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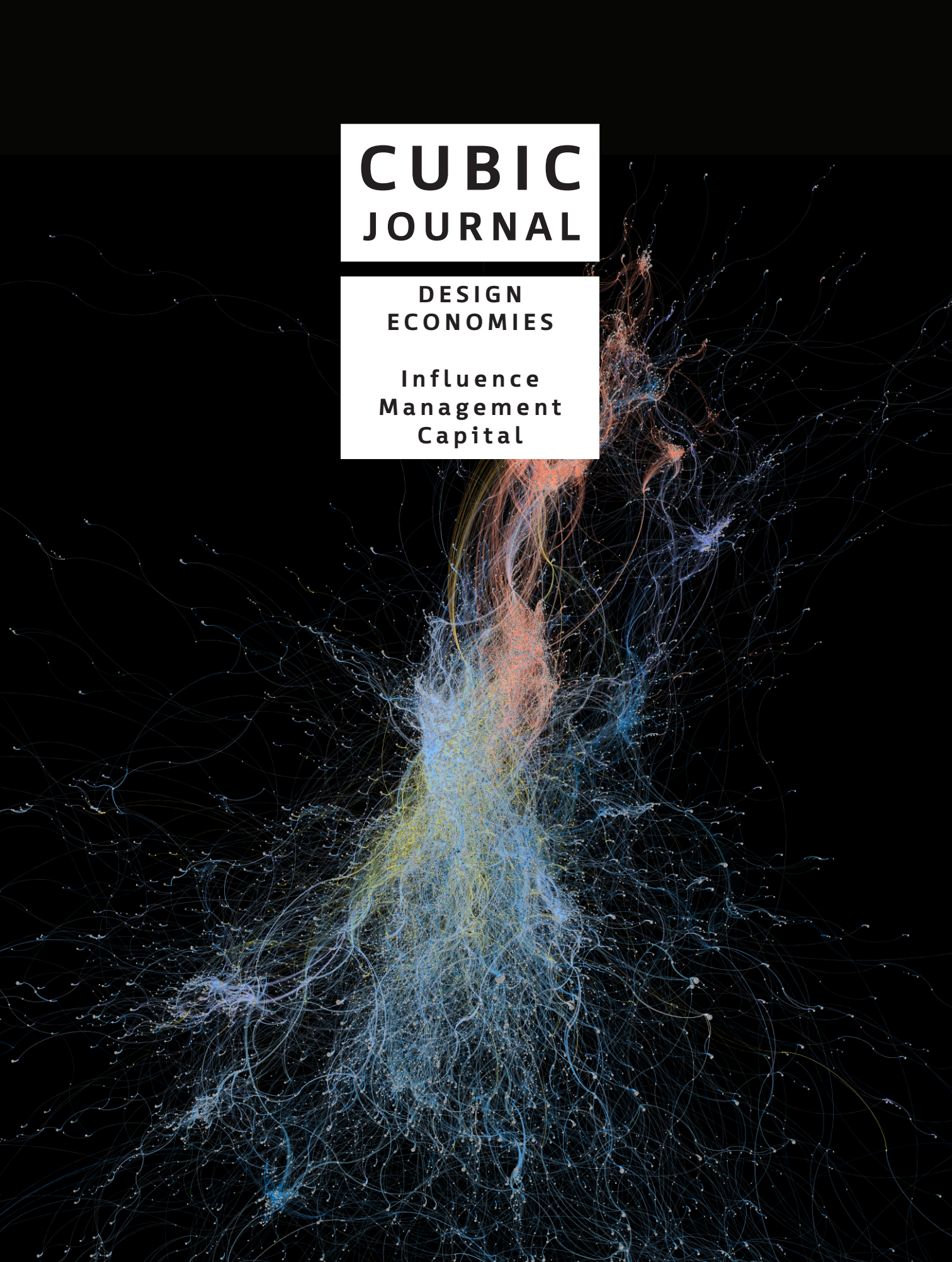

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EDITORIAL:

Bridging Strategy from Both Business Economics and Design Sciences – Influence · Management · Capital

Jörn Bühring
Brigitte Borja de Mozota
Patricia Moore

4–19

#design strategy

#strategic design

#capability building

#design value

#design performance

Introduction - Design Economy

The United Nations' 2030 Agenda for Sustainable Development (UNDP 2015) has brought into focus the wide scope of strategic decision-making across the economic, social, and environmental dimensions. Developments at this scale have prompted business leaders to become more forward-thinking, cultivating a more long-term, sustainable perspective towards an organization's strategic and creative capabilities (Gordon et al. 2019; Sardar 2010). Global industry leaders are responding to the zeitgeist that 'business as usual is no longer acceptable when faced with the many challenges in today's hyper-connected global economy (Gelles & Yaffe-Bellany 2019). In addition to this, a worldwide depression resulting from the novel coronavirus (COVID-19) pandemic and the wide-ranging economic impacts associated with the evolving climate crisis add to an already volatile business landscape. Meanwhile, scholars focused on thinking about the future are devoting more attention toward exploring the question of what constitutes effective organizational processes in the long term (Buchanan 2015; Buehring & Bishop 2020; Vaara & Whittington 2012). Such perspectives are especially relevant in areas where design strategy can be applied to the resolution of strategic organizational problems (Borja de Mozota & Wolff 2019; Gallego et al. 2020). Indeed, since 1980, the Design management literature offers evidence of the linkages between design and strategic management, evident in the examination of the role of design in organization growth and in building the competitive advantage of said companies (Borja de Mozota 2002), with reference to models such as The Design Ladder (Danish Design Center 2001) or *Designence*™ (Borja de Mozota 2006).

Consensus on the impact of design on performance can be said to be evident at all three levels of decision-making in organizations: strategic, tactical, operational (Brunswicker et al. 2019; Gemser & Leenders 2001). This impact broadly assumes the following forms:

1. Design impact for strategy in action and customer experience
2. Design impact for business strategy, process, innovation, and performance
3. Design impact for cultural change and organization transformation

Despite these revelations, precious little guidance is found in the way of forming a holistic view of the *why* of design science, core capabilities, theories, and methods in business economics and the ultimate pertinence of the design function in any given organization. Similarly, the *how*, which would outline the ways in which these capacities could be built and coordinated towards the support of strategic design and forward-looking decision-making processes is at best assumed, yet very rarely articulated.

This issue includes both the papers from academia and professionals we received through our *Call*, as well as the results of a complementary survey conducted by the editors with Chief Design Officers. Our editorial foreword uses the model (*Figure 1*) as the framework for a synthesis, linking strategy in design science and strategy in business science:

Part I - The vertical axis of *Strategy* from Vision to Mission through Value: design strategy versus corporate strategy, and business economics in design-driven organizations.

Part II - The horizontal axis of Strategic Management and the *Strategic design* decision path. From design leadership and strategic positioning to business strategy and design management to strategy in action and design.

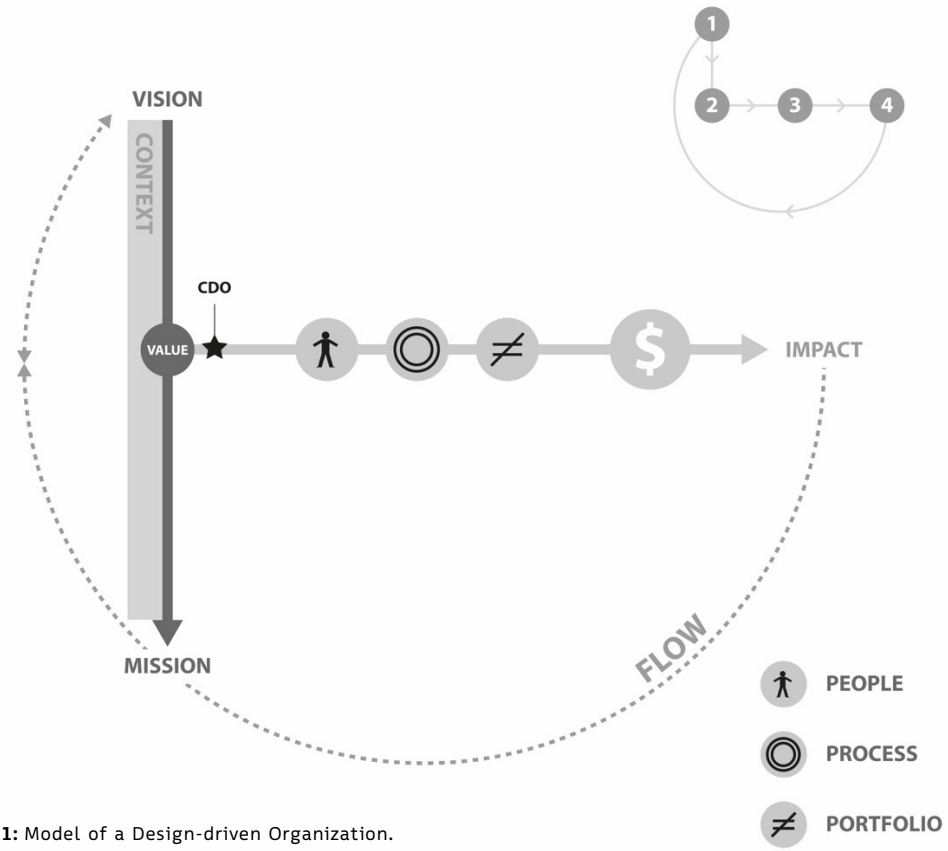

Figure 1: Model of a Design-driven Organization.
Illustration: Lo Ka Kin.

Part I - Design strategy and corporate strategy

Business economics and design flow

What is the design strategy driving change through design?

1. understanding how design values and knowledge fit into the organization

2. aligning design strategy with an organization's strategic goals and resources

Design science and practice can be treated as forms of energy. We see design science as a system (input/output and feedback loops), a system of energy flow (Grudin 2010), from the energy input of design as new knowledge to output of designed (embedded energy) artefacts for better performance. Strategic science on the part of any given organization is also a flow from the past to the future of the organization within the constraint of a *fil rouge* or common principles of survival and better efficiency. Both domains aim at change and for a *better* world. They look at the outside world and develop insights and ideas to invent a future that needs to be further adapted to the context of the organization, its leaders, stakeholders, and constituencies.

Behind every designer and every design project is a vision of a *better* world, an aspiration informed by processes of sensemaking, shared values and design principles. Design strategy is purpose-driven, intentional, and future-oriented, a *sensemaking* and dynamic activity. Design helps to optimize the allocation of resources and should thus be treated as economic activity in a literal sense. It is not a separate world from that of busi-

ness. If used strategically, it helps to define a new ecology of inputs and outputs, as exemplified in Gao and Hands (2021) strategic view of the impact of design on digital transformation.

Vision and design as knowledge

There are two models of strategic positioning in the field of design: the "innate" model where design and its values and methods are considered as a core competency of the organization from the very start (e.g., Braun, Alessi, Apple), which is also the model followed by designer-entrepreneurs, and the "experience" or "acquired" model that shows a progression of the valorization of design in business (e.g. Philips). The vision proposed by design deconstructs what is taken as normal, introducing a dissonance to the given. It creates through an "abductive" process, proceeding through a series of experiments. Constantly questioning boundaries, visionary designers see pathways of movement and openness where things appear closed. Visionary managers, in turn regard this refusal of closure as an opportunity for engaging in continuous conversations. So, what do strategic designers offer in terms of vision and strategic position?

The question of design strategy and business vision is a multiplicitous one (cf. Borja de Mozota 2002; Buehring & Liedtka 2018):

1. The traditional view of design and identity aesthetics treats design as a forward-looking orientation articulating an organization's purpose. Aesthetics denotes the capacity to produce beauty as a sign of power.

2. The rhetoric of strategic design, or strategy as language, provokes the formation of mental images of interpretive leaders, directly linked with company leadership and its power. Corporate identity provides a set of signs that leaders can master. Corporate identity is also a set of visual elements through which the public recognizes the company and affirms its design expertise.

But there are now new pathways for design strategy, which see strategic designers inventing a vision and pushing organizational boundaries in accordance with design values and ethics. Corporate identity systems are entities that carry representations of the company. Often, the process of "sensemaking" is reflexive: there is no "look on the environment" which does not entail a corresponding "look at who is looking". Strategic design develops this cognitive approach into explicit strategy, unfolding in processes of: "inter-creation", the reciprocal construction of the organization by its environment and the environment by the organization.

Designing a vision is an inter-creation process between the organization and society at large. By redesigning the design strategy through the development of new design capabilities of the design function, a competency-based strategy is formulated. Similarly, an RBV (Resource-Based View) strategy welcomes the accumulation and allocation of resources. That is, any resource can be mobilized to generate a competitive advantage. Strategic design as knowledge is a resource for company success. At the same time, it can produce knowledge through fostering a collective learning process. Here, strategic design is seen as a building process of collaborative "sensemaking". Design capacities of "learning by doing" provide the context for conversations and the social construction of knowledge.

Consequently, strategic design is about creating new knowledge for the organization, but also functions as a builder of knowledge by increasing the knowledge value of other functions (R&D,

Marketing, HR, etc.) and by constructing unique relationships with the consumers of its products, services and experience propositions. This competence-based view of design input introduces a dynamic perspective. Resources are not intrinsically strategic, they become strategic when embedded in the strategy process. Design as a core competency gives access to a wide variety of markets, contributes to the benefits perceived by clients and thus is difficult to imitate.

Design Strategy

Design strategy participates in the strategic discourse through design values, design leadership, design attitude, design knowledge, and designer's profiles, each of which will be defined below.

- **Design values (and Ethics):** in design strategy, design values are strategic markers. They orient principles and provide touchstones for assessment. Design leaders make values explicit. They encourage leaders to discuss their values openly (Quayle 2017).

- **Design leadership** is grounded in a geographic and psychological place and in self-awareness of the environment that shapes the individual. It understands the dominant opposites and favours critical debates. Furthermore, it emphasizes edges and boundaries as places of richness for analysing ideas and not so obvious alternatives. Design leadership bridges gaps and makes connections: collaboration, as opposed to isolation, is encouraged. It thereby strengthens the connections between research and policy, theory and practice, public and private spaces. Effective design leadership involves the scaling of problems, balancing top-down and bottom-up processes while learning from natural systems and their interconnected processes. Equally, it is about connected thinking and doing while attending to patterns. Therefore, design strategists have a different mindset. They acquire new knowledge at the strategic decision level (Calabretta et al. 2016; Calabretta & Kleinsmann 2017), such as:

  1. Visioning to help organizations incorporate future-oriented and longer-term perspectives.

  2. Research to diffuse new technologies and discover new user behavioural trends.

  3. Coaching to help stakeholders think and act differently.

- **Design attitude refers to a certain set of core values to which the designer adheres,** such as accountability, effectiveness, elegance, and respect. Respect implies listening carefully and actively. Designers process values like resilience, diversity, learning, and meta-competencies such as multidisciplinary teamwork, research, self-directed continuous learningand analysing complexity (Lawson & Dorst 2013). It requires courage, the capacity to take risks as well as the ability to make decisions in an uncertain environment.

- **Design knowledge** is work in context, which is key for developing a strategic capability of designers - the capacity to see. Developing a sense of purpose is key for the development of a designer's vision, and this capacity is most useful in strategic ideation and positioning. This entails **the visualization of** complex problems, the drawing of futuristic artefacts or seeing invisible connections in eco-systems. Designers use visualization and materialization skills in a strategic direction (Calabretta et al. 2016).

- **Designer's Portfolio -** strategic designers have a variety of profiles (Yee et al. 2017).

As observed from previous studies, there is a difference between strategic design and design strategy (Holland & Lam 2014; Micheli 2019; Simeone 2020). While strategic design focuses on an organization's objectives during the design process, design strategy focuses on the application of design methods and values in developing a strategy (Anderson 2020; Brown 2019). However, when Brown (2019) addressed the difficulties in defining strategic design and design strategy, he would go on to arrive at the following definitions through experimentation and real life practice among his clients and students:

> ***Strategic design*** *is a design process that includes business considerations such as competitive positioning, pricing strategy, distribution strategy, and advertising strategy" (Brown 2019, 42).*
>
> ***Design strategy*** *is the process of designing for the purpose of strategic analysis and formulation (Brown 2019 42).*

The true value of design, as Brown (2019) concluded, is still obscure in the business domain as designers are forcibly removed from the doing of design, which he sees as being crucial to the identity of designers. Hence, an important question arises: When referring to the design strategy, how does design thinking factor in the design doing as a whole? Without the actual doing of design, designers are simply design thinkers and for designers to take up a strategic job, design doing is essential. In this context, it can be argued that strategy comprises of strategic thinking and design doing, instead of strategic thinking and design thinking. With design doing, designers bring value to the strategy through the empathy, consumer-centricity, visual representations, wide perspectives, problem analysis, and creative solutions which they contribute.

Furthermore, the Helsinki Design Lab defined strategic design as being more than creative thinking; it requires taking responsibility over whole concepts to preserve credibility throughout the design process. In this case, and during the transitional processes, designers must engage in the assessment, evaluation, and development of broader goals, such as sustainable or life-centric solutions (cf. Thackara 2006). This indicates that designers can bring more than design thinking to strategy, and the designer's involvement in the process can lead to a sustainable strategy. In summary, strategic design should correctly consider design strategy, focussing on both design thinking and design doing throughout the process (Anderson 2020; Boyer 2020; Brown 2019). That is, designers' strategic capacities support an inclusive "open" approach to strategy, embracing the use of 'soft skills' which organizations would do well to embrace in the development of a vision for a 'better world'.

Design strategy in corporate strategy

How does design strategy fit into emerging discourses on corporate strategy and the goals that these entail, as well as the call for solving the pressing global challenges involved in contemporary concepts such as Mission-driven Strategy, Systems-shifting Design, Sustainable Renewable Energy, Doughnut Economy, and Well-Being Economy (cf. Frigo 2003; Graham 2011; Østergaard et al. 2020; Raworth 2017; Szostak & Boughzala 2021)? Indeed, how does strategic design fit into the re-imagining of organizations as living systems (cf. Björklund et al. 2020)?

