

ADVANCEMENTS IN DESIGN RESEARCH

11 PhD theses on Design as we do in POLIMI



edited by Lucia Rampino and Ilaria Mariani



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DESIGN INTERNATIONAL

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Handling the Complexity of Design Support Programmes. An interpretative framework for barriers and drivers to introducing design innovation into Brazilian MSMEs

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Abstract

This chapter is based on Fonseca Braga's PhD research which looked into broadly applied design support programmes that aim at introducing design innovation into Micro, Small and Medium-sized Enterprises (MSMEs) with little or no design experience in Brazilian traditional industries. The need to better understand how elements at diverse levels support the conditions and influence the decision to use design (as along with its intensity of use) or to not use design, making empirical barriers and drivers to design innovation evident, represents the motivation behind this study. The research approach is inductive, exploratory and qualitative. Few barriers and drivers were new and distinguished from others in prior research focused only on the rationale used to address them by the interviewee or the lack of empirical evidence within design studies or regarding design support programmes. This analysis showed that barriers and drivers differ according to: (1) the context in which each project is embedded, including the economic and political priorities and orientation, as well as cultural aspects; (2) the way programmes and their projects are crafted, managed, implemented, and evaluated; (3) the background and mindset of key stakeholders who take part in these projects.

The main contributions to the design policy field are: (1) an interpretative framework at three levels to identify barriers and drivers to design innovation, contributing to underpinning strategies in order to harness drivers and overcome barriers; and (2) a design support metamodel which aims at an experimental and participatory approach to tackling design support programmes' creation, and development.

Introduction

This study¹ focuses on the Brazilian context, but the subject herein addressed can be considered of global concern, as it is a relevant issue in emerging and mature economies (see for instance Arquilla *et al.*, 2015; Raulik-Murphy, 2010; Schneider *et al.*, 2015). Micro, Small and Medium-sized Enterprises (MSMEs) are important sources of employment and contribute to decreasing the impact of economic crises (Airaksinen *et al.*, 2015; Bell, 2015; Cawood, 1997; Madeuf and Estimé, 2000; Organisation for Economic Co-operation and Development [OECD], 2016; Raulik-Murphy and Cawood, 2009). The need for innovation ranging from businesses to regions and nations has been fully recognised (Bason, 2014; ECLAC, 2015, European Commission, 2015; Galinari *et al.*, 2013; Julier, 2017; Junginger, 2014; OECD, 2014; Raulik-Murphy, 2010; Schneider *et al.*, 2015; Silveira da Rosa *et al.*, 2007). Design as a way that leads innovation and humanises technologies, keeping people at its core throughout its process, constitutes one path to promoting change at different levels: from micro (organisations, businesses) to macro (policies, territories, industries, nations, ecosystems). The designer “... is concerned with how things ought to be in order to attain goals, and to function” (Simon, 1996, p. 4), and this definition is still appropriate nowadays with the expansion of the design field.

In a world overwhelmed by bottom-up ideas, creativity, problem solving and innovation (Ito and Howe, 2016; Verganti, 2016), we have seen the emergence of social innovation, crowdfunding, open innovation and grassroots initiatives. However, we are still struggling to demonstrate the value of design from the private to the public sphere. How can design be at the core of organisations’ strategies? Is design for everyone, for every nation? This thesis contributes to taking a first step towards an answer by analysing the barriers and drivers to introducing design innovation in the context of design support programmes addressed to MSMEs with little or no design experience in Brazil. Usually, the literature, media and press focus on successful design cases.

Here, cases that can be considered ordinary were explored, admitting the fact that few firms use design strategically (Thomson and Koskinen, 2012). Our tendency to ‘follow the crowd’ and keep ourselves in the comfort zone as human beings has not been overlooked (Sternberg, 2006, 2012), as well as the fact

¹ This chapter is about the doctoral research which took place from November 2014 to October 2018 in the Design Department (Design Strategy unit) at the Politecnico di Milano. The research was supported by the Brazilian National Council for Scientific and Technological Development (CNPq).

that established organisations present a resistance to change (Deserti and Rizzo, 2014). External environment influences are also taken into consideration.

