five years from over 300 firms listed in the US S&P 500 index, McKinsey found a strong positive

correlation between firms that ranked highly for design activity and two performance metrics: (1) annual growth in revenues, and (2) total returns to shareholders (TRS). Within design activity, they included actions such as putting someone on the executive board with a responsibility for design, user experience, or both, or tying management bonuses to design quality or customer satisfaction metrics (the detail is not published). They found that top-quartile scorers in their in-house 'design index' increased their revenues and total returns to shareholders substantially faster than their industry counterparts did over a five-year period – 32 percentage points higher revenue growth and 56 percentage points higher TRS growth for the period as a whole (Sheppard et al., 2018). These results were true in all three of the industries studied; medical technology, consumer goods and retail banking. While this analysis is eye-catching, and has been widely cited to justify investment in building up design capabilities in organisations, the lack of transparency about definitions, data and analysis makes it hard to use this approach elsewhere. Further, given the emphasis on large listed businesses, it is unclear to what extent this framework can be applied to analyse smaller, non-listed firms.

Understanding enablers and barriers to design and design activity

A study commissioned by the Arts and Humanities Research Council revealed that 51% of service design projects do not get implemented (Sangiorgi et al., 2015). While this is specific to service design, this somewhat alarming statistic hints at a situation where (internal or external) service designers are commissioned to deliver work, which may then not be made use of. Expanding beyond the case of service design, it is self-evident that not all outputs produced by designers, or resulting from the application of design skills, will lead to further organisational activity, such as the launch of a product or service or implementation of a process change. In their study reviewing the enablers and barriers to design in firms, Topaloğlu and Özlem (2017) identified several enablers for design and design management including:

- Recognition of design as a strategic tool
- Top management awareness, support and commitment
- A deliberate focus on attaining strategy alignment, coordination and communication between design and major departmental functions
- Cultivation of a supportive organisational culture for design.

They identified these barriers and challenges including:

- Finding the organisational place for the design function
- Assignment of strategic level design management responsibilities
- Characteristics of organisational culture that are antagonistic to design, such as institutional inertia, corporate pragmatism, management routines based on efficiency and problems regarding power sharing.

There are different ways of thinking about what shapes barriers and enablers in how firms understand and use design. For example Malmberg (2017) identified three patterns in an organisation's ability to utilise design; awareness of design, use of design resources and structures that enable the use of design. Junginger and Bailey (2017) identified the importance of the legacy of previous projects and investments in design and their associated narratives. Studying the take up of service design in several firms, Arico (2018) argued that different institutional logics – core values and narratives within an organisation shaping existing ways of doing things – had important implications for how design was deployed.

> "When organizational actors introduce and embed service design in organizations, they do not simply adopt additional tools and methods to enhance their existing innovation or development processes. In fact, the introduction of service design practices, such as qualitative design research or prototyping, often conflicts with the established traditional organizational processes and practices." (Arico, 2018)

Thus, while defining enablers and barriers is an important task, understanding how these come to be the enablers and barriers that shape understanding and use of design is also important. This requires a form of research and analysis that articulates the narratives and logics through which some people, skills, activities and outcomes come to be more valued and others are less valued and marginalised.

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