Going beyond "Design Thinking" as a tool to a design attitude

Here, a good example is the difference between "designerly ways of knowing" such as the creation of artefacts, reflexive practice, problem-solving activity, ways of making sense of things, creation of meaning (Sköldberg et al. 2013) and the

applied "Design Thinking" methods of the IDEO model: the way of working, as a necessary skill for managers, and part of management theory. In response to the the many critics of this IDEO vision of DT, scholars assume a more expansive view of design thinking, taking it beyond its focus on specific issues or problems and treating it in its ecological relationship to the environment and system in which it exists(cf. Beverland et al. 2015). This involves the recasting of design thinking as a meaningful and holistic whole, an attitude, a *gestalt* (cf. Vogel 2009) charged with more openness, more compassion, and more ability to disseminate design knowledge (Micheli 2019).

Design Ethics and sustainable strategy

The question of design ethics is widely discussed now that we need to give a direction to the future of all living systems on earth, a future which necessitates designing e.g., sustainable cities and "zero waste design" processes. Certainly, we can hardly forget that designers have also contributed to mass production, mass consumption and mass destruction of the planet resources. However, designers who engage in a wide range of 'user-centered', empathetic design methods are well versed in what Bruno Latour (1992) has described as a process of *moral delegation* or *the ethical made durable*.

Testifying to this is the newfound popularity of Victor Papanek's (1972) pioneering book *Design for the Real World*, which we consider a good example of strategic designers attitude and vision of the future. Design ethics often refers to professional codes of conduct or design morality. Included within design ethics are moral and legal obligations to make designs universally accessible and *inclusive*, concerns captured in rallying calls such as as *design for all*, *gender design*, *humanitarian design*, *social design,* and *design for care*. Empathy, compassion, and deep human understanding foster collaboration across functions and business units, generating impetus toward developing a new vision of "enterprise design" (Fraser 2019). Thus, the first goal of design ethics and sustainable strategy formation is to develop a vision and to recover a sense of purpose (Tromp & Hekkert 2018).

Futuristic design and strategic foresight

Futuristic design is used to specify the designs of any period that make prominent reference to a vision of the future. Futuristic designs are greatly inspired by modern technological innovations in the fields of space travel, biosciences, science fiction, and virtual reality. Works developed by star designers all over the world adopt this futuristic imaginative position, and often organizations tend to work with such designers for a foresight view of their markets deploying concept design. Similarly, strategic design, foresight and futures studies (methodologies, methods, approaches) are increasingly adopted in university and design schools' research laboratories.

Examples in this direction range from design research in technology laboratories or design schools to exhibitions in design museums such as *FEAR & LOVE*, which was the opening exhibition of the new London design museum in 2016. Design is one of the forces driving and reflecting this fluid flow of change. Design makes change tangible. Design weaves into the many fears of our times: trust, privacy, resilience, security, survival. Exceptional visionary design works reach such heights that we are prepared to accept functional deficiencies. These designers, in taking unique risks, develop visionary artefacts which both delight and infuriate us while using them, and design capabilities assume a speculative form, disclosing fictive futures, telling stories and embodying critical thought (cf. Bühring 2021).

Issue contributions and perspectives

In this issue, we introduce several perspectives drawing from the fields of design science, business strategy and foresight. In her essay *Whole-being framework: the starting point for implementing workplace wellness programmes*, **Marea Saldarriaga Bueno** from Mexico speaks of a "whole-system" approach to developing emotional intelligence in people to pursue a meaningful way to thrive both in personal and professional lives. Her paper is aligned to the perspective of experiences, specifically addressing the role Design has in helping organizations understand what drives their employees, the ecological factors which affect their motivation and performance. In this context, a strategy must align to the human spirit, thus creating the ideal conditions for "whole-beings" to thrive, while self-awareness becomes equally essential for the system to work.

Elaborating upon the human dimension, **Rike Neuhoff** from Denmark presents an abstract titled *Meditation-inspired visioning: An experiential method to envision the future*, where she introduces an experiential, meditation-inspired visioning exercise that can aid in enhancing people's capacity to envision desirable and motivational futures. Derived from positive psychology, strategic foresight and futures thinking literature, this short introduction illuminates emerging design practices to help decision makers imagine and realize radically different, more desirable, and most importantly, more sustainable futures.

VALUE and Competitive Advantage

The value and influence of design on consumers have been recognized as important. Furthermore, management thinkers and practitioners have become alert to the importance of design for growth and the long-term sustainability of the organization. In this research (and with close reference to Figure 1), we sought to engage with design leaders to establish a platform from which to address internal and external issues through design, strategy, and foresight. Specifically, this short survey was intended to frame and encompass design team structures, responsibilities, approaches, and design value drivers in everyday practices. Insights gained from this study involving senior decision makers with design responsibilities within global brand icons, technology leaders, and start-up enterprises, will help explicate the linkages between design elements, strategies and outcomes related to the opportunity discovery and decision-making processes. Indeed, forty years of design management research is showing that design is getting up to C-Suite executive levels (Borja de Mozota & Wolff 2019); giving reasons for prompting new research to compare data of variables from 2002, and a present-day survey with our assumptions of a new variable *Design participates in the strategic decision process*. The *2022 Design Leader Survey* indeed generated new supporting insights from C-level Design decision makers (n=20) a decade on (Table 1), which corroborates with our findings in prior research (Bühring & Borja de Mozota 2021, forthcoming).

With a view towards how competitive forces function in an industry (cf. Borja de Mozota 2002), insights emerged as to how design creates strategic value across three distinct levels: (1) by optimizing the primary activities: Design action on the consumer perceived value; (2) by optimizing the coordination among functions and the support activities of the firm: Design as a new function in the structure that transforms the management process, and (3) by optimizing the external coordination of the firm in its environment generating a new vision for the industry (2002 p. 94). With the new design leader survey of 2022 building upon the same variables which characterize the value of design, the survey served to place further emphasis upon the visionary role design must play when it comes to the broader issues and challenges of

our time. Not surprisingly, the new variable in support of strategic decision making"registered highest score in the data matrix (cf. Table 1). Indeed, the most recent 'Design Economy 2021' report commissioned by the UK Design Council (Kimbell et al. 2021) signalled this shift in the focus on design. Its value now goes beyond the economic, its implications requiring the adoption of sociological approaches to analysing the social and environmental impact it generates.

With design now regarded as a catalyst for human capital, knowledge, cultural, and technology capital (Borja de Mozota & Kim 2009), we were particularly interested in our new design learder survey to seek first-hand accounts from Chief Design Officers (including VP, Head, Director levels) and Artistic Directors on the subject of the autonomy and power they enjoy (or do not enjoy) at the C-Suite executive level. To this end, the extracted data in the 2022 survey included participant quotations in addition to the quantitative findings from the survey questionnaire, and the authors' interpretive descriptions and summaries of results. In comparison to the 2002 study findings, a new value class emerged, which supports the assumptions of design in support of strategic decision making we introduced earlier. Comments obtained from design leader participants in this survey, by way of example, brings to light the evolving role of design as a strategic asset:

> *At Dassault, the design process is well described, and the organization recognizes its importance and capabilities of influencing business strategies. (Anne Asensio, Design Vice-President, Design).*

In a further related example, Lawrence Chu, Head of Product Design at Johnsons Controls Hitachi described the strategic value as

> *Design is a veneer, only skin deep; at Johnson Controls Hitachi, Design is a workshop where ideas are generated and are good for internal discussions. Design is an integral part of business strategy to a sustainable future and is part of everything we do".*

And, at LG,

> *"We aim to position design to be the core capabilities to forecast future business opportunities (Chul Bae Lee, Senior Vice President of Design).*

The strategic goal which is relevant to our present concerns is definedby different business scholars as gaining or sustaining a competitive advantage (Barney 1991; Christensen 2001; Mintzberg 1994; Porter 2008). In this 2022 survey research, we worked on the fundamental model of Michael Porter's value chain since there is a consensus among researchers in building a company's competitive advantage through strategic design (Borja de Mozota 1998b; Calabretta et al. 2016; Gemser & Leenders 2001; Holland & Lam 2014; Martin 2009).

To this end, strategic design is understood first in terms of its economic and financial impact on an organization's growth, sales and development of intangible assets. Design projects, when we speak of product design, packaging design, brand identity design have an impact on market share, price policy, and brand efficiency. In this context, strategic design is the organizational growth model, and its performance in this regard is evaluated in the paper by **Ian Parkman** entitled *How do we get paid for this? The Relationship between Strategic Design Management and Pricing Power.* In the paper, Parkman puts forward the following proposition: "What makes design strategic is seen as better performance on the market through premium pricing".

In another vein, the paper by **Taek-Kyun SHIN and Jieun KIM** perfectly illustrates value being generated through the strength of data visualization and the impact of design on Intellectual Property (IP). In *'Design is Everywhere but Nowhere in Analytics'*, Shin and Kim make the case that a data-driven

Table 1: Design Leader Survey variables from 2002, and 2022 with "design in support of strategic decision making" as a new value class. *Source: authors.*

Qs	Qs ID	Mean value 1-5 (1 = very important)	sample size: n=20	Value of Design as a strategic asset	Cluster	2022	2002	variance
1	SQ22	1.57	**Design in support of strategic decision making**	Vision / People	1	1	0	**NEW**
2	SQ1	1.57	Design as comptitive advantage	Mission / Performance	3	1	1	=
3	SQ3	1.67	Design as consumer experiences (benefits percieved)	Mission / Performance	3	2	3	=
4	SQ2	1.81	Design as a core competency	Vision / Mission	3	3	2	=
7	SQ4	1.95	Design changes the spirit of the firm	Vision-Mission / Process	1	7	4	↑
6	SQ10	1.95	Design develops user-centre innovation management	Vision / People	2	8	10	↓
5	SQ6	1.95	Design increases market share	Mission / Performance / Impact	3	6	6	=
8	SQ8	2	**Design Improves cooperation, strategy, marketing, and R&D**	Vision-Mission / Process	2	4	8	↓
9	SQ7	2.05	Design allows brand premium pricing	Mission / Performance / Impact	3	10	7	↑
10	SQ17	2.1	**Design improves the circulation of information in innovation.**	Vision / People	1	9	17	↓
11	SQ13	2.24	Design accelerates the launch of new products	Vision-Mission / Process / Impact	2	12	13	=
12	SQ9	2.24	**Design is a know-how that transforms the activity processes**	Vision-Mission / Process	2	13	9	↑
13	SQ16	2.29	**Design creates new markets**	Vision-Mission / Impact	1	5	16	↓
14	SQ15	2.29	**Design develops project management of innovation**	Vision-Mission / Process	2	11	15	↓
16	SQ19	2.38	Design is difficult to imitate by competitors	Vision / People	1	16	19	↓
15	SQ14	2.38	Design improves coordination between production / marketing	Vision-Mission / Process	2	14	14	=
17	SQ12	2.43	Design gives access to a wide variety of markets	Vision / People / Impact	1	15	12	↑
18	SQ18	2.48	Design means higher margin or cost reduction	Mission / Performance / Impact	3	17	18	=
19	SQ21	2.67	Design improves coop among agents	Vision-Mission / Process	2	18	21	↓
20	SQ11	2.76	**Design generates TECH transfer**	Vision-Mission / Process	2	19	11	↑
21	SQ5	2.9	**Design develops exports and internationalization**	Mission / Performance / Impact	3	20	5	↑
22	SQ20	3	Design changes relations with suppliers	Vision / People	1	21	20	=

Cluster 1	Design in support of strategic decision making / PEOPLE
Cluster 2	Design as core competency / PROCESS
Cluster 3	Design as competitive advantage / PERFORMANCE

approach for design patents is an underutilized resource in design management and innovation research. In their study, they take Apple, Dyson, Samsung and LG as companies which engage in innovation activities with different trajectories and shapes, focussing upon product diversification strategies, collaboration patterns and design-technology pollination flows. Strategic design, in this case, highlights financial and intellectual capital performance value through patents, copyrights, licensing, and brands.

Part II Strategic Design Management

In this part of the editorial, we engage with the question of *How to build organisational capabilities in support of strategic design for the transformation of organisations?* Strategic design management is about shaping design decisions in action. What is important to illuminate, however, is how design capabilities penetrate the decision processes for implementing strategy. Pertinently, various strategy thinkers explain how the strategy direction penetrates the organizations' processes (Kaplan & Norton 2000; Kim & Mauborgne 1997; Vaara & Whittington 2012). Likewise, the same theoretical pattern is followed by strategic design management scholars (Holland & Lam 2014; Meroni 2008; Wolff & Amaral 2016). In this context, this sixth issue of CUBIC Journal produced three perspectives, which are following the strategic management path:

Perspective 1: The power dynamics of design principles in strategic design management

Managing by design (Gruber et al. 2015) involves bridging design principles, folding the attitude of design into the strategy discourse, from designing a corporate identity to sensemaking, systems thinking, purpose, and meaning. Here, the questions are: "How do leaders gain influence and establish their legitimacy and identity through strategic design? "How is design driving sustainable ecosystems towards regenerative organizations?" And "How are design attitude and skills as a core competency and long-term resource difficult to imitate?" The paper presented by **Mariana Fonseca Braga** from Lancaster, UK, illustrates this perspective: *The Fifth Order of Design: The Value of Design in Transition Times*. Although design strategy is seen as achieving better performance, the paper challenges the very notion of performance. Confronted with questions of sustainability, the very discourse of design needs to be addressed if the systemic problems that it generates are to be treated. Central to the paper is an argument for the value of design for business management, which is in dire need of a common-systems view to tackle the challenges of our time (Buchanan 2007, 2015; Manzini & Meroni 2007).

Perspective 2: Align strategy and customer-centricity and experience

Strategic design for customer-centricity in organizations brings forward several key considerations (cf. Meroni 2008), namely:

1. How does design leadership and design management transform and align seamless customer brand experiences?

2. How do UX designers transform organizations' marketing strategies through hybrid efficient, inclusive, digital performance?

3. How does Design Thinking drive cultural transformation of customer processes towards a Corporate Social Responsibility [CSR] enterprise, societal empathy, and the development of a mission-driven long-term strategy?

Possible solutions to these very questions are probed by **Michael Lai and Hsien-Hui Tang** from Shanghai in their paper *Shifting the Value of Experience: From Design to Strategy.* In their article, the authors compare and contrast the nature of experience design with experience strategy, exploring the ways in which they are delivered to close the gap between designers and strategists.

Perspective 3: Align strategic design with stakeholders' engagement

Human centricity becomes organizational in a progressive fashion, beginning with the creative design individual and leading to the designing of a creative culture shared by all in the organization. Here, it be hooves us to consider how design integration transforms human resources management, which in previous research has shown the power of design for collaborative innovation as an open model (Borja de Mozota 2002; Secundo et al. 2020). Indeed, are designers' skills integrated as strategic new soft skills for managers at all levels, thus leading to co-innovation management and the engagement of all stakeholders involved through user-oriented design management, co-design with users, experimentation, collaborative, and open innovation? How is strategic design lowering risk management and optimism in the face of chaotic situations?

Addressing this issue from a strategic design perspective which takes a multiplicity of stakeholders into account, **Geraldine Hatchuel's** paper entitled *Let's take care of the caregivers* focusses upon experience design strategies in healthcare institutions amidst the COVID-19 health crisis. In her paper, Hatchuel explores the capacity of design to devise new work solutions and strategies which improve the lives of caregivers.

Such human centricity, shared on all levels of the organisation, points towards different ways of understanding the value of design and its integration by different organizations. In this case, strategic design management is influenced by context and conversation. Hence, periodical change from a design and management perspective ought to be observed if a relationship between good design and good management is to be established. That is, as management and design practices advance (e.g., design-entrepreneurship; design-foresight), better representations of design management and design leadership are needed to ensure a closer alignment between design research and critical management representations (Borja de Mozota & Wolff 2019; Buehring & Liedtka 2018).

Conclusion

The world is changing, and so are the demands that these changes exert upon the design industry, on businesses and society as a whole. In this issue, we focused our attention on design as a strategic asset to the organization, one which can be harnessed as it responds to the external environment in an effort to identify opportunities for new design activities and outcomes. As our research demonstrates, design (in theory and practice) tends to elevate and enhance the role of the organization as a catalyst for change, influencing strategic decisions, producing clear visions, shared beliefs, and values which assume a more holistic conception of sustainable development. To make up for a shortcoming in our ability to gain a holistic view of design's core capabilities, theories, and methods in business economics, as well as the pertinence the design function and job position (e.g., design leadership) has in organizations, we introduced a conceptual model (see Figure 1) with the aim to synthesize the question of design strategy and business strategy and its relationship to achieving its goals when faced with the challenges of our time. In summary, we have reached consensus on two critical issues:

a. First, the need for a continuous "survey" process with Design industry stakeholders around the variables which make up the key performance indicators (KPI) of Design value.

b. Second, a more collaborative approach between research labs welcoming designers, academics, and strategy practitioners.

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Bio

Dr. Jörn Bühring is an assistant professor at The Hong Kong Polytechnic University, School of Design. He earned a BA-equivalent degree in the field of Tourism Management (HH), an M.B.A. (VU) majoring in Entrepreneurship and Innovation, and a PhD in Consumer Engagement Innovation futures at Swinburne University of Technology (SWIN) in Australia. In his current position, he is developing a collaborative approach (Design Economy, Ignite Innovation Industry Collaboration Futures) that brings academia, designers, and business stakeholders together to develop high-impact design knowledge, concepts, and solutions. His research explores Design Foresight, Vision and Fiction techniques as emerging processes within Strategic Design and Innovation Management.

Dr. Brigitte Borja de Mozota is currently director and founder of Designence, a Design Management Think Tank (2011); an Associate Member of research laboratory Chaire Diament on design and mental health at Université UQAM (Montréal, Canada). She teaches Design Leadership and Management in Masters in innovation & MBA Managing by design (Strate Kedge) and runs international projects based on her value model for design - "Designence " - (KCDM 2.0 Slovenia; Politecnico de Monterey Mexico). A pioneer in design management, Brigitte received her PhD in economics on Design value at Université Paris, Sorbonne in 1985. She created international research networks: Design Management Institute (1988), European Academy of Research (EAD 1993), Ateliers de la Recherche en Design (2006) and research journals (The Design Journal, Sciences du Design) & organized international design research conferences for EAD and DMI.