The lack of references in such contexts surrounding the factors that facilitate and that block design integration in those conditions maintain the mystery of moving up the design ladder. Our main goal is to reduce this gap through an exploratory and qualitative approach to better understand these factors and their implications on design support practices and key stakeholders.

Although there are many definitions of design and no consensus for an accurate definition that encompasses its meaning as a whole, in practice, the activities concerning design in the analysed empirical cases present an approach at project level, including:

- product and communication design,
- design process improvement by integrating ergonomic criteria into product development processes, anticipating prototyping activities,
- product adequacy to national norms and standards,
- training and workshops concerning product development and branding,
- store (point of sales) design,
- business model change, integrating a B2C model to a B2B cluster.

Innovation is understood, in the context of this study, as the transformation process of ideas into products, services, experiences, and their introduction into the market.

Other key definitions are used throughout the thesis: policy, design for policy, design policy (or policy for design), and design support.

A policy can be understood as a set of principles, purpose, and procedures related to the intentions of a government or a corporation in a specific topic (Heskett, 2001). Design for policy is defined by Bason (2014) as “a resource for government departments, public service organisations, and institutions, universities, think tanks and consultants that are increasingly engaging with design as a tool for public sector reform and innovation” (p. 3). It can be considered a design-led approach to policy development and innovation at diverse levels of the public sector (Bason, 2014).

In the argument of design for policy, Junginger (2014) stresses policy as a matter of design. The design contribution should be to provide a proactive approach rather than a reactive approach, such as problem-solving (Junginger, 2014). The author (Junginger, 2014) suggests policy-making as designing² in order to harness design potential towards desirable futures and to formulate policies according to a future-oriented approach. Policy-makers and

² Expanding on Boland and Collopy's (2004) idea of 'managing as designing'.

public managers should be able to use design tools and methods to develop and implement innovative policies (Junginger, 2014). There is little research into this emerging field within design studies (Kimbell, 2016).

Design policy or policy for design is generally a series of strategies and public-funded interventions on behalf of governments or other types of organisations such as non-profit private bodies. It usually aims at stimulating design demand and supply in view of competitive advantages for businesses, clusters, territories, countries, or of an improvement in quality of life.

Design capabilities development in the public sector is nowadays considered within the scope of design for policy field, being also previously found within the scope of design support programmes.

Design policies can be explicit or tacit. Explicit design policies “refer to countries where design is officially integrated into national policy (this can be innovation policy, smart specialisation strategies, other policy domains or even a dedicated design policy) while tacit design policies refer to countries with government-funded design policy mechanisms (this can be design support programmes, design promotion activities or design centres)” (Whicher *et al.*, 2015, p. 24).

In Brazil, the design support programmes are part of tacit design policies, not being officially addressed within other branches of national policies, and not pursuing a specific dedicated national policy, strategy or plan.

Design support constitutes one of the ranges of design policy’s activities. There are several definitions of design support varying according to the source (i.e. Raulik Murphy, 2010; Raulik-Murphy and Cawood, 2010; Sun, 2010; Schneider *et al.*, 2015; Whicher *et al.*, 2015). From these definitions design support can be understood as initiatives or programmes which aim at harnessing design within business. Most initiatives relate to small businesses (which usually have little or no design experience) but they can also refer to more strategic levels of intervention and large enterprises (e.g. one-to-one mentoring, support in product/service/communication design, support in finding appropriate design consultancy, financial incentives – e.g. tax credits, vouchers and export schemes).

Research contents

The dissertation has been organised into three parts. The first part focuses on the conceptual framework building, and provides rationales for the use of design, as well as for imitation in the global arena from a literature review and analyses the context of this research.

Chapter 1 discusses the value of design, attempting to clarify the motivations that lead organisations and countries to invest in design. The diverse value views that have been connected to design based on a literature review and analysis were conducted in order to clarify the issue of the design value. The need to approach this issue arose from practice. The idea is to evidence in a more ‘shareable’ and ‘visual’ way the value of design and related studies and fields since it has been very difficult to identify benefits directly related to the use of design (and to its use intensity). The value of design in its methods and experimental approach is highlighted.