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Design is Everywhere, But Nowhere in Patent Analytics

Taek-Kyun Shin
Jieun Kim

20–33

The number of design patents has grown significantly in the last 140 years. However, a data-driven approach for design patents has been overlooked and underutilised in the design management and innovation research communities. Through the prism of a patent professional, data analyst and designer, this photo essay demystifies the complexity of design patent data and sheds light on the underlying value of design as it features among a range of diverse innovation activities. Patent network analysis and visualisation techniques enable the building of a series of patent citation maps and co-inventor networks. Cases from renowned companies—Apple, Dyson, Samsung, and LG electronics—reveal different shapes of innovation activities, focusing on product diversification strategies, collaboration patterns and design-technology cross-pollination flows.

#network visualisation

#patent analytics

#design patents

#intellectual capital

#gephi

Introduction

> *Design management is a rigorous and strategically anchored mechanism to capitalise on the investment in design as intellectual capital. (Borja de Mozota and Valade-Amland 2021, 6)*

The value of design has never been more heralded as promising economic benefits, nor has it been regarded as a competitive investment for tech businesses more widely than it has now (Maeda 2017). Despite this intensifying focus on design, the recognition of pertinent intellectual capital assets— design patents more specifically—and their strategic uses in innovation management have seldom attracted scholarly attention. In particular, data-driven approaches for measuring the value of design patents as a proxy for innovative activities are underrepresented in research on the subject (Kim et al. 2021).

The importance of protecting designs was first recognised in the Paris Convention for the Protection of Industrial Property in 1883. Since then, the volume of design patents has steadily increased. A seven-year-long design war between Apple and Samsung (2011–2018) ignited a greater traction in design patents. Every year, around 800,000 design applications are filed worldwide, with an annual growth rate of 7.3% (WIPO 2020).

Designs are defined in the European Union Intellectual Property Office (EUIPO) as "the appearance of the whole or a part of a product resulting from the features of, in particular, the lines, contours, colours, shape, texture and/or materials of the product itself and/or its ornamentation" (Article 3 of the Design Regulation). The United States Patent and Trademark Office (USPTO) defines a design as an article that "consists of the visual ornamental characteristics embodied in, or applied to, an article of manufacture" (35 U.S. Code §171). On the legal front, designs are called *community designs* in Europe and *design patents* in the US, though the protections that these patents afford and the exact requirements that they entail are not identical across these two contexts. In this paper, for the sake of simplicity, two terminological correlates, *design patents* (i.e., *community patents* in Europe) and *technology patents* (i.e., *utility patents* in the US, 'patents' in Europe) will be employed.

While extant research examines the issues which arise in the midst of a fragmented international design-protection system, placing an overemphasis on the visual appearance of a design (Filitz et al. 2015; Yoshioka-Kobayashi et al. 2018), design patents in themselves have yet to be subject to data analytic techniques, despite the clear advantages of doing so. Firstly, design patents contain rich, objective data, such as the names of inventors (or designers), applicants, product classifications, drawings, and citation information, which are recorded at a level similar to technology patents. Second, only a few companies make their design teams and lead designers known, since they often keep the details surrounding internal organisation secret. Design patent data related to the inventors, and the subsequent network analysis which result from the scrutiny of this data, enable speculation regarding the patterns of collaboration between target companies' and core inventors, as well as the evolution of innovative collaborations (Trippe 2015). For instance, in the recent lawsuits surrounding the iPhone, court documents and Apple's patent filing history unravel the long, mysterious story of Apple's innovation team (Kim et al. 2021).

Considering the increasing strategic importance of design patents, this study addresses the following important question: Do design patents play a role in explaining the different shapes of design innovation activities? In particular, this study investigates the meaning of citations and co-inventor data in design patents through a network lens, with reference to cases from renowned companies—Dyson, Apple, Samsung,

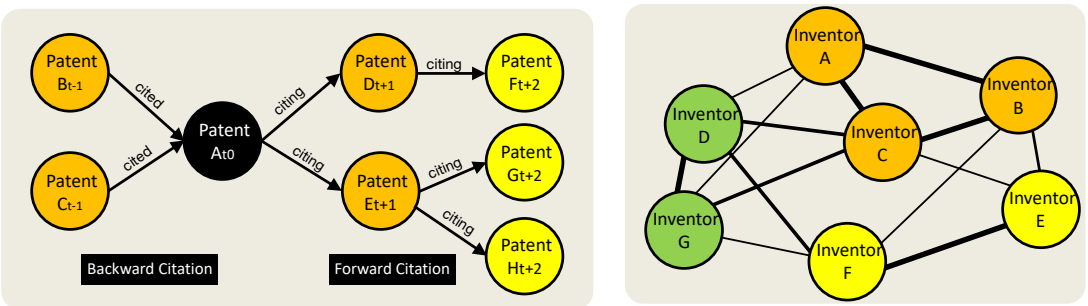
and LG Electronics. A series of patent network maps are sketched to chart the different shapes of their innovation activities and shed light on the underlying value of design in their product diversification strategies, design–technology pollination flows and collaboration patterns. Finally, this novel approach attempts to explore and to supply highly detailed, accurate and actionable insights on design patents to bolster informed decision-making in the design management and innovation research communities.

Research Method: Network Analysis and Visualisations

Network analysis and visualisation have been widely used for interpreting complex systems from multiple perspectives, ranging from social systems to shared knowledge networks (Prell 2012). A patent citation network is of great relevance to network analysis, specifically for forecasting emerging design (or technology) and innovation trajectories. Co-inventor networks investigate knowledge flows and collaborative patterns (Kim and Kim 2019).

At its most basic level, a network consists of sets of nodes (also called vertices or actors) that are connected through sets of edges (i.e., links, ties, or arcs) (Prell 2012). The edges can be either directed or undirected. In the case of patent citation networks (see figure 1a), the nodes represent patents, and the edges with arrowheads depict the directionality of backward and forward citations over time (i.e., the citing and cited relationships of patents). By juxtaposition, a co-inventor network consists of the nodes representing inventors and the edges that share the inventive relationships among inventors (see figure 1b). Suppose three co-inventors (inventors A, B, and C) are involved in the formulation of patent A and two co-inventors (inventors C and D) for patent B. The co-inventor network can be undirected, as there is no difference between the statements "inventor A worked with inventor B" and "inventor B worked with inventor A." In addition, thicker lines indicate the relative strength of links among the inventors, and colour codes are often applied to different clusters in the design/technology category.

A four-step patent network analysis—data collection (Step 1), data cleaning and mapping (Step 2), network analysis (Step 3), and network visualisation (Step 4)—is employed. Step 1 is to select the source of the patent data. Many national and regional patent offices provide digitalized patent documents, notably WIPO's Patentscope and



a Patent Citation Network

b Co-inventor Network

Figure 1: A conceptual representation of patent network analysis. *Source: authors.*

USPTO's PatentsView. However, raw patent data is notoriously riddled with misspellings, inconsistent data formats, as well as many terms which share the same or similar meanings, all of which lead to the necessity of thorough cleaning-up and standardization on the part of the research that wishes to subject to this data to an accurate analysis, which occurs in Step 2. In Step 2, data cleaning and mapping, the nodes and edges of a network need to be defined in a separate excel sheet as defined above. In Steps 3 and 4, a patent network analysis and subsequent visualisation are conducted with open-source software, Gephi v.0.9.2. Gephi offers various statistics to assess the overall structure of a network and identify which nodes play a central role in network measures (i.e., degree centrality, betweenness centrality, network density, network diameter, clustering). In this paper, however, the statistical analysis of network data falls short. Instead, the following photo essay focuses on how network-based patent analytics visually explain the different shapes of innovation activities assumed by the cases drawn from the likes of Dyson, Apple, Samsung and LG electronics.

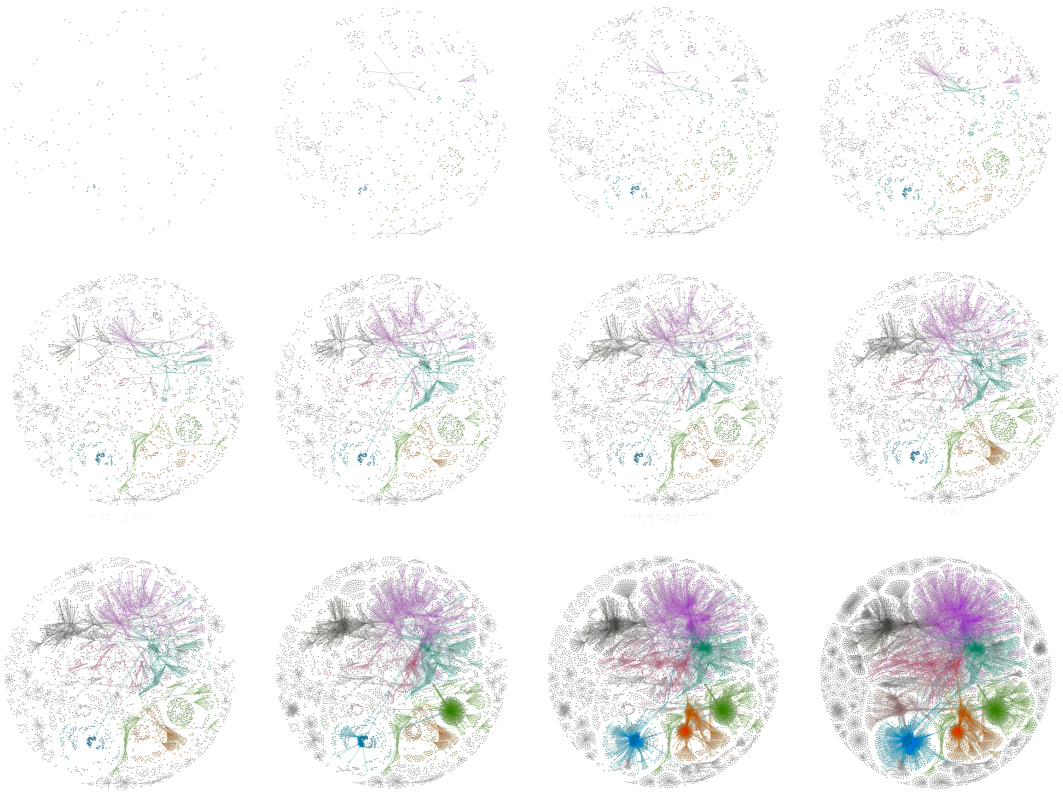


Figure 2: Evolution of Dyson's patent citation network by product category (2001–2018). *Source: authors.*

Product diversification from bagless vacuum cleaner to bladeless hair dryer: Dyson

Figure 2 explores the evolution of product diversification at Dyson, from its bagless vacuum cleaner to its bladeless hairdryer. Multi-depth patent citation networks allow us to both quantitatively and visually assess how Dyson's product innovations grow and are connected. Dyson published 624 patents (432 technology patents and 192 design patents) from 2001 to 2018, all of which can be broadly arranged into six main product categories: vacuum cleaners, fans, robot vacuums, motors, hand dryers, and hairdryers (Kim and Kim 2021). Each node (here, a patent) is sized proportionally to its number of citations, and is interconnected with each other through edges (i.e., citations). The network consists of large and small clusters of related patents. Colour codes are applied to different clusters in the product category: vacuum cleaners in orchid and teal, fans in blue, motors in orange, robot vacuums in black, hairdryers in coral, and hand dryers in green.

Dyson's patent network was highly fragmented in the early innovation stages (2001-2007), and many patents stand alone. However, since 2008, a few pairs and triads start to appear in isolation. With the naissance of one large cluster in the upper centre in 2011, at least three smaller clusters begin forming and are loosely interconnected, like islands. The largest and most densely connected cluster appears in the vacuum cleaner category, covering over half of Dyson's total filings. This cluster primarily links two types of vacuum cleaners: the first generation of the canister type (in orchid) and the upright type (in teal). Left, next to the vacuum cleaner cluster, there is a small-sized cluster, relating to robotic vacuum cleaners (in black). This relative position implies that the robot vacuum innovation has evolved by borrowing or improving many of designs and technologies derived from the vacuum cleaner category.

Interestingly, Dyson's signature product, the bladeless fan, is placed at the bottom of the network (in blue). The initial fan cluster was barely perceptible in 2008 but has consistently grown since then. A series of bladeless fan-like designs are placed in this cluster, including tower-type fans and other multifunctional products, air purifiers, humidifiers, and heaters. This bluish cluster is quite disconnected from the vacuum cleaner cluster in the network but is closely connected to the hairdryer (in coral) and hand dryer clusters (in green). Considering the position and connectedness of the clusters, the bladeless fan cluster is initially influenced by the hand dryers and exerts further influence upon the latest supersonic hairdryer. A complete map of Dyson's patent citations can be found in Figure 3.

Innovation pollination in design and technology: Apple

Can innovation be cross-pollinated between design and technology? Apple is known for harnessing technology and design to create substantial innovations in the market. Figure 4 and Figure 5 are Apple's patent citation network maps, based on all of the design and technology patents published by the company between 2001 and 2020 in the US. The ratio of technology to design patents was 11:1. Each node represents a patent and is proportionally sized based on betweenness centrality. Betweenness centrality measures the influence of nodes in a network relative to the flow of information between others (Prell 2012). For instance, nodes with higher betweenness centrality tend to hold more control over information flows through the network; they acquire new information easily, as more information will pass through that node, like a "brokering" or "bridging" role in a network. Apple's patents were subsequently colour-coded according to the following three innovation areas: hardware (in blue), product design (in orange) and User Interface (UI) (in yellow). Patents from other companies that are cited by Apple remain grey.

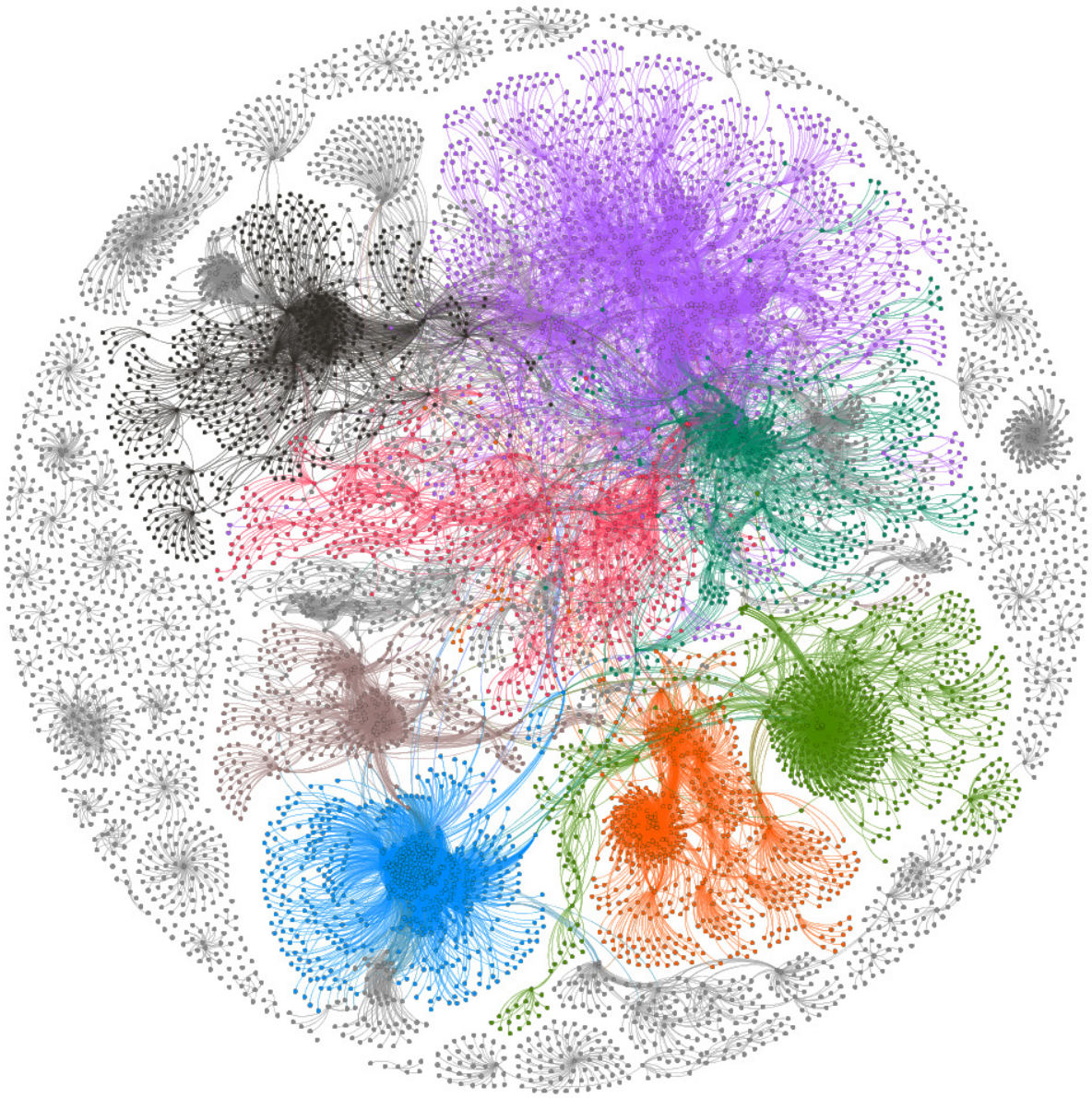


Figure 3: Overview of Dyson's patent network map (2001–2018). *Source: authors.*

Apple's patent citation networks are evaluated through a more granular lens, with the intention of discovering how Apple's hardware, product design and UI emerge and remain closely intertwined over time. Given that Apple's patent citations create a very large number of nodes and edges, the network starts with an overly dense, practically unreadable graph. The Yifan Hu graph layout, however, positions the linked nodes closer while pushing unrelated nodes farther apart.

Figure 5 shows that the UI cluster serves as the key connector between product design and hardware development. Its size and relevant position indicates that the UI design plays an important role in keeping Apple's hardware and software design aligned with one another.

Same-but-different design innovation teams: Samsung and LG

For nearly fifty years, Samsung and LG Electronics have been in fierce competition to take the lead in the consumer electronics market. The rivalry is about far more than just technology—it is also about design. Samsung and LG Electronics have been the world's top two applicants in design patents for many consecutive years (WIPO 2020).

Figure 6 and Figure 7 juxtapose the co-inventor networks of Samsung and LG Electronics based on three years of design patent application in Korea, where their headquarters and design centres are located. Over the three years, Samsung published 2,939 design patents with 554 inventors and LG Electronics published 2,578 design patents with 310 inventors. There is no noticeable difference in the volume of design patents. However, a glimpse of the co-inventor networks clearly shows that the size and placement of design teams are not identical.