Chapter 2 presents the counteracting (or supporting – depending on the context) role of copycat behaviour and the different reasons that have been motivating firms, people and countries to ‘follow the crowd’ or imitate. In some contexts, the copycat attitude works as an alternative to survive (e.g. Latin America) and a means (or prior step) to be innovative in the tech industry (e.g. China). The copying, imitation, and adaptation of original products has been carried out in different geographical areas and cultures, as well as in a variety of historical moments.

Chapter 3 points out the MSMEs’ relevance for a wealthy economy as well as briefly introducing their relation to design innovation.

Chapter 4 focuses on the development of the field of design policies, pointing out main studies and historical events that were crucial to moving towards the consolidation of the field, frameworks, and actors that have been identified and conceptualised to describe and visualise contexts of design policies. Research which focuses on less advanced economies is emphasised. Design support programmes’ best practices are also highlighted.

Chapter 5 introduces an overview of design policies in Brazil, and the design status in Brazil, especially from a design management viewpoint. The Brazilian Design Innovation ecosystem is illustrated, applying the framework suggested by Whicher and Walters (2014), and analysed. Design support programmes in Brazil are further explored and the main mechanisms are discussed in the light of best practices.

In this first part, a global perspective on topics which can be considered universal regarding design approach and practice is provided. This outlook is convergent with Krippendorff, Maser, and Spitz’s (Bonsiepe *et al.*, 2015) thoughts on the universal character of design. Krippendorff (Bonsiepe *et al.*, 2015, p. 18) claims that “...design is a basic human ability to construct or improve on the construction of our world with responsibility to those affected, directly or indirectly”, and although “... there are cultural differences to be honoured... the process of proposing responsible innovations is not explained by national boundaries”. Maser (Bonsiepe *et al.*, 2015, p. 18) em-

phases that “any distinction should rather be project-specific and task-focused” relating to the field of application, not to national labels. Spitz (Ibid.) also addresses design as an “international phenomenon” being historically “a substantial part of industrialization”; in addition, she confirms her position stating that “any national label would reduce design to its superficial aspects, to the style features of formal aesthetics”.

Moreover, studies on design policy (Er, 1997; Raulik-Murphy, 2010) have stressed the common role of design as a competitive tool in industries and firms (Er, 1997), and the similarity in the pattern of design programmes (Raulik-Murphy, 2010) in advanced and less advanced economies.

Thus, in this study, design is considered a worldwide practice that can be embedded in diverse contexts, presenting certain common routines, ways of thinking and acting, and expectations regarding change and future. On the other hand, the specific context of emerging countries can influence design and its use. Hence, the particularities of Latin America and Brazil are pointed out, as well as studies that have addressed design in these contexts.

The second part of the thesis concerns the analysis of empirical cases from which the overall literature review was selected in order to provide a better understanding, even though one part of this literature is previously presented in the thesis outline. All cases studied correspond to the most common models of design support initiatives applied across Brazil.

Chapter 6 explores a group of design support cases joined by the researcher. These cases are described and analysed looking at the micro level (enterprises’ level), concerning mainly what goes on within MSMEs in order to contribute to or block the use of design throughout design support projects and their implementation. ‘The choice of design: from business conditions to business attitudes’ focuses on empirical cases in the furniture industry, emphasising the role of firms’ conditions and attitudes during the integration of design into their (not design-oriented) small businesses. This issue emerged from the researcher’s first-hand experience and was one of the gaps mentioned in chapter 1 with regards to the value of design, concerning the capacity to ‘absorb’ design. Most design policies focused on the integration of design into micro, small and medium-sized enterprises (MSMEs) and studies on design management ignore differences relating to the decision by key stakeholders to deploy creativity and its implications including, for example, the lack of sufficient value to move on to the next level of the design ladder, and the mindset and experience regarding design knowledge and practice.

Although the topic of design attitude was previously explored in Michlewski’s (2008) exploratory study, the attitude in a small business with little or no design experience that contributes to or undermines the use of

design has not been empirically looked into. This chapter addresses the use of creativity resources as a decision at the micro level (enterprises' level) using insights from Sternberg and Lubart's theory of investment (Sternberg, 2006; 2012) in the psychology field, in order to better understand empirical evidence of success and failure in absorbing design management capabilities – from Acklin's (2011; 2013) proposed framework – through design policy projects of integration of design into MSMEs or design support programmes. The main methods used in this first research phase were the author's participatory observations and the literature review. The literature review included topics which were selected considering the potential to contribute to the comprehension of empirical cases and the gaps that surpass the lack of economic resources to promote the absorption of design capabilities in MSMEs.

Chapter 7 expands this outlook with polar type cases, in which the researcher did not take part, focusing on three levels of analysis ranging from human beings (related to individuals, actors) and organisations (micro) to the ecosystem (external environment influences), broadening the analysis landscape. A framework at three levels is proposed in order to support barriers' and drivers' visualisation and analysis.

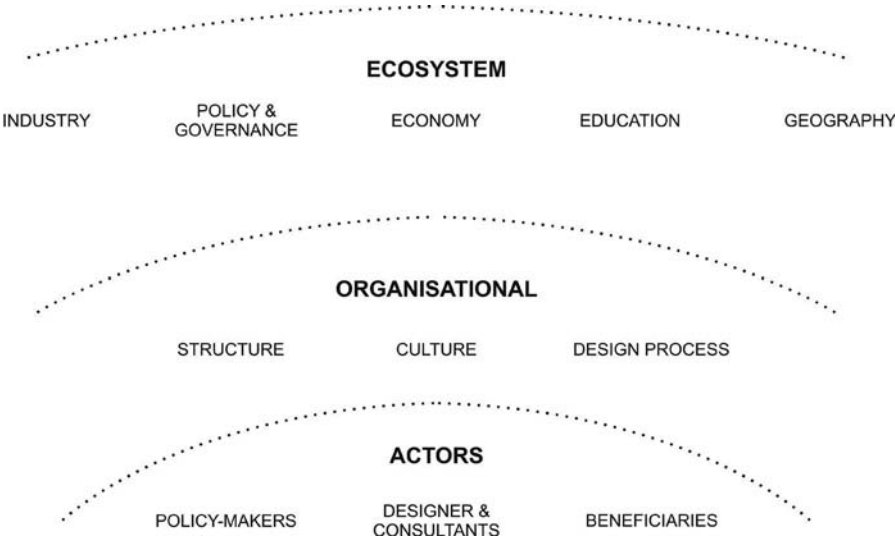


Fig. 1 – An interpretative framework for barriers and drivers to design innovation at three levels

Moreover, the limitations of the map of perceived businesses conditions and attitudes, the output of the study's first sample of cases, were also pointed out and assessed in depth. The second sample of cases also has the pur-