In the co-inventor networks, each node represents one inventor and the edge connecting the nodes represents at least one co-invented design patent. Thicker edges indicate the relative strength of the connections among the inventors. Colour codes were applied to substantial clusters marked with the corresponding design categories and their Locarno Classifications: 14-04 Graphical User Interface (GUI) (in blue), 14-03 Smartphone (in green), 14-03 Television apparatus (in pink), 14-02 Wearable band and smartwatch (in pale pink), 15-07 Refrigerator (in red), 15-05 Washing machine (in emerald), and 23-04 Air conditioner (in grey).

Both companies have many design patents in Class 14 (Digital communication devices) and Class 15 (Home appliances). However, their choice of product lines and target markets is dissimilar: Samsung tends to focus on GUIs (36.61%), followed by smart equipment - smartphones and tablets (10.12%)- and LG Electronics's primary focus is upon TV sets (11.39%), followed by smartphones (5.42%), GUIs (4.65%), and air conditioners (4.34%).

Figure 8 and Figure 9 provide us with an enlarged view of Samsung and LG Electronics's respective GUI clusters and marked differences can be observed regarding their size and relative placement. Samsung shows one large, independent GUI cluster on the top of the network. Presumably, a lesson learned from the latest Apple and Samsung patent litigation affects their active patenting activities relating to GUI-related designs. In addition, Samsung have the capacity to issue somewhat centralized commands to harmonise user interface designs for various product lines. By contrast, LG Electronics forms middle- or small-sized clusters which are even further splintered into micro clusters according to the target products. For instance, there is one small GUI cluster (in blue) a bit beneath the television cluster (in pink); there is another to the left of the smartphone cluster (in green); and a third to the right of the air conditioner cluster (in grey).

To sum up, Samsung's design team is grounded in the GUI cluster and pivots around other digital device designs, whereas LG's GUI designers are afforded more opportunities to collaborate with diverse design teams, with greater levels of authority and design flexibility being granted to each business division to make changes when necessary.

Discussion and Conclusions

Intellectual capital has come to assume a more and more prominent position in the innovation activities of leading companies. Surprisingly, however, as innovation is still mostly conceptualized as "technological", design patents have not been part of the discussion on innovation.

Adopting a network lens, this photo essay has made an effort to shed light on hidden patterns, trends, connections between technologies, designs, and individuals in their respective businesses. The paper has several implications for the study of how design-driven innovation occurs and may be managed (i.e., Verganti (2008)'s metamodel for the management of design-driven innovation). First, the patent citation maps of Dyson and Apple demonstrated that silo investigations of technology patents might not fully depict the details and implications of complex innovation activities. The synergistic effect of cross-pollination between design and technology patents stimulates radical innovations. For instance, Dyson's first bladeless fan design patent (US D602,143) was highly cited by subsequent design and technology patents (i.e., counts of forward citation in both design and technology). Citation-weighted patents can be further treated as indicators of radical innovation, as measures of the quantitative degree of radicalness in design-driven innovation. In this way, we can better identify how knowledge spill overs originating from design affect technological innovation.

Second, the cases of co-inventor networks in design patents at Samsung and LG disclosed the structure of their corresponding design innovation teams, revealing interesting information that would explain the design direction and strategy that each company has taken. Networks such as these can serve as visual cues to better understand how design innovation teams can be successfully managed, while monitoring the developing dynamics of competing designer networks.

Finally, Margaret Bruce and John Bessant (2002) have addressed the concern that good product design is sometimes protected by technology patents and other kinds of intellectual property rights. One should bear in mind that it is not always beneficial to invest in design innovation by looking at design patents, as the benefits may in some cases be reduced by the presence of other intellectual properties—technology patents, trademarks, or copyrights.

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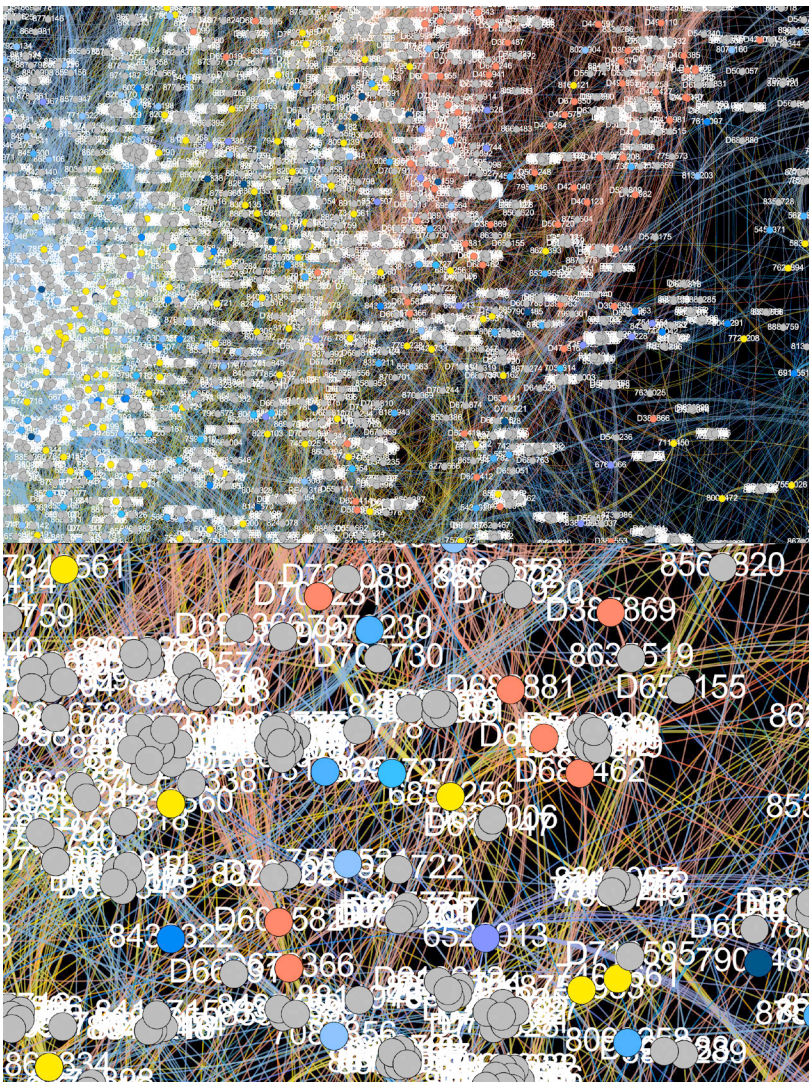

Figure 4 (previous page): Overview of Apple's patent network map (2001–2020). *Source: authors.*

Figure 5 (top): Enlarged view of Apples' patent network map. *Source: authors.*

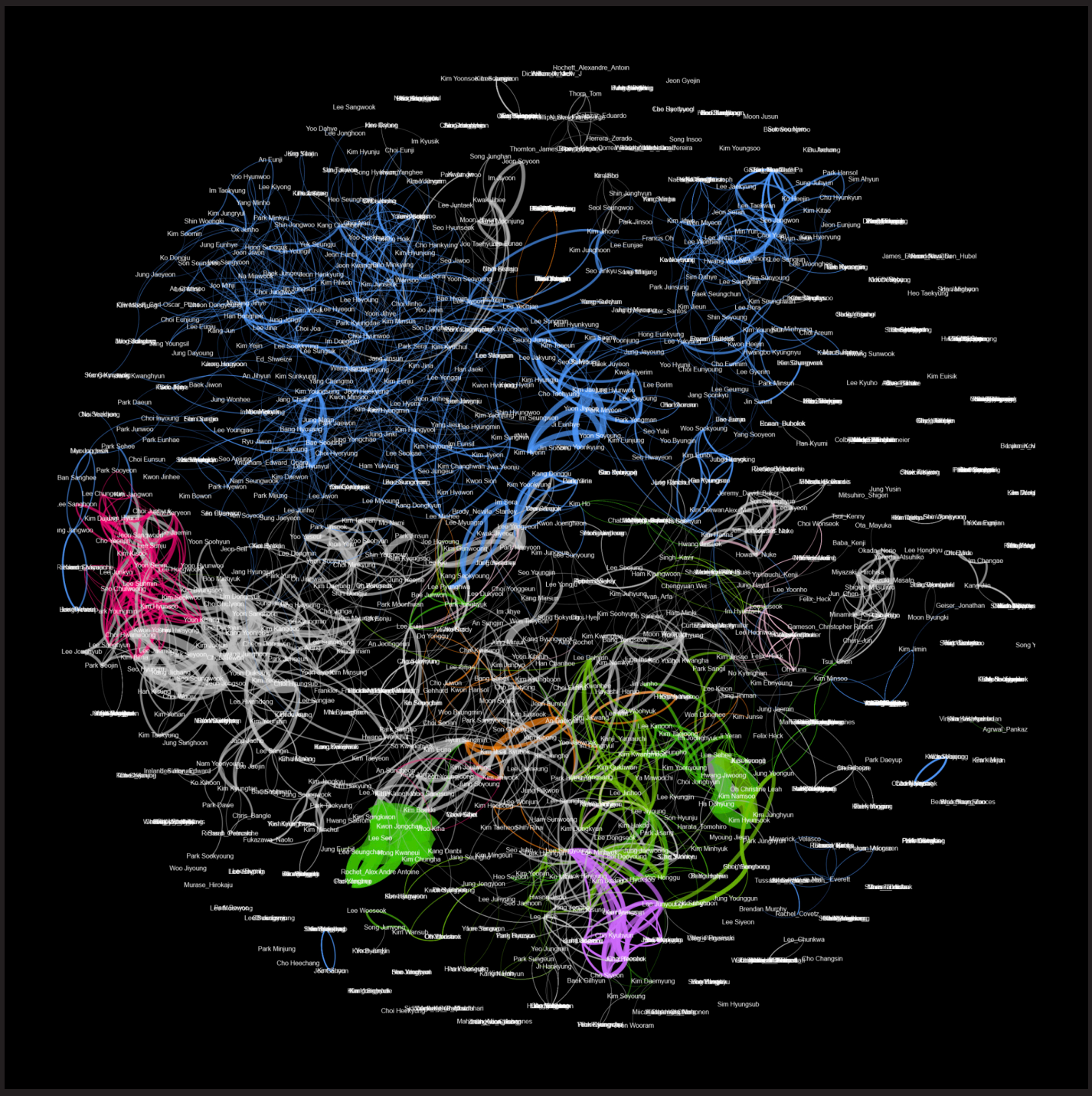

Figure 6: Samsung's co-inventor network (2014–2017).
Source: authors.

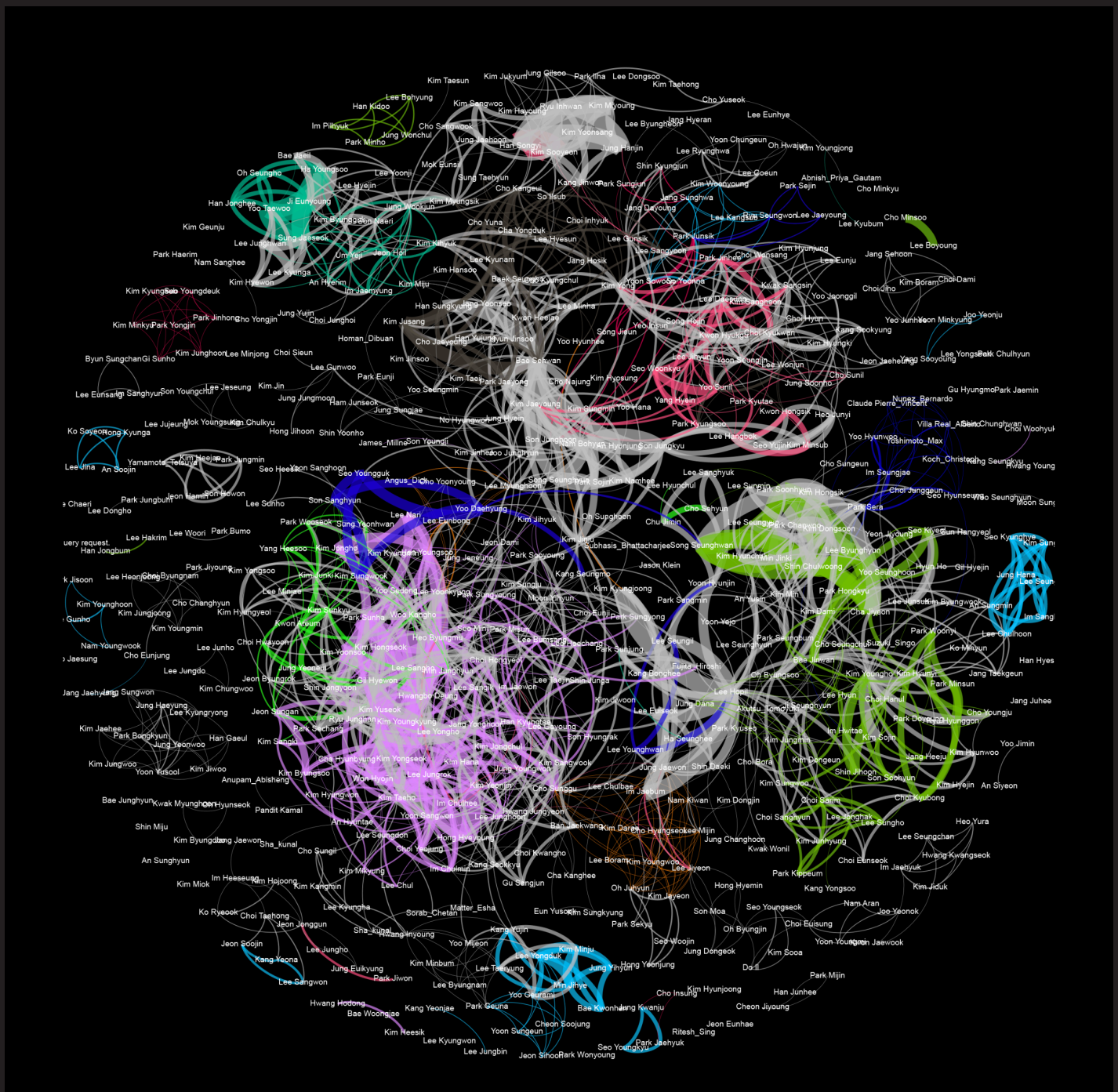

Figure 7 : LG Electronic's co-inventor network (2014–2017).
Source: authors.

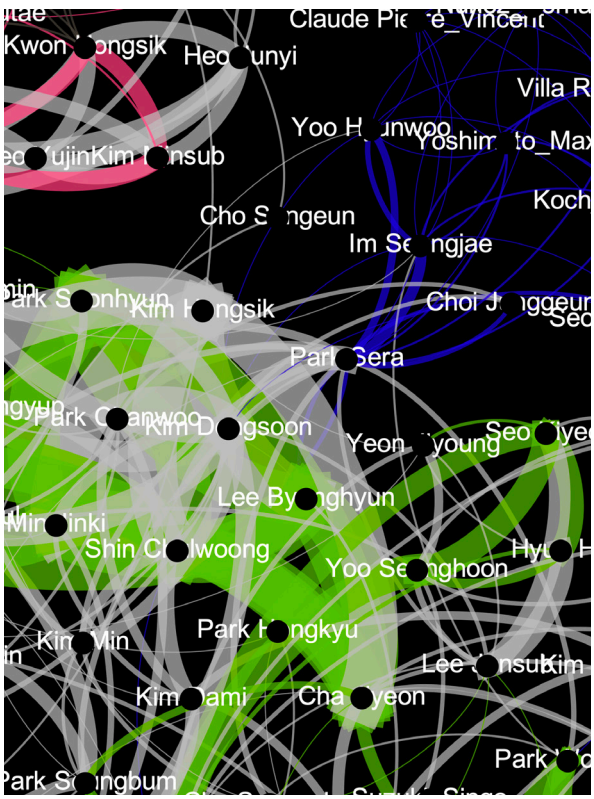

Figure 8 (top): Enlarged view of Samsung's GUI cluster. *Source: authors.*

Figure 9: Zoom-in of LG's GUI cluster. *Source: authors.*

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How Do We Get Paid for This? The Relationship Between Strategic Design Management and Pricing Power

Ian D. Parkman

34–43

The belief that strategic design leads to improved firm competitiveness is broadly recognised in contemporary research. However, much less is understood about the precise, concrete mechanisms by which organizations translate their design-based resources and capabilities into higher performance. This paper provides context to this relationship by introducing the variable of pricing power as a potential element of unobserved "dark matter" that clarifies how design-based differentiation results in product performance. Pricing power is described by Stephan Liozu (2019) as "the ability to increase prices without losing demand". Remarkably, nowhere in the vast literature on pricing is design mentioned, while in parallel pricing has not appeared to be of particular interest to strategic design researchers. In an effort to spur further interest in this variable a case study is provided, illustrating the process footwear and apparel brand Nike employed to leverage design-based differentiation to support the pricing power of a new offering.

#strategic design management

#design-based differentiation

#pricing strategy

#pricing power

#product design

Introduction

Most product managers intuitively recognize the role strategic design management plays for their organization's competitiveness and financial performance (Buehring and Liedtka 2018; Buchanan 2015; Borja de Mozota 1998; 2006; Chiva and Alegre 2009). The academic literature in business management has also come to acknowledge the benefits of design-based differentiation as a method to translate overall firm strategy into distinctive elements of a product's form that allow them to stand out from those of rivals. Among such features are a product'sshape, material, texture, colour and ergonomics, as well as holistic 'meaning making' (Verganti and Oberg 2013; Lardoni, Dell'Era, Ferraloro, Peradotto, Karlsson, and Verganti 2016). However, while the potential advantages of strategic design management and design-based differentiation have been broadly described in research the precise tangible concrete ways design translates into firm-level competitiveness and performance is far less understood. Indeed, a recent study by McKinsey suggests that more than 66% of CEOs "…don't fully understand what their senior designers do" (McKinsey Design Index 2018). Accordingly, the purpose of this article is to extend the observation (attributed to IBM president Tom Watson) that "good design is good business" (from Hertenstein, Platt, and Veryzer 2005) by drawing attention to the oddly overlooked relationship between strategic design management and the most important driver of firm competitiveness and financial performance: Pricing power. Pricing power is defined as "…the ability to increase or maintain prices without losing demand" (Liozu 2019), which appears to be a decent depiction of design's role in organizational strategy.

More specifically, this paper provides context to the common view in research that the mere ownership of design -based resources and capabilities within an organization leads to higher performance (Hertenstein, Platt, and Veryzer 2005; Erichsen and Christensen 2013). What has been missing in most discussions is a clear description of *how* design leads to performance—What concrete mechanisms explain the broadly-observed phenomenon (e.g., Verganti 2003) that "design-driven" firms tend to outcompete their rivals? This paper proposes that the concept of pricing power, and customer-value based pricing more specifically, represent the broadly unobserved "dark matter" by which design-based differentiation driven by strategic design is translated into performance. Remarkably, nowhere in the vast literature in business and economics focused on pricing does the concept of design appear, nor does the variable of pricing seem to be of particular interest to strategic design management researchers. This apparent paradox implies that firms lack a shared common language to account for the role strategic design management may play in their organization's ability to maintain pricing power through design-based differentiation.

The following sections of this article provide a background review of the salient literature as it relates to pricing and pricing power before linking those concepts to strategic design management, broadly, and design-based differentiation, more specifically. Secondly, the connection between pricing power and design-based differentiation is illustrated in a case study describing how footwear and apparel brand Nike employed design-based differentiation to support the pricing power of a new offering in the basketball sock context. Lastly, findings for the case study are related to existing research and potential avenues for future research are discussed.

Background

The literature in business strategy provides three generally accepted approaches to pricing commonly referred to as the "3 Cs": *cost-based*, *competition-based*, and *customer-value-based* (Hinter-

huber and Liozu 2012). Generally, discussions of pricing strategy assume that most organizations adopt the stance of either cost-based pricing, by focusing on the margin of their offerings (the difference between the costs of producing a product and the price at which it can be sold to customers) or competition-based pricing, setting prices by benchmarking relatively close similar products. Historically, these methods have appealed to firms who have been instructed by business orthodoxy to optimize pricing efficiency through maintaining desired margins relative to input cost projections, market share targets, and/or tracking the pricing moves of close competitors (Hinterhuber and Lizou 2015). However, as many researchers have noted (e.g., Krishna, Feinberg, and Zhang 2007) the effectiveness of cost-based and competitor-based pricing has diminished over time as firms contend with the converging effects of what strategy researcher D'Aveni (2010) has termed the "Commoditization Trap". Indeed, a study by Simon-Kucher and Partners (2016) based on a survey of 3,900 pricing executives found that more than 65% perceived that their organizations had less power over setting prices than they had in the past, and more than 75% of respondents had experienced increased pricing pressure in the last two years. This ongoing devolutionary downward pressure results in a dilemma were,

> *As soon as you improve the quality or other features of your offering, your actions will immediately be matched by others and generally at a lower price point… you will then get squeezed between the need to lower your own prices to stay competitive and the steadily rising costs... Commoditization means you become unable to charge more for what you have to offer… The conventional answer to commoditization is to differentiate (D'Aveni 2010, 73).*

Considering this backdrop, it seems peculiar that the dramatic extent to which market-leading design-driven organizations such as Nike, Apple, Procter & Gamble, Coca-Cole, Ford, AirBnB, GE, Uber, Philips, Dyson, SAP, Tencent (Design Management Institute 2015) and others appear to have achieved the benefits of customer-value-based pricing has received so little attention in the pricing literatures. In parallel, few depictions of these firms from the design perspective mention pricing or pricing power in association with the success that these firms have achieved through effective use of strategic design management (Borja de Mozota and Wolff 2019) and design-based differentiation (Micheli, Wilner, Bhatti, Mura, and Beverland 2019; Scaletsky and da Costa 2019). Clarifying the connection between these two areas may provide a useful lens for developing a new and better understanding of how strategic design may provide a powerful foundation for overall firm competitiveness.

Design Management, Strategic Design Management, and Design-based Differentiation

An ongoing shift in business research is to portray design's role within firms as a "managed process" (Bruce and Bessant 2002; Gruber, De Leon, George, and Thompson 2015) alongside other more traditional areas of organizational strategy such as finance, operations management, marketing and innovation (Buehring and Liedtka 2018; Micheli, Perks, Beverland 2018). Accordingly, the concept of Design Management, broadly defined as "… the organizational and managerial practices and skills that allow a company to attain good, effective design" (Chiva and Alegre 2009) has received increasing scholarly attention. Thus, if, "design is strategy made visible" as Brigitte Borja de Mozota and Clipson (1990) suggest, then design-based differentiation represents the concrete, tangible outcomes of strategic design management's ability to translate user needs into value as the emotional appeal, aesthetics, styling, ergonomics, quality, and meaning of a product's form that allows it to stand out from those of competitive rivals (Gruber, De Leon, George, and Thompson 2015; Dell'era

and Verganti 2009). This ability to create design-based differentiation acts as a powerful strategic resource (Borja de Mozota 2003) to support pricing power through what Smith (2016) describes as the ability to

> *…unilaterally define and extract prices without regard to direct competitive pressures. It requires that the firm is able to deliver a product or service to the market that competitors cannot easily replicate.*

In order to address the lack of clarity around the relationships between strategic design management, design-driven differentiation, pricing power and commoditization this paper has adopted a case study research methodology. Robert Yin (2014) describes case study research as a method of enquiry that examines a phenomenon in-depth and within its real-world context. This paper utilizes a single case design based on interviews with managers focused on the role of "managed design" (Gruber, De Leon, George, and Thompson 2015) within the particularity and complexity of a single phenomenon in order to develop understanding within particular circumstances (Stake 1995). All interviews for the case study were conducted in confidentiality, and the names of interviewees are withheld by mutual agreement Yin (2014) advocates the single case approach as a way of investigating a phenomenon with sufficient depth in order to accurately understand the causes and effects of concepts as they interact, as well as understanding the context and process in order to foster new hypotheses and research questions. Therefore, the research question posed in this case study is *how* firms may develop links between strategic design management capabilities that can be translated into design-based differentiation which results in the ability to maintain pricing power? The following case study provides a first step towards clarifying the nature of the complex relationships between those particular concepts by reference to the example of the Nike Elite basketball sock.

Case Study: Nike Basketball Elite Socks—"How Do We Get Paid For This?"

In 2008, the basketball sock marketplace was considered by consumers to be largely homogenous. The product was purchased in bulk and firms found it very difficult to create any meaningful differentiation from rivals. Indeed, packs of six pairs of socks were commonly offered at a retail price of less than US$ 5.00. Despite the clear commoditization in the marketplace, Nike saw an opportunity to introduce a technically advanced sock that delivered higher performance,

> *Socks were 100% commoditized. However, we are a consumer-obsessed, athlete-obsessed, product-obsessed, design obsessed company. We heard from our elite athletes that something better was needed. At that time, around the 2008 Beijing Olympics, the main competitor who had the NBA contract to provide socks to the league offered just really cushy cotton socks, so most of the players wore custom orthotics in their shoes and two pairs of bulky, heavy, hot socks and that was 'good enough'…These new socks blew them away. The performance simply blew them away… So, we had a validated consumer insight/ known performance advantage from an athletic standpoint and a marketplace that didn't care, or didn't know how to care… The big question was, again: How do we get paid for it?*

The Elite sock began as an example of Nike's commitment to the athlete through performance,

> *The innovation lab had developed socks based on foot strike patterns of different sports—running is very linear while basketball and soccer are very lateral sports—we had built the best performing basketball sock ever made, I truly believe that, it had arch support, they took padding out of the arch to hold the foot in place, they had padding in pressure zones, when you jump-stop on a court the forefront of the*

> *foot jams into shoe, they added padding where the shoe rubs against the ankle bone, there were cooling zones where material was taken away to allow the foot to breathe—they built the Cadillac of socks called the Elite Sock, but the market says, 'I pay US$.50..'. It was a real challenge.*

These sentiments typify the types of struggles many firms face translating their capabilities for creating technical innovation into concrete performance outcomes. One of the key contributions of the strategic design literature over the last decades has been to emphasize the role of design as a tool to focus and direct firm resources to meet customer needs, to stand out from competitive rivals and contribute to firm profitability. For Nike,

> *Through the consumer research we found that a basketball consumer was spending $150 for shoes and they were wearing $.50 cent socks. 6 pair packs for $3.00... We'd ask them about their shoes and what are you going to wear? And they would point to the laundry basket and say, 'I'll just find two clear ones out of there...'" ... This seemed crazy, what you have is floor – shoe – foot... and the only thing in between the shoe that we spend hundreds and thousands of hours designing was a crappy piece of cotton you bought for $.50... The Nike elite sock was the first sock that broke down the door for other mainstream, broader sports. No one had done that.*

Nike needed an approach to pricing that would maintain the brand's premium positioning, capture the immense performance value imbedded in the offering while somehow persuading customers accustomed to paying less than US$1 for a pair of socks that there was an opportunity for a new higher-priced product.

> *So, when we built our pricing structure we knew that although we had some elasticity in consumer demand, US$.50 is a pretty tough price point to come from, and considering the product costs and the positioning we thought it needed to be to convey that 'premium-ness' and the additional value it was going to be bring in terms of performance benefits for the athlete.*

Figure 1: The Nike Elite Basketball sock. *Source: Nike News (news.nike.com).*

The issue for Nike was how, exactly, could the technical and innovative improvements embedded in the Elite sock create a compelling value equation for consumers?

> *I remember sitting in the office of the Global Creative Director for Nike Basketball at the time along with the Design Director for Socks and we were talking about this great thing, but it is white and all the technology is below the ankle… the designers had done some great zonal stitching that made the sock compelling, but it was all covered up by the shoe… There was no visual cue to demonstrate the extra value where anyone else was going to see it… So how do we get credit for this thing? No one could see what the big deal was, no fan and especially when a consumer went into a retailer how could be make it not look like every other tall white sock…?*

The answer for Nike appeared to be create design-based differentiation,

> *Our product design team, performance people, and the engineers built the best performing sock ever made, and then design-wise we had to figure out how to get people to notice: So we starting getting some ideas out for design elements—visual cues that would support an authentic story to backs up why it exists, other than the performance benefit. So, someone had had the idea in the shooting shirts that we had developed for some of the elite teams that had "family" written in Morse code on the arm sleeve (..-. .- -- .. .-.. -.--) and it was a really cool looking. We loved the subliminal story—it represents how a team is a family and how you fight for each other and have ups and down together. But it was just buried in there on some shirt that no one ever really noticed it… We thought we could take that interpretation of Morse code and use it to tie the socks into the system of dress and stand out for customers. For example, if you hold up the original elite socks and the main basketball shoe at the time, the Nike Hyperdunk, at the back of the collar of shoe there was a little notch in the design, the dot-dot-dash on the elite sock fits perfectly as an extension of that cue… Visual identification on the Nike Basketball Elite Crew socks with a unique logo on the back of the sock, which became a universal identifier and design language for the socks that carries on to this day.*

Design-based differentiation has been described as method to translate firm strategy into elements of a product's form through elements such as shape, material, texture, colour and ergonomics, as well as a holistic means of 'meaning making' (Verganti and Oberg 2013; Erichsen and Christensen, 2013). The Elite sock provides a clear example of how design-based differentiation allows an offering to stand out from competitors by creating additional symbolic and experiential value for customers. However, in addition, this example also highlights the crucial role pricing power plays as the concrete variable that captures that additional value as performance. The firm was forced to shift its natural emphasis on internal pricing strategies and look externally from the perspective of their customers,

> *We thought about it for a long time and we tried a bunch of different models, of course we do differentiation all the time, but we hadn't really ever tried to figure it out in a commoditized market… but what eventually seemed to be compelling from the customer's perspective was to charge about 10% the price of a shoe. The shoe is obviously what is driving things, but we thought--and customers actually probably believed too- that the socks and shoes should be considered together; So, if the Hyperdunks are at US$110, then the equivalent Elite socks should be about US$11, which is the pricing that we landed on as the right customer value that would allow us to pass these innovations on to our customers, but at a pricing model that would make it sustainable for us.*

This passage hints at the role of pricing power as the "dark matter" of design-based differentiation. As Nike's former-CFO, Don Blair describes,

> *'One of the changes that we made over the last five years or so is really focusing on the consumer as we set price... it's about the value equation that we're trying to create with the consumer (Barrie 2014, 11).*

In far too many discussions of the importance of pricing design is left out of the discussion, and as a consequence, designers it seems may be missing an opportunity to communicate the strategic and competitive value which they create. Nike recognized that using design-based differentiation they had the capacity to shift the basis of competition in the marketplace. The answer to commoditization in this case, as is likely true in most markets, was not to simply focus on the technical or utilitarian attributes of the product, but rather, to consider the customer-based value the new offering provides:

> *The story is powerful because we had all the tools—we had the design expertise, we had the user insights, we had the business case but it wasn't a market that we thought was a place we could be so successful because socks were a commodity, it was a completely commoditized space. I love talking about these socks because frankly, pricing of LeBron James basketball shoes is not interesting, we can charge whatever we want. Socks was an unsexy category that we had to work to intentionally provide that value—real value and perceived value; the product value, the aesthetic/ visual value, and the retail partner value to get them out there in front of the consumer.*

Discussion, Conclusions, and Directions for Future Research

The provided case study illustrates some of the reasons why "managed design" (Gruber, De Leon, George, and Thompson 2015) and customer-value based pricing is so problematic for many organizations. This paper provides context to research that suggests that design resources and capabilities do not on their own necessarily lead to improved organizational performance (Borja de Mozota 2003). Rather, strategic design management acts a crucial lever focusing the innovative product design efforts of firms into design-based differentiation (Dell'era and Verganti 2009). Margaret Peteraf and Jay Barney (2003) argue that the resource-based view (RBV) of business strategy results from not simply the existence of critical resources but rather the ways that those resources are used in a superior way. The Nike Elite socks case study appears to provide a vivid example of the critical role strategic design management (Buehring and Liedtka 2018; Buchanan 2015; Borja de Mozota 1998) provides design-driven firms with a complex "bundle of resources" that provides a powerful source of competitive advantage based on their value, rarity, and inimitability (Barney 2001). In addition, this paper provides much-needed clarity around how design-driven firms are able to direct their design-based resources/capabilities to product offerings to performance by highlighting the concept of pricing power as a concrete means for capturing the singular design-based resources and capabilities that create perceptual and symbolic value (Lizou, Hinterhuber, Boland, and Perelli 2011).

Specifically, an important aspect of the design-based differentiation of the Elite socks was that they were intended to be worn by customers as part of the overall Nike "system of dress". In this system the Elite socks were to be worn in combination with warmups, uniforms, leggings, arm sleeves, and shoes linked to the sock in a very clear aesthetic coordinated around a set of design cues encouraging the consumer to see the socks, and the overall "system of dress" as "suiting up for battle" before a game, where as our interviewee described,

> *...you put on your supportive gear and protective gear that tied in to your uniform and you became part of an army, your army, your team, you are a*

warrior ready for battle and the socks perfectly tied into the whole story.

These types of market knowledge associations are likely to be potent sources of pricing power because they are tied to the value co-created between a consumer and a product—i.e., the emotional, mystical and transcendent benefits of the Elite socks, immaterial qualities that imbue the offering with quintessence, intrinsic properties that are so uniquely perfect as to be without equal, completely distinct from competitor offerings.

In his classic description of organizational strategy Michael Porter (1985) draws a distinction between firms who are able to maintain pricing power from those who cannot as either *zero-sum competition*, where a lack of perceived differences drives competitors to face pressures to offer lower-and-lower prices to preserve market share, and *positive-sum competition*, where firms and their offerings compete on salient differences, rather than price. This paper provides a first step in the direction towards greater recognition of design-based differentiation deriving from strategic design management as a key, yet overlooked, element of positive sum competition distinguished by firm pricing power.

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Bio

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Whole-being Framework: the Starting Point for Implementing Workplace Wellness Programmes.

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The *Whole-being*© framework was developed as a starting point for a holistic coaching approach, devised in the pursuit of a meaningful way to thrive both in our personal and professional lives. It is only when people are whole that a world based on integrity, freedom, kindness and compassion can materialize. This paper is aligned to the perspective of experiences, specifically addressing the role design has in helping organisations understand what really drives their employees, while bringing attention to the "whole-being ecosystem" which influences people's motivation and performance. A whole-system approach is necessary so that executives can thrive without running the risk of burning out. Policies must align themselves in the direction of this purpose, to create the right conditions for "whole-beings" to thrive, but in the midst of all of this self-awareness remains essential for the system to work. The training focuses on optimizing the participant's energy as well as on developing certain attributes to feel and be whole.

#coaching and training

#design strategy

#systems thinking

#leadership and development

#wellness

Whole-Being Framework: The Starting Point for Implementing Workplace Wellness Programmes.

Despite growing consensus that investing in employee wellness brings numerous benefits for companies such as productivity enhancement, an increase in employee satisfaction, good physical and mental health, staff morale, staff retention, a reduction in absenteeism, the fostering of better relationships between staff and management as well as improved communication, there remains a high level of debate about how best to enhance the chances of adoption of workplace wellness programmes.

According to a 2018 work and well-being survey by the American Psychological Association, just over half of workers in the US reported that they regularly participate in training and development activities and even fewer reported participating in efforts designed to involve employees in decision making, problem solving and goal setting through the use of flexible work arrangements. Despite the prevalence of workplace health promotion efforts, just 4 in 10 working Americans said they regularly participate in these employer-provided wellness programmes (American Psychological Association 2018).

There is an opportunity here to design wellness programmes tailored to the specific organizational context, addressing needs that are employee-centered and more suited for the particular context individuals live and work in.

The Whole-Being© framework was designed as the starting point for implementing relevant workplace wellness programmes that generate the sensation of wholeness and balance among its participants.

Achieving equal levels of physical, emotional, psychological and spiritual intelligence are the basis for our ability to feel whole. Furthermore, there are diverse political, economic, social, technological, environmental and cultural factors which allow us to properly nurture and develop ourselves. All of these have to be identified and taken into account.

The aim of the framework is to determine indicators of wellbeing that could be assessed covering political, economic, social, technological, environmental and cultural factors: a healthy diet, good-quality sleep, access to the natural environment, clean air, access to good transportation, liveable wages, a healthy & fair working environment, sociability & a sense of neighbourhood cohesion, engagement in cultural activities, safe/affordable housing as well as gender equity.