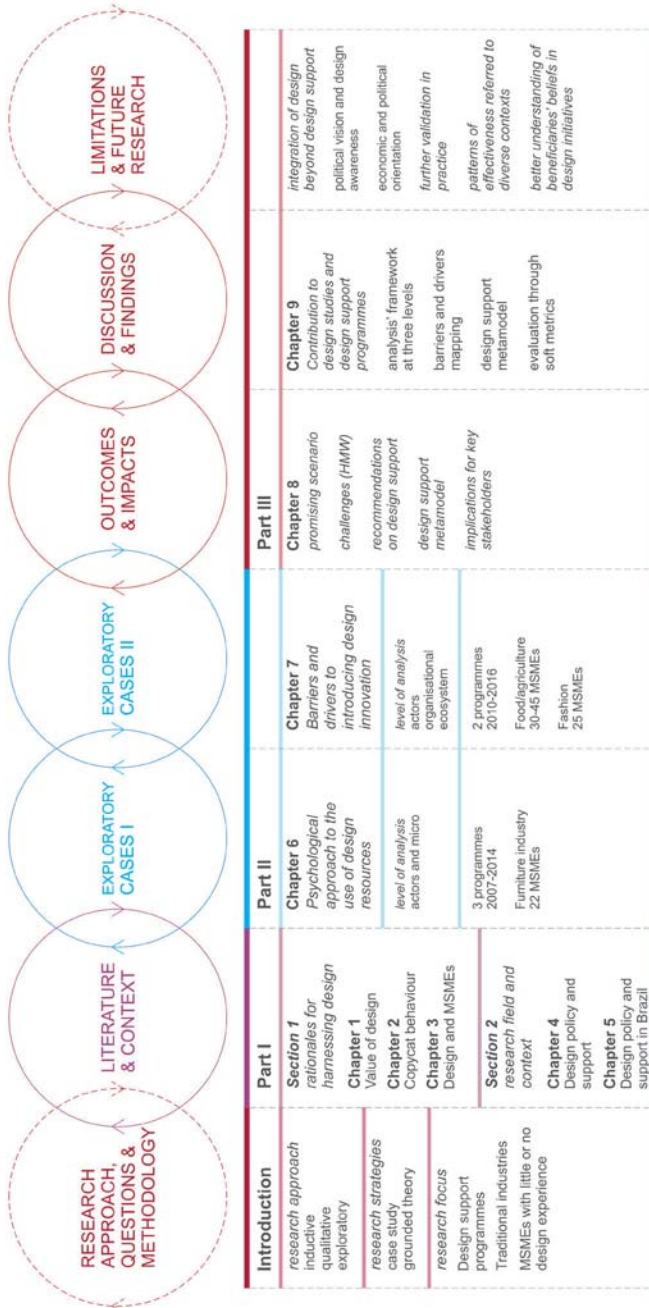


Fig. 2 – Research cycles.

pose of overcoming a number of limitations faced in the first phase of empirical case analysis, such as the lack of the key stakeholders' point of view and confrontation with other designers and consultants' experiences when implementing design support projects. Two projects in which the researcher did not take part were selected in collaboration with a non-profit private entity (that is, the main design support agency for MSMEs in Brazil) in order to provide a new input of empirical evidence for the study.

The third part of the thesis concerns the findings and reflections on the study as a whole and its outcomes.

This chapter emphasises our main findings.

Findings

This study shows that barriers and drivers at the actors' level were more frequent and easily recognised by a range of key stakeholders, likely because they benefitted from sufficient face-to-face contact throughout projects that helped them identify one another's drawbacks and strengths. The lack of background in design management of policy-makers (which is already stated in prior research), the absence of a prior company design audit led by people with a design background and the introduction of designers usually due to the implementation of a programme underpinned the fact that many barriers that are already discussed in prior research focused in the context of MSMEs might exist but were not addressed on an organisational level.

Promoting ecosystem changes requires a network of key collaborators that agree and attend to each other's needs which should be set out in order for action to be taken, sharing a purpose and strategy. Most barriers and drivers at the ecosystem level were not identified by interviewees despite the fact that they are clearly quoted in prior research addressing the Brazilian context. They were only recognised when directly affecting the established programme process or programme implementation, relating to day-to-day constraints and short-term outputs. Though they are crucial to moving towards a promising scenario, people seemed to get used to them. Hence, one might not be aware of a problem because one cannot recognise it in a long-lasting situation that takes place on a national level. Thus, the proposed framework helps raise awareness of their existence, emphasising the importance of setting up collaboration opportunities with a variety of stakeholders (e.g. governments, institutions, universities, industry, firms, designers associations, industry unions) in order to achieve consistent changes through a more systematic and long-term development strategy.

Few barriers and drivers were new and distinguished from others in prior research regarding only the rationale used to address them by the interviewee or the lack of empirical evidence within design studies or regarding design support programmes.



Fig. 3 – New, mentioned, and not mentioned barriers at each level.



Fig. 4 – New, mentioned, and not mentioned drivers at each level.

Barriers and drivers differ according to: (1) the context in which each project is embedded, including the economic and political priorities and orientation, as well as cultural aspects; (2) the way programmes and their projects were created, managed, implemented and evaluated; (3) the background and mindset of key stakeholders who take part in these projects.

A design support programme metamodel was proposed addressing the design support programmes’ drawbacks. This metamodel, as well as a three-level framework, should be seen as a dynamic metamodel that can change ac-

ording to the specific project’s context and its characteristics, the industry typology, the level of intervention (local, regional, national), and innovation needed, the background of people who use them, and time (barriers and drivers can emerge or change and can vary in a certain context, becoming more or less relevant). An expert with background in design policy or in design management, and in participatory methodologies, is suggested in order to moderate a collaborative and more participatory approach, helping lead and figure out controversies that can arise, promoting symmetry of key representatives’ participation, checking the awareness of possible barriers and drivers that can be overlooked, as well as solving issues regarding design concepts and contents and their relationships with a broader context (or ecosystem).

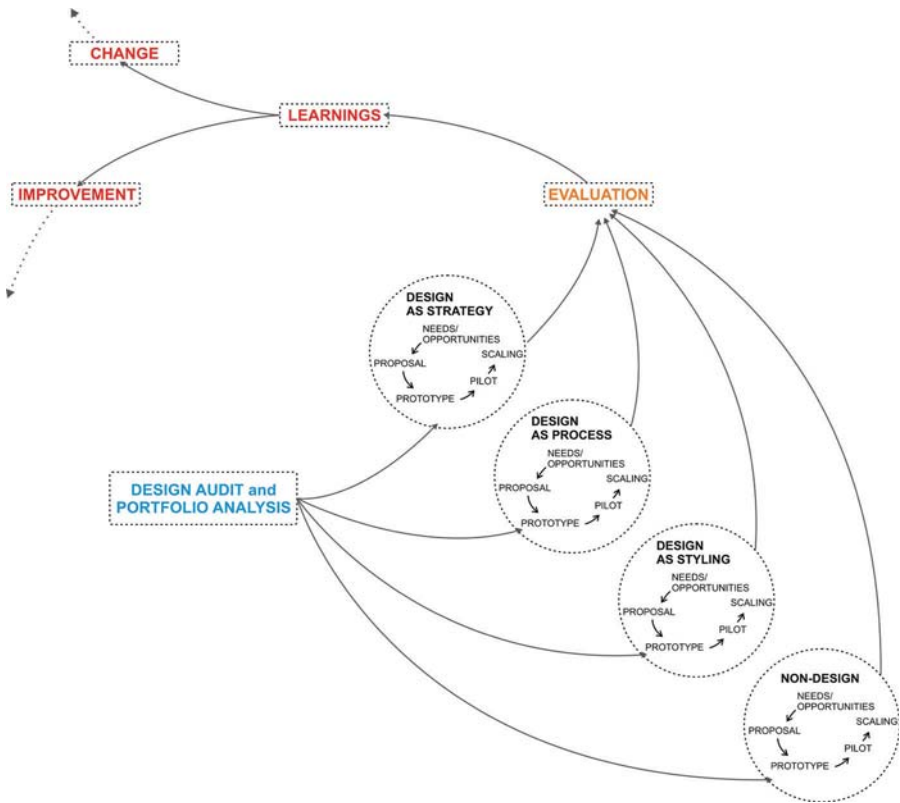


Fig. 5 – Design support programmes’ metamodel.

A promising scenario was envisioned through the selection of critical variables which were organised within 5 headlines that are emphasised in prior research, particularly research which focuses on less advanced econo-

mies, and some of them were reinforced by empirical evidence which arose from the analysis of interviewees' speeches. They were:

- the design support programmes/projects have an important social and economic impact;
- the processes of policy-making are participatory;
- the programmes/projects are evaluated and monitored with regards to short- and long-term benefits;
- the organisations are international market-focused, human-centred and future-oriented;
- the actors are design-aware and build on appropriate education and skills to lead design innovation.

If you have any questions regarding this study, please get in touch with the authors and have a look at this PhD dissertation to explore further details.

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