The Whole-Being-Wheel© on Figure 1 depicts a host of factors which contribute to the feeling of wholeness, elements which we require to thrive in our personal and professional lives. At the bottom part of the wheel there are P.E.S.T.E.C. factors (political, economic, social, technological, environmental and cultural) such as those listed in the above paragraph.

The top part of the wheel shows the personal attributes that a person can potentially develop once the P.E.S.T.E.C. factors are realized; physical activity, care for nature, compassionate & cooperative interactions, being patient & persistent, enhanced creativity, focus, being appreciative, strong/harmonious relationships, a heightened ability to multi-task, cope with stress, a sense of purpose, an inclination towards being goal-oriented, improved communicative capacities.

The wheel is formed by three main transversal axes that cross a horizontal axis and they are all correlated. The horizontal axis represents balance.

Defining wellness

The term wellness is a broad topic and has been applied in multiple forms. A common understanding of wellness is imperative.

The National Wellness Institute (NWI), which originated in Wisconsin in 1977 following a conference where the concept of wellness was first discussed, defines wellness as

> *an active process of becoming aware of and learning to make choices that lead toward a longer and more successful existence-functioning optimally within the surrounding environment"(National Wellness Institute n.d.)*.

Dr. Halvert Dunn, who many consider to be the curator of the modern-day term wellness, defines high level wellness for individuals as

> *an integrated method of functioning which is oriented toward maximizing the potential of which individuals are capable. It requires individuals to maintain a continuum of balance and purposeful direction within the environment where they are functioning (Dunn 1961)*.

Another definition comes from Mosby's Medical Dictionary, which conceives of wellness as

> *a dynamic state of health in which an individual progresses toward a higher level of functioning, achieving an optimum balance between integral and external environments (Mosby's 2021)*.

Finally, the American Heritage Medical Dictionary defines it as

> *the condition of good physical, mental and emotional health, especially when maintained by an appropriate diet, exercise, and other lifestyle modifications (The American Heritage Medical Dictionary 2007)*.

Mindfulness & leadership

Techniques to cultivate mindfulness have proven their usefulness as a set of tools to stay at ease and effective during stressful times. Unfortunately, wellness is still treated as a bonus and a luxury rather than a prerequisite for improving focus, efficiency and creativity not only in the workplace but in our everyday lives. Corporate executives shake their heads and insist that they don't have time for such nonsense. It is necessary to fight against the high rate of error in production, against the fall in sales and the inexplicable and non-existent acquisition of new customers. Mindfulness can only be taken seriously when you no longer know what to do with the surplus of earnings. That being said, however, at the end of the day it remains people who generate business and products for each other. After all, business is always about relationships that contribute to everyone's lasting success. Mindfulness helps us face the realities of our time and make them manageable for everyone (Narbeshuber 2019).

The novel wellness tools and activities succeed only if leaders support their adoption. Once this takes place, the results speak for themselves-an organization whose leadership promotes a culture of wellbeing will be more resilient, more capable of handling change, and more responsive to the needs of their employees (Cuff and Hammers 2019).

A group of Wachovia Bank employees who went through an energy management programme conducted by the Energy project, a training and consulting company in the USA, outperformed a control group on important financial metrics like loans generated, and they reported substantially improved customer relationships, productivity, and personal satisfaction. These findings corroborated anecdotal evidence gathered about the effectiveness of this approach at other companies, including Ernst & Young, Sony and Deutsche Bank. When organizations invest in all dimensions of

their employees' lives, individuals respond by bringing all their energy wholeheartedly to work—and both companies and their people grow in value (Schwartz and McCarthy 2007).

Carrying out surveys in companies to measure stress levels can be a good way to generate an image of what's happening with their workforce, a basis upon which discussions can be held with CEOs about decisions that they can make that can address escalating stress levels among their workforce. The decisions that CEOs make can have a profound impact on people's mental health, so guiding them to make good decisions that will lead to better mental health outcomes and better health outcomes in general is key.

Why Use a Design Approach for Wellness Training?

A Global Human Capital Trends report by Deloitte shows that 79% of respondents feel that HR Directors must upgrade their skills to include design thinking with the goal of designing a productive and meaningful employee experience through solutions that are compelling, enjoyable, and simple (Global Human Capital Trends 2016).

Design is focused on the creation of novel and valuable products, services, systems, communication programmes and environments. Against the backdrop of economic uncertainty, service providers as well as policy makers are now faced with the challenge of doing more with less while simultaneously increasing user satisfaction. Design thinking strives towards meaningful and effective change by reconfiguring resources in different ways.

Designers have been equipped with certain tools that are particular to their profession, skills which aid in the resolution of wider issues that go beyond designing the aesthetics of people, places, and things. Through the adoption of a user-centric approach, we as designers can bring value to almost any field-including health and wellness eco-systems- that if tackled properly will eventually lead to a better quality of life for everyone.

Design thinking is a specific and thoughtful process for identifying the problems within a system and for developing potential solutions. It is based on the simple yet radical idea that the people who face the problem every day are most likely the ones who hold the keys to the solutions.

The process for identifying problems and solutions in organizations often entails getting smart people together in a room to discuss the issue and to impose a top-down solution. By contrast, design thinkers work with multiple stakeholders who actively engage in identifying the problems and remedies so that the resulting solutions are the product of a collaborative, thoughtful, and iterative effort from various perspectives (Cuff and Hammers 2019).

Designing with empathy means designing with accurate and sufficient knowledge about the end user. Empathy also means the ability to change preconceived ideas and the willingness to start again (Medina and Saldarriaga 2015).

Design thinking in the context of workplace wellness programme design is useful because it can allow people to understand and change their environment and to redesign its procedures in such a way that all stakeholders are taken into account in the process.

The best way to predict the future is to design it. Design is changing existing situations into preferred ones (Simon 1969). The same is true for a workplace environment—the best way to fix a stressful workplace is to be actively involved in redesigning it by understanding the current situation, to prototype ideal scenarios and finally design specific solutions.

One interesting method to understand the current situation and get inspiration for a solution involves the use of participatory research such as shadowing employees while they are on the job. This will give insights into their experience and inspire ideas on how to improve it.

During the wellness programme's ideation phase, it is important to gather a multi-disciplinary team to get different points of view. Once some solutions are prototyped, it is essential to go back to the target audience to get their feedback and to incorporate their advice into the next round of ideation. If the organisational design team tries to finalize ideas before getting feedback from stakeholders, it will be less likely that stakeholders will give their honest opinions about the programme.

Understanding Well-being with a Systems Thinking Approach

Well-being should not be looked at as an individual challenge but as a systemic one.

The core principles of systems theory include:

1. A system is more than the sum of its parts.
2. Many of the interconnections in systems operate through the flow of information.
3. The least obvious part of the system, its function or purpose is often the most crucial determinant of the system's behaviour.
4. System structure is the source of system behaviour. System behaviour reveals itself as a series of events over time.

The systems-thinking lens allows us to reclaim our intuition about whole systems and hone our abilities to understand parts, see interconnections, ask *what-if* questions about possible future behaviors and be creative and courageous about system redesign. Then we can use our insights to make a difference in ourselves and our world (Meadows, 2009).

A person's wellbeing is determined by many factors and a change in one part of the system can have significant effects on other parts of the system. This is why it is important to look at each component of the system and how one factor interacts with other parts of the system so an intervention in one part positively affects other parts. For example, if a person is not getting good quality sleep they will most likely not be able to focus at work. Similarly, if he/she doesn't have a fair wage to live on it is less likely that he/she can develop a sense of appreciation of his/her job and this can cause him/her to leave the organization when a better job comes along.

A Holistic Approach to Well-being

Holism in quantum physics refers to systems that are so interlaced that each part is defined by every other part of the system.

There is an incongruency between the healthcare sphere and our well-being. According to the American Psychological Association (APA), healthcare accounts for only about ten percent of the variants in our health status. Our lifestyle and behaviour, our environment and biology have a much greater impact, yet we spend a lot of our energy and time on healthcare. In 2021 it has been estimated (keeping to a tendency that we observe across the span of recent years) that over USD $3 trillion will be spent on something that accounts for ten percent of the variance. Often, we ignore the fact that other factors like education, income, affordable housing can have a profound impact on people's mental health status.

On the other hand, the international perspective of healthcare is limited to curing diseases and ignores how managing stress by balancing our physiological,

emotional, psychological and spiritual energies can prevent serious health problems like heart disease, obesity, high blood pressure and depression (Kelly and Evans 2021; Coons 2021).

All too often within the Western world there has been an overemphasis on using GDP, average income and other economic metrics as a means of recording the 'health' of society. Recently, however, there has been a shift in the political, and public discourse towards a consensus that the true measure societies should be judged by is happiness, and the concept of well-being (Barton 2017).

The Whole-Being-Wheel© (figure 1) was inspired by The World Health Organization's definition of health which clarifies that health is not merely the absence of disease but also 'a state of complete physical, social, mental well-being' (WHO 1948). Equal levels of physiological, emotional, psychological and spiritual intelligence are the basis for our ability to feel whole and when in balance we can properly nurture and develop ourselves.

The framework was designed as a starting point to generate conversations with key stakeholders involved in the health ecosystem and thought as a

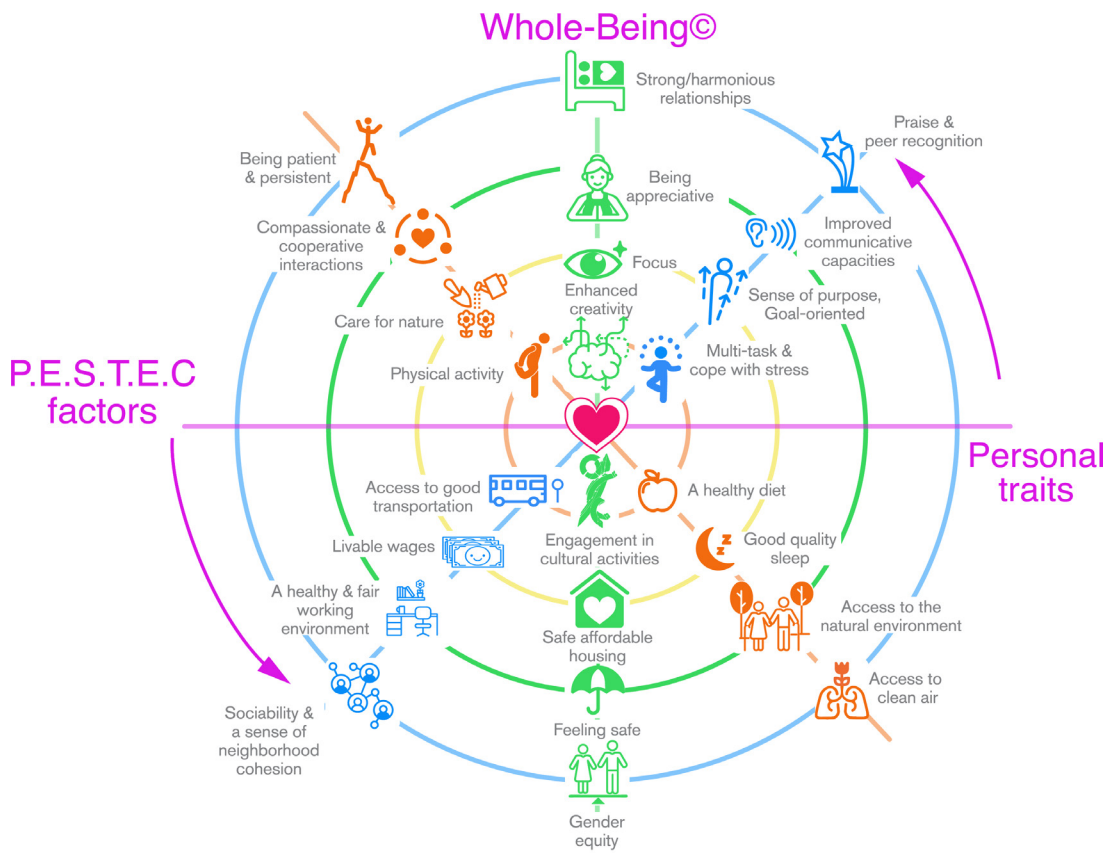

Figure 1: The Whole-Being-Wheel©. *Source: author.*

diagnostic tool to help find the correlation between P.E.S.T.E.C factors (political, economic, social, technological, environmental and cultural) and the attributes that a person develops which ultimately result in the sensation of wholeness (figure 2).

Our ability to thrive in any environment is dependent on a wide array of factors. This view encourages cooperation because once one realizes that we are all part of the same system, we take responsibility for our own part in it.

This framework is the starting point for a whole-system approach to pursuing a meaningful way to thrive. It is only when people are whole that a world based on integrity, freedom, kindness and compassion can materialize.

To thrive we must conceive ourselves as what we are, rather than what we have. What are we? By definition we are human beings. And what does Being really imply? To be present in the moment to be infinitely grateful from the heart and in harmony with our body and our mind. When we are truly present, we don't think about our past mistakes, our problems, how we have been hurt and the rage towards the situation and its perpetrators. We don't think in the modality of the future, the unexpected consequences it might harbour and the possibility of disasters. We are just present (Honda 2019).

Nothing can buy happiness. However, having our needs covered alleviates a significant part of the discomfort of life, for the less worries one has the more time he/she has to just be.

Over the course of eleven years, researchers from the Harvard T.H. Chan School of Public Health and Chapman University assessed the mental health and physical activity of almost 10,000 English adults ages fifty and older. They found that individuals who were happy and optimistic at the outset of the study were consistently more mobile during the following decade, suggesting that as psychological well-being improves, so too does physical activity (Ducharme 2016). Furthermore, we are all naturally caring and compassionate and we can thrive only when the right resources are in place.

Intelligent partnerships are essential to come up with multi-disciplinary sustainable solutions that will create the right conditions to experience healthy-balanced lives. For more effective collaborations a sense of oneness is necessary. Policies must align themselves towards the creation of the right conditions for "whole-beings" to thrive. At the same time, self-awareness on the part of the individual is also essential for the system to work.

People have the power and organizations have the opportunity to lead this momentous transformation. We must stop ignoring the impact and dreadful consequences of unhealthy living. We are living in a period of crisis. The COVID-19 crisis has led to major disruption in people's lives. Most families have been hit hard by the effects of the pandemic. Many companies have transitioned into full remote working mode and others have laid off staff in unprecedented numbers. Increased anxiety and stress have caused mental health disorders. Parents have been stuck at home with their children because of the closure of schools. Some have had to go back to their parents' home due to insufficient funds to pay the rent, resulting in negative emotions such as anger, anxiety, sadness, fear and stress.

Crisis usually leads to destruction and creation. It can lead to death, depression, battle and agony, but it can also lead to new ways of thinking and acting, to positive and inspiring solutions and to new ways of life.

It is highly beneficial to empower individuals to engage in their communities, to become co-designers of the system and to invite private organizations to support the broad cause of health and

well-being, allowing communities to capitalize on their knowledge and resources.

Health is too important to leave it to a few organisms. A whole-system approach is necessary so that everyone can thrive together. In order to change the world, however, every individual has to tell a different story to themselves and we all have to engage in the production of divergent stories.

What we believe is possible is determined by our worldview. To truly leverage the available resources, we must take ownership of our own thoughts and attitudes to optimize our ability to thrive in the personal and professional fields. Through our beliefs we hold the gift of the single most powerful force in the universe: the ability to change our lives, our bodies and our world by choice (Braden 2008)

The agenda of the ruling elite is the product of a destructive world view based on their beliefs that there is not enough to go around, that some people are more deserving than others and that their own safety depends on having control over the rest of us; a worldview based on scarcity and fear. To render their agenda obsolete we have to become aware, stop and take action (Gamble 2011 1:39:58).

The private sector can and should drive change by deconstructing barriers that have plagued society – barriers at work, in our community, at home and most importantly in ourselves. In today's consumer driven society, people will be more receptive towards messages from the brands they trust. In such an environment, organisations have the opportunity to engage with their target audiences and cultivate notions of wellness. Before this happens, however, they need to truly understand their audience, taking into account all of the P.E.S.T.E.C factors which determine their level of well-being and, following from this, build multiple versions of the messaging for a diverse audience.

There is a huge need for innovative thinking, creative solutions, and to take action; this can occur in all sectors of the economy and in all companies and organizations, both large and small. Governments need to set and enforce appropriate regulations on treating workers fairly and humanely and keeping them safe and healthy. Companies need to do a better job of thinking about how their culture, operations, products, and services affect the wellbeing of their employees, customers and communities. And most importantly, as individuals we all need to become leaders in implementing wellness at work (Yeung & Johnston 2016).

Many factors in our workplaces can be improved to ensure that the relationship between our working lives and personal lives is positive and mutually reinforcing. We need to recognize and address the huge impact that workplace culture and stress can have on our personal wellbeing and in addition, when we find meaning, purpose, and impact through our work, our individual wellness is enhanced and we become better employees (Yeung & Johnston 2016).

Our work and our wellness are locked in an interdependent relationship. We all bring our underlying state of wellness to work with us – our physical and mental health, family life and relationships, personal motivations, values and experiences. All of these factors together affect our job performance. At the same time, what we do at work and how we work have a profound impact on our personal wellness, from our financial stability and social status to our physical health and stress, our self-esteem and sense of purpose. Our personal wellness is optimized when both our working lives and personal lives are positive and mutually reinforcing (Yeung & Johnston 2016).

Wellness programmes should be approached in such a way that they fit into workers lives as

opposed to another task they have to do, another form of labour. Ideally the initiatives should be incorporated into work time.

A tailor-made workplace programme to encourage whole-beings within organisations

Empathy and collaboration are key to deliver effective whole-being development programmes in organisations and, as these traits are intrinsic of design thinking, the author discovered she had a role to play in helping organisations understand, from a more holistic and sustainable perspective, what really drives their employees.

The Whole-Being© workplace programme begins with a self-awareness diagnosis to identify thinking patterns, attitudes and values, the bases of which can be used to identify participants strengths and shortfalls associated with well-being and feeling whole.

To identify the forces that influence what every participant determines as valuable/significant to feel "whole" we will apply a service design tool borrowed from the world-renowned design consultancy ideo as a basis to design our questionnaires (A.E.I.O.U.) activities, environments, interactions, objects (i.e., tools we use to perform tasks), and users (i.e., people we help) that make us feel engaged, creative and free to impact positively, whilst working and at home.

The content of the programme has been inspired by the idea that we shouldn't wait for our emotions to change, we should take action in such a way that these change.

It has been proven scientifically that achieving a cooperative alignment between mind, heart and emotions allows the individual to activate his/her social and emotional intelligence and is more likely to restructure his/her thoughts and adopt the necessary attitudes to achieve whatever he/she sets her/his mind to.

The HeartMath Institute in California has been studying heart function for the past twenty five years and has developed cardiac coherence techniques that help align thoughts and emotions, resonate them and then resonate these with others. The scientists working at the HeartMath Institute have found clear evidence that the heart also acts as a brain and that it possesses all the functions that are normally associated with brain function. It has found that the neural connections in the area around the heart send more signals to the brain located in our head than the signals sent by the encephalic brain to the heart. As a result of these studies, the HeartMath Institute has created a model called cardiac coherence to facilitate the alignment of the cardiac brain with the head brain. When we are not resonant with ourselves, we find ourselves in a state of un-wellness and we send conflicting signals to others because we are unable to resonate with them (HeartMath Institute 2021).

The mission of HeartMath Institute is to help people bring their physical, mental and emotional systems into balanced alignment with their heart's intuitive guidance. This unfolds the path for becoming heart-empowered individuals who choose the way of love, which they demonstrate through compassionate care for the well-being of themselves, others and Planet Earth (McCraty 2015).

The overall purpose of the training experience is to form "resilient achievers with purpose" through the use of content tailored for achieving multi-dimensional well-being (physical, emotional, psychological and spiritual). Inspiring the participants to live every day conscious of their bodies, emotions, thoughts and spirit; creating beautiful things daily-listening, and sharing their inner voice with the world. After three weeks, participants will begin to feel more engaged and energetic.

Some examples of activities which build energy towards the four dimensions of wellbeing are:

1. **Physical:** Taking intermittent breaks to restore physical energy.
2. **Emotional:** Avoid victimizing and take a proactive role in life situations.
3. **Psychological:** Avoid constant distractions associated with devices which drain mental energy.
4. **Spiritual:** Engage in activities which bring a sense of meaning and purpose.

The programme has been planned for groups composed of a maximum of fifteen people. The format is five weeks long, and is composed by three live workshops (three-hour long), pre-recorded video conferences, self-guided skill-building activities and exercises, yoga and meditation practices and on-demand video mental health coaching as well as self-guided skill-building activities and exercises.

The programme will be delivered by experienced therapists and lifestyle coaches with credentials in psychotherapy with an emphasis on integral

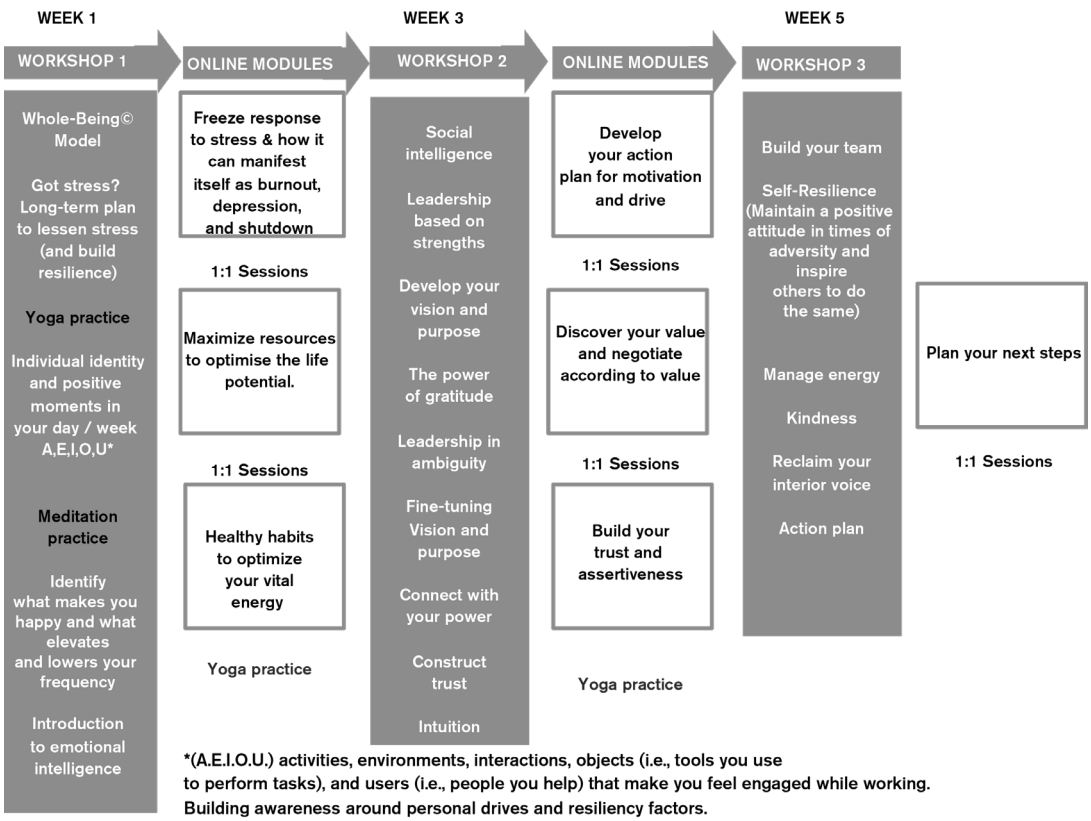

Figure 2: Excerpt from a project proposal for the programme's content delivery plan for an organization in the U.S.A. *Source: author.*

wellbeing. The author's experience and background in corporate trainings on design thinking and knowledge in yoga and meditation will round up the programme.

The content was conceived in order to create a new "mindset" in the individual, empowering each participant to adopt the thoughts and attitudes necessary to succeed by promoting comprehensive well-being (physical, emotional, psychological and spiritual)

The best measure of productivity is not the number of hours we work. It's how much focused energy we bring to whatever hours we work (Schwartz and McCarthy 2007). To this end, the training focuses on balancing the person's energy through activities oriented to develop 13 attributes or personal attributes that encourage the sense of wholeness in a person's development, as explained in Table 1.

Conclusion and areas for future research and practice

Empathy and collaboration are key to deliver effective whole-being development programmes in organisations and these traits are intrinsic of Design Thinking.

We are all capable of developing attributes such as gratitude, focus and concentration, creative thinking, compassion, a sense of vocation and perseverance. We each have the potential to thrive if the right resources are in place.

Establishing daily rituals that build our physical, emotional, psychological and spiritual energy can bring powerful results both to our personal as well as professional lives.

People have the power and organizations have the opportunity to lead the transformation. The novel wellness tools and activities succeed only if organisational leaders support their adoption and once that is the case, the results speak for themselves.

Further research is needed to determine the impact of workplace wellness in real-world settings in order to adequately inform policy decisions. On the other hand, further research questions should address the topic of wellness literacy. How do we help the general public to understand what the correlates are for feeling whole?

What are some of the issues that detract us from experiencing multi-dimensional wellness (physical, emotional, psychological and spiritual)? What kinds of things can people do to be more engaged in taking care of their wellbeing? How do we launch significant and relevant workplace wellness programmes for the long haul, not just the short term? Further research should be undertaken to discover what do experienced wellness coaches think of the Whole-being model and the proposed thirteen attributes.

13 ATTRIBUTES OF A WHOLE-BEING		
Energy location	Attribute	Description
Body: Physical energy	Physical Activity	As psychological well-being improves, so too does the will to undertake physical activity. Exercising regularly keeps our body fit and our mind calm
Body: Physical energy	Sleep	Our ability to manage our emotions and focus our attention is directly related with the amount of sleep we get.
Body: Physical energy	Nutrition	Taking the time to shop, cook and eat our 3 meals is vital for feeling energetic.
Emotions: quality of energy	Relationships	When feeling over-stressed & burned-out we are unable to have quality time with our friends and relatives (we are with them but our mind is elsewhere)
Emotions: quality of energy	Passions	Dedicating time to activities that we love and being mindful whilst doing them encourages joy.
Emotions: quality of energy	Gratitude	Expressing our appreciation to others brings joy and taking the time to savour our accomplishments and blessings keeps us in balance.
The Mind: focus of energy	Focus & concentration	When our working space is cluttered or we are surrounded by toxic people we tend to be more easily distracted. There are various rituals that harness focus such as turning off your phone whilst writing or listening to a whole song without allowing the mind to drift off.
The Mind: focus of energy	Reflection	Taking time for self-reflection Who am I? What is the world about? allows mind and heart alignment. Cultivating an inquisitive mind broadens our mind and makes learning more enjoyable.
The Mind: focus of energy	Creative thinking	Needing to understand things and get to the bottom of it. Visualizing larger patterns and unexpected connections in things that seem independent from or even in tension with one another.
Spiritual Energy (meaning & purpose)	Principles	Acting from principles and beliefs and living accordingly.
Spiritual Energy (meaning & purpose)	Compassion	Having deep empathy for others.
Spiritual Energy (meaning & purpose)	Vocation	Feeling called upon to serve and give back. Enrolling in activities that gives us a sense of meaning and purpose.
Spiritual Energy (meaning & purpose)	Perseverance	When work is too demanding and unsatisfying, we are more likely to feel irritable and anxious and less likely to thrive whereas when we engage in activities that we love we flow naturally and they do not seem like work. If the work is meaningful, we tend to feel more positive energy, focus better and are more perseverant.

Table 1: Thirteen Attributes of a Whole-Being.
Source: author.

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Bio

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061

“Let’s Take Care of the Caregivers”: Experience Design Strategies in Healthcare Institutions.

Géraldine Hatchuel

58–75

In this paper, we present the findings of a project "Let's take care of the caregivers", an initiative carried out during the COVID-19 health crisis. The paper highlights first, the potential of experience design to identify the empathic, emotional challenges and assaults that caregivers have to cope with, and second, its capacity to design new work solutions and strategies that improve the lives of caregivers themselves. Moreover, the project also helped to structure a research program that will be developed through an academic chair devoted to the study of experience design in relation to transdisciplinary research in the fields of ethnography, medicine and management sciences. The ambition of the chair is to change managerial practices in care institutions (hospitals, nursing homes, hospices) and its potential for performance (Borja de Mozota 2001, 2010, 2014).

#entrepreneurship

#experience design

#crisis covid-19

#organizational creativity

#double empathy

Introduction

Based on work conducted in a concrete field, this case study aims to identify the capacities of experience design to analyze, from a different perspective, the strategies and managerial practices of care institutions.

Its starting point, imposed by the crisis of COVID-19, takes place in April 2020, with the will of an experience design team led by the author to put her team and tools at the service of caregivers, through a self-given project entitled "Let's take care of the caregivers".

Experience design (Hatchuel 2018) is first and foremost a bodily, emotional and sensorial approach to lived experience. Applied to the support of strategic and managerial practices of organizations and public institutions, experience design can improve performance, relationships, products and governance.

In this paper, we analyze the findings of a project aiming to study the lived experience of caregivers in care institutions, taking into account the vectors of vision, ethics and method). Specifically, the research question of the project was: To what extent can the implementation of experience design skills, tools and culture improve managerial practices and strategies in healthcare institutions?

This study took place between March and April 2020 and involved a sample of fifteen caregivers who participated in c immersion sessions and then co-design sessions with the design team during the COVID crisis. The caregivers came from various French regions: Île-de-France, Languedoc, Auvergne Rhône-Alpes, Centre Val de Loire, and were working in different types of care institutions.

The Research Goals and Context

The global health crisis of 2020 has taken both the professional and research worlds by surprise. It challenged the capacity of design to rethink and improve work lifestyles in such challenging environments and organizations. However, the crisis impelled practitioners to commit to "knowing to do better and doing to know better" (Borja de Mozota 2014). Caregivers welcomed the idea of research-action premised upon a transdisciplinary approach, experiential solutions that they would co-construct and which would contribute to an ecosystemic and multidisciplinary redesign of care institutions. They were also willing to explore and re-design the meaning of their care mission in the midst of a pandemic. In the midst of this process, these caregivers demonstrated a great willingness to understand the sources and causes of contradictory instructions from superiors, the complex links between caregivers, their patients and their families, as well as the shocks endured in the exercise of their profession in the wake of the pandemic.

Experience Design: Focus and Hypotheses

Bodies, Emotions, And Perceptions At Work

Experience design explores, through the choreographic metaphor, the ways in which design can be a dance between several characters/stakeholders that live, feel and move in space and time, developing a perception of reality through this lived experience. By studying the situations experienced through their bodies, their sensations and their emotions, and especially in spaces like hospitals or houses for dependent seniors, we will show how experience design identifies what we call *irritants* in workspaces, sources of stimuli which are related to the organization, the flow of activity, the equipment, the modes of travel, the way back home (table 1).

Table 1: Verbatim examples focusing on body, emotions and perceptions of the caregivers and designers. *Source: author.*

Caregiver verbatim (emotional)	Caregiver verbatim (bodily)	Caregiver verbatim (perceptive)	Caregiver verbatim (emotional)	Caregiver verbatim (emotional)
I had to deal with the stress of the wave and the psychological abuse of false information when the tsunami was announced	*I am physically and verbally abused by my residents on a daily basis because they are disoriented (bitten, hit, insulted); by taking more time with them I could defuse the anxieties and the violence*	*I lose my temporal reference points, I can no longer distinguish between weekdays and weekends*	*I argue with my colleagues because no one understands the limits of each one's perimeter*	*I feel humiliated when I talk about what's wrong, I'm afraid of being seen as a wimp, of being told to change jobs*

This new perspective mobilizes a different type of empathy, in particular towards the pathologies (cognitive, physical, motor) and spatial situations that we can find in care institutions. Experience design uses also a different type of design tools: it mobilizes bodywarming /consciousness icebreakers like yoga or dance, living arts for scripting, embodiment, collective memory and to adapt and personalize solutions to the revealed environments.

Beyond Usage and Technology: Experience Design vs. Industrial Design

Experience design uses a methodological approach that moves away from standard analysis of usage, function, and efficiency as can be found in service design. Thus, it reveals new situations, unexpected problems, and opens to the discovery of new solutions (table 2).

Experience design also makes it possible to free oneself from the issues of optimization, forced digitalization and technological solutionism, traits that are common to design and innovation responses in the health sector. For example, a study[1] showed that most existing solutions are mainly technological, merely seeking to adapt to the crisis without really responding to it. Another study discussed the craze for technological responses, solutions which have little to do with the strategic and managerial issues generated by the crisis.[2]

The need to find non-technological solutions to the crisis that has been experienced and continues to be experienced by caregivers now comes to the fore. Standard innovation by design is user-oriented or focused on customer-centricity (Borja de Mozota 2007, 2012, 2015). In health fields, patient-centricity is also commonplace (Borja de Mozota 2010, 2017). In our study, we keep the *human-centricity* of innovation foregrounded by design, but we focus on the journey and experience of the caregivers themselves.

Developing Caregiver-centricity: Some Hypotheses

One of the tools proposed by experience design to forge a new approach towards care insti-

Table 2. From industrial design to experience design.
Source: author.

Type of design	Industrial design (form and function)	Experience design
Transmitter	Artist, stylist	Experience designer, facilitator of scientific and creative contributions.
Receiver	Customer	Human experiencer.
Object of embodiment of the message	Product, object	The experience, the living body, the conviviality.
Method	Design, prototyping and testing	The logic of the "gift", the double empathy, the imaginary experience scenario
Required knowledge	The style and the need	Ethnography: current experience, empathy, moments, attention span, emotional responses.
Expected results, performance	Purchasing and customer satisfaction	The surprise, the mystery, the freedom of improvisation, the imaginary stimulation, the collective.
Areas/activity	Decorative arts: furniture, tools, decoration	Pedagogy: school/museum/arts, performance/installation/device, self-engagement/body affect, city/garden, retail, jewelry, beverages, food, fragrances.

tutions is double empathy. It is based on the hypothesis that experiential care is submitted to the tension between hyper-responsibility and hyper-personalization.[3] This tension rests on the relationship between the patient or "well-treated" and the "well-treating" caregiver. Mutual empathy between both aims to change their imaginary views views towards one another and thus their practices in the process. However, in this study the designers' gaze and empathy is oriented towards the caregiver assuming that caregivers have been put under severe stress. It is this hypothesis which has led us to entitle the project "Let's Take Care of Caregivers".

Such a focus meant that we had to study the set of relationships that impact the life and activity of caregivers. The list belo describes a typology of relationships that was used as the framework for our study:

1. Caregiver - care receiver
2. Caregiver - hierarchy
3. Caregiver – patient family
4. Caregiver- caregiver family
5. Caregiver-institution

The "Let's Take Care Of Caregivers" Study: Methodology and Empirical Material

In search of caregivers' "irritating and motivating moments": an immersion method

The study was based on the immersion of the design team in care institutions, a methodology that can be seen as an ethnographic approach adopted during a severe crisis openly recognized by the institution. Our aim was to document the issues facing caregivers in such very special times. We attempted also to capture or conceive opportunities for improvement and solutions that would take advantage of this very difficult period. For us, particular attention had to be given to discovering *irritating and motivating moments*. The resulting databank of these moments was the key material for the understanding of the body, as well its emotions and perceptions that are central to experience design. The challenge of the design team was to transform these moments into creative opportunities and into change scenarios co-constructed with caregivers themselves.

Prior talks with caregivers led to a mission process that was sent to caregivers in the form of the following brief:

> *We believe that empathic and immersive observation methods that have been proven in many fields to improve the experience of both field workers (handlers, counselors, researchers, biologists) and citizens who live or experience a service (patients, clients, visitors, spectators). Following the example of phenomenology, rather than prefabricated solutions, we must start from lived experiences and visualize in a synthetic and exhaustive way the list of problems that these situations generate. We wish to constitute and ennumerate the bank of motivating moments (to generate) or irritating moments (to solve) that this kind of crisis generates in the care services (institutes, hospitals, hospice, etc.) from the most macro to the most micro problems, because the devil is often hidden in the details and sometimes in the absence of observation...*
>
> *This bank of motivating and irritating moments will be synthetic, without judgement, without identification of culprits, taking into account both the functional and the emotional and in all neutrality. It will then be the basis of a collective platform for the generation of imaginative solutions.*

Phase 1: Distant observation of eight to ten selected people identified and chosen on a voluntary basis, immersion and generation of a first bank structured in accordance with the moments of life or typical day of the caregiver: I welcome a patient, I provide care, I inquire about his file, I relax, I remotivate myself, I lose motivation, I feed myself...

1. Example of an irritating moment: "I cannot easily consult a patient's file because there is only one PC at the workstation"

2. Example of a motivating moment: "During my break I need to go dancing in the hospital park with my friends, at 8pm when I come back from work, I hear the applause of the city"

3. Step 1: 2h-2h30 of audio interview

4. Step 2: Compilation of photos of the situations mentioned

No violation of medical secrecy or Hippocratic oath.

Phase 2: Opening of the bank of motivating and irritating moments. Co-immersion, generalized introspection to broaden the field to the entire French caregiving population and improve the caregiving experience.

Moments are evaluated on a pain scale from zero to ten, or three stars out of five, to make a PARETO or a hierarchy of things and also to gain adhesion (in a qualitative and quantitative way)

Phase 3: A formation of a collective intelligence on a participative platform, formed to generate potential solutions to all the irritating and motivating moments of the caregiving experience,

Phase 4: Publication of a summary research report for the ARS and the director of the APHP

Due to the constrictions imposed upon us by COVID-19, we were aware of a particular methodological bias. Usually, the emergence of irritating and motivating moments is done through direct observation. Here we were obliged to ask the caregivers to describe themes. Indeed, we knew that the interviewees could have difficulties in orienting their gaze. Still the challenge was to have rich and reliable material. Thus, we developed immersion tips for the interviews adapted to special distancing conditions and pushed for highly detailed description on the part of the caregivers. The interview guide was structured as described in Table 3.

The Selected Population of Caregivers

A first discussion with several caregivers allowed us to identify the different poles, roles and panorama of healthcare institutions in the context of the COVID-19 crisis. The aim was to establish a robust and comprehensive panorama of the healthcare institutions and caregiver's situations with a limited amount of research resources. We arrived, in the selection of samples, at the necessity of taking into account at least one caregiver in each of four types: medical specialties, functional roles, type of healthcare institutions, type of care in the hospital journey of the patient. The final selected sample of caregivers that participated in the interviews are given below:

1. "The efficient emergency doctor", APHP, thirty-three years old = Baptiste

2. "The chief anesthetist", APHP, sixty years old = Jean-Do

3. "The creative pulmonologist", EPIC, thirty-one years old = Josette

4. "The clinical soldier resuscitator", sixty-five years old = Patrick

Table 3. Interview guide. *Source: author.*

Step 1: The training	How did you start being a caregiver? What is the pathway? How did it lead to the hospital?
Step 2: The job	What is his job, his function in the hospital in normal times?
Step 3: The transition	How did COVID-19 arrive? How did the transition go?
Step 4: The new positioning	#decision maker #designer #organizer #followers (it is important to detect the roles in front of us) How was the hospital redesigned? Did the person participate in this redesign? What were the moments in which important decisions were taken? => Stakes: understand the hospital redesign picture, key moments /Beware of the somewhat idyllic view in the period of the COVID-19 plateau, do not hesitate to evoke the different stages
Step 5: The steps	What is the current scenario (get into the concrete content, scan the territory sufficiently well, force them to share the mental map of the interlocutor, help them identify the corners) What service implementation? What chronological mode? Intimate mode? => Stakes: enter into the narrative, reconstruct the scenarios constituting the week's experience, the day's experience by including the intimate/personal parts, the transition with the house, the days of rest and the return from daycare. Get into the hard stuff, the concrete.
Step 6: The motivating and irritating moments	They can be organizational, emotional, relational, functional, material, ergonomic, spiritual, bodily … What was the experience as a whole? => Stakes: redesigning an experience, therefore imagining potential solutions (space design, product, service...), giving substance and flesh to the "I" type database
Step 7: Their ideal experience	Their ideal experience (get them to participate in the construction/creative posture) What is your vision of a more livable experience?
Step 8: Why Choregraphy?	Reminder of our commitment, method, our daily missions
Step 9: Ask for documentation	Interesting photos to take to document, encourage them to put their "observer / detective" magnifying glasses on by sharing other interesting photos for the study.

5. "The nurse warrior", Hôpital Mans, thirty-nine years old = Marie H
6. "The coordinating anesthetist", APHP, thirty-one years old = Élodie
7. "The benevolent trainer", EHPAD, thirty-nine years old = Marie
8. The "Infantryman Caregiver", EHPAD, forty-six years old = David
9. "The 24/24 HRD" Hospital group, thirty-nine years old = Nathalie
10. "The research intern" Emergency room APHP, twenty-four years old = Olivier

Experience Design Brief to Volunteer Designers: Data Bank on Moments of "Tension" And Moments of "Grace"

Based on the data bank that emerged we called for volunteer designers to participate during two creative days to transform this data into new opportunities and solution scenarios[4]. A few synthetic tools were developed to help designers in charge of the projects to familiarize themselves with the subject, the context and the issues at stake.

Figure 1. : Generating empathy towards designers: an example of Caregivers' experience script: "I am the good captain resuscitator." *Source: author.*

- I wake up.
- I cook my lunch, I must not forget my mask,
- I take my car, there is nobody in Paris at 7am.
- I arrive at the hospital, there are no more social distancing measures, the locker room is tiny, we brush up against each other, you are on your guard.
- I make the transmissions to the night team.
- I reassure the patients, the staff, everyone as we embark on surgery that we don't know, that we're scared to death.
- No break, lunch eaten at 5:30 pm.
- Very rigorous, no going from one service to another.
- Friday, Saturday, Sunday blocks.
- Back to the normal confinement atmosphere.
- It's the first time we risk our skin by saving. patients, it's not fair.
- Friday, Saturday, Sunday blocks.
- Dinner and a series on Netflix.
- Indoor cycling.
- 1 minute for a coffee and a salad
- The evening briefing.

1. *Ten profile cards* (figure 1): presenting the caregivers (making it possible to identify the types of caregivers who contributed to the project, their work contexts, their professions, but also part of their personality)

2. *A mapping of the world of caregivers before and during the crisis*. This map was constructed in such a way as to emphasize the diversity of contexts depending on the type of structure. This mapping will be a real support for proposing crisis anticipation solutions.

150 irritating and motivating moments were extracted from the thirty-five hours of interviews with the caregivers. This "bank of moments " is a real lever for innovation. It is by drawing on these moments *of tension and "grace"* that the designers would be able to propose new scenarios for the future. The bank was composed of:

a. *Forty-five motivating moments* concerning: collaboration, cohesion, design, development of skills, national solidarity, meaning & news of patients, families, human & material reinforcements, moments of joy & breathing, reassurance of caregivers, good treatment of caregivers

b. *116 irritating moments* concerning: mental and emotional load, organizational instability, end of life & families, integration of new collaborators, physical fatigue & abuse, psychological fatigue & abuse, loss of meaning & disappointment, personal life & collateral stress, confined to the hospital, human shortages, lack of medical & therapeutic equipment, lack of space & cramped workstation, political crisis management, post-hospitalization, openings & post-pandemic.

Though the design sprint days were conducted by video conference bringing together designers from all over the country, the experience design method and training was key to the results. To familiarize the volunteer designers with the different profiles of the caregivers the caregiver's testimonies were transmitted in short theater sketches where the team (Adèle Hamelin, Jessica Séné, Erika Cupit, Géraldine Hatchuel) reenacted scenarios supplied by the caregivers, experiencing them in their own bodies. This allowed the designers to empathize with the caregivers and to integrate their issues. More than 500 ideas emerged and then, after being reworked, 120 concepts were born. After that, thirty ideas were generated to be finalized as experiential solutions.

Restitution to Caregivers and Design Jury: A Validating Feedback

In July 2020, a very special session was organized with the caregivers who had participated in the study and other guests from the field of care to enrich these proposals. A design jury was also invited to react to the solutions and gave positive feedback. Some examples:

Soizic Briand, head of content at the *Saint-Étienne Design Biennial*:

> *It is when everything is going wrong that we need to take the time to create a link, to transmit, to prevent, to get involved. Caregivers are asking for places to meet.*

Anne-Marie Sargueil, president of the *French Institute of Design*:

> *It's deep, it's real and the concepts are crystal clear to any citizen. We want it all to exist immediately.*

Brigitte Borja de Mozota, researcher in *Design Management*, University of Montreal:

It's a path of optimism and the work on covidialities [the meaing of this neologism will be elucidated later] in hospitals for dependent seniors seems essential to me. We can see the design purpose and the ethics of aesthetics.

In annex 1 we give also a sample of reactions from participant caregivers which are all positive and even enthusiastic about the relevance and creative power of the approach.

Taking Care of the Caregivers, What Have We Learned?

Four class of healthcare issues revealed by the study

This project based on a study of human caregivers' experience (body, emotions, sensations) as well as the thirty experiential solutions generated through this study have revealed new phenomena that can be synthesized through the tracing of four new axes of missing healthcare management practices.

Axis 1: Caregivers have to self-teach themselves how to manage their emotions as no human resource management is dedicated to caregiver career experience.

Axis 2: Emotional support given to patients could actually help alleviate caregivers' emotional stress.

Axis 3: Professional agility of caregivers, when needed, is helped by motion design of work practice and kinesthetic learning.

Axis 4: Kinesthetic (and not digital) animation of patients is key to support caregiver's presence.

In the following, we give a short presentation of each axis as well as a short list of new design solutions that emerged from the project.

Axis 1: New caregivers HR policy based on emotion and competencies development management

The main finding when studying the relationship between caregivers and their hierarchy or caregivers and human resources departments is that healthcare institutions show a lack of tools and support for helping caregivers cope with emotional assaults. Very little is done to prevent caregivers from stress, shock and tension, to help identify risk of burnout. Corresponding to this is the fact that little is done to valorize their competencies, to build up their motivation, self-satisfaction and self-confidence. Energy and commitment on the part of the caregivers is assumed to be vocational and constant and any consideration of management tools addressing these issues may be interpreted as a sign of disengagement and could lead to feelings of guilt. Caregivers are left alone to deal with the management of their own emotions. Let's remind ourselves of one chilling account, given verbatim "I feel humiliated when I talk about what's wrong, I'm afraid of being seen as a wimp, of being told to change jobs". Moreover, success or victory are not celebrated, nor is the evolution of one's career organized.

Such findings have led us to new design, we have selected a short list of four experiential solutions responding to this need for a reinvention of competency and emotion management practices.

1. **The prevention booklet** is a benevolent tracking book that allows us to structure the follow-up to the data, facilitating the management of the caregiver's activity and energy (individual and team). This data can be used for the caregiver and the manager to self-manage or manage the vitality of my team or a person and thus avoid consequences on the activity of the service: medical errors, loss of vigilance, illness...

2. **Who is it?** It is a puzzle in which each caregiver serves as a crucial piece. In the context of the crisis caregivers from different teams get to know each other better. This game play can start with self-assessment questionnaires and personal development workshops. Following this, to visualize complementarities, job cards specific to each caregiver, with the job description and affinity with other jobs are displayed, and a puzzle assembled from these.

3. **The path of victories** is a workspace art piece that make visible and valuable the chain of professionals who have worked with patients. Thanks to a mural, we can easily identify the caregivers who have been involved in the care of the patient, by mapping the caregivers in the various departments and by setting up joint projects.

4. **Club Med** and *Radio Blouse blanche* is a place of conviviality/meeting and service for caregivers in the midst of a crisis. This place allows them to live, unload, discuss, exchange, laugh together about their daily life and recreate the atmosphere of the on-call room. Services: Rooms, bar, decompression and relaxation workshop, radio show for caregivers. As caregiver said "I don't want to live this moment alone when I arrive at home, I would go and settle in a flat with friends)".

Axis 2: New tools to humanize the relationship between caregivers and patients

Another finding of this study is about how the emotional care given to a patient (or to the patient's family) is actually a source of emotional support for caregivers. When the patient (or the patient's family) is emotionally steady, the caregiver can spend more time on their medical care. Here, it would be salient to cite emotional account, recorded here verbatim "I am physically and verbally abused by my residents on a daily basis because they are disoriented (bitten, hit, insulted), by taking more time with them I could defuse the anxieties and the violence". In the context of isolation or facing the death of a parent (when the family could not see, feel, touch the degradation of their parent) we can observe, in a very stark and harsh fashion, the emotional and psychological load that is carried by the caregivers. The solutions imagined in this axis aim at the rehumanization of the relationship between caregivers and their patients, placing an emphasis upon on managing the emotional charge with extra-care *dispositifs*.

1. **Humanities cards** are some dedicated notes inside the medical file and integrated into the transcripts that allows any caregiver to be able to meet the patient as a human being. (This solution is especially needed in the context of COVID-19 crisis when patients are depersonalized without the contact and environment of the families). It is a complementary tool to discover the patient's personal aspirations, tastes and hobbies (favorite color, sport, music, dishes...) The objective is to restore meaning by encouraging links between the caregivers, the patient and the family through the discovery of one another's inclinations. It also promotes the caregiver-patient family relationships.

2. **Goodbyes** is a dedicated place inside the hospital to say goodbye to a loved one, meet with families in the same situation, spiritual leaders and psychologists through an untainted glass window. This place allows those grieving an impending loss to be present at the

moment of saying goodbye to a loved one, in the secure place (intermediate glass). Substitute objects allow us to recreate the "touch", the warmth, the voice in the hollow of the ear, to accompany the departure physically. As a sign of mourning and compassion, a system of luminous candles can be set up.

3. **The Hugging Room.** In the context of social distancing and the obligation to wear a mask, human contact has been rendered very difficult when it comes to supporting and expressing feelings towards loved ones. To be able to recreate the link between patient and their family and to facilitate the contact, "Hugging rooms" were designed to respect the barrier gestures, with large covers through which people can touch each other and cuddle.

Axis 3: New kinesthetic tools for caregiver training and daily management

On a day-to-day basis, caregivers' bodies are suffering a lot of tensions and stress (ventral decubitus in the rehabilitation room), going from room to room and ward to ward, their perceptions and, sensations are entirely thrust aside when doing their job. Although they have really physical tasks, they work every day without any preparation or warming up beforehand. Our solutions aim at looking at the body of the caregiver as a vulnerable resource that needs taking care of. Furthermore, some job trainings are transmitted in a very abstract way. In the case of rehabilitation nursing, practical and gestural transmission, these fields are in dire need of measures which could support massive and efficient training. Some solutions are:

1. **Motion-rea cards** are motion design tools to train quickly and *en masse* resuscitation nurses (or any occupation requiring complex gestures) in the midst of the pandemic. It illustrates and animates the most complex movements and practices to learn and get the learners to play with the motion-rea cards. On the field, some memos already exist, such as 'Fiche memo intubation', but they are very schematic and still practice is missing.

2. **Defoulart** is space available at all times to recharge one's batteries. It displays devices for bonding, introspection, encouraging spaces of pause in connection with oneself, with others, with nature/culture, using art therapy like space design, swing devices like hammock, massage. Any caregiver who feels the need for a break can escape from the coffee or smoking break to fulfill their body and mind especially in a time of crisis.

3. **Decompression system** is a space located at the exit of the hospital for caregivers to go back into the ordinary world through a ritual of decompression. They enter a transitional space when leaving the hospital that enables emotional and physical renewal. Also, sportive challenges can start there to go back home collectively, or playful challenges like a *ten minute spell of laughter laughter* or a *Gaga dance* in order to free them from the harshness of the day.

Axis 4: New kinesthetic and social animation for patients

In the context of patient isolation, due to social distancing or to lack of autonomy at the hospital or in the senior hospice, a recurrent issue is the urgent need for socialization. Long term residents

living at the hospice are therefore disconnected from their neighborhoods and communities (grocer, hairdresser, laundromat) to their family, family visits are less personalized and they have to reinvent a life. Very often digitalization (*iPad*) is seen as an ideal solution to entertain patients when all they require in actuality is a social and human bond. Kinesthetic and social animation, on the contrary, are what allows them to adhere to corporeal life and not plunge into resignation.

1. **Covidialities is the term we have given to** a playbox which can help to recreate the bond between the caregivers and the residents through creative, playful and corporal solicitation. To accompany the residents in this temporary change of lifestyle, it promotes physical and sensational activities (internal post, treasure hunt, exquisite cadavers, waking up to music, hanging coffee, thematic day, secret Santa). Thus, it improves living spaces, helps patients to communicate with their loved ones and promote a network of mutual aid between residents and caregivers.

2. **Rendezvous at home**, is a sensory room that allows patients to meet their families by reproducing dialogues and the heat of human presence. Multiple objects allow you to recreate the visit of your relatives and the warmth of your home (light, smell, touch). Here, you can have coffee with your grandson in hologram and play cards with him. In the evening, a lamp and comforter, allows family members to accompany the resident at night (live chat, pre-recorded messages, sharing the comforter) and consolidate family bonds.

Annex 1 gives a sample of reactions from participant caregivers to our proposals.

Discussion and conclusion: The manifesto of experience design for healthcare institutions

A few months after the "Let's take care of the caregivers" project had begun, a special meeting called *Alternative Segur* was held. In France, “Segur” is the name given to important public hearings and discussions about health policy that are organized by the government. The idea of an Alternative Segur meant that designers and caregivers involved in our study decided to put forward a new political agenda for health. This public meeting ended with the creation of a new manifesto that took the form of a poster[5] listing a series of statements (see below) about the benefits of experience design for a better future for hospitals and other health care institutions.

A commitment committee was also appointed to monitor new actions and to provide expert viewpoints to enable the team to always keep these objectives in mind.

The findings and proposals of the project “Let’s take care of the caregivers”, as well as the encounters held during the Alternative Health Segur was widely shared among designers and caregivers, affirming that experience design has a key role to play in rethinking our healthcare system.

1. It creates a new perspective on the care world that is open to hospitality and to mutual empathy

2. It reveals hidden deficiencies of our health institutions and calls for urgent solutions that can help professionals to improve their emotional and sensitive experience at work.

For sure, our project offers only small steps that indicate the direction for innovation and change.

There is a clear need to launch larger studies as well as testing several new solutions with caregivers. This has led us to launch a research chair with Paris-Saclay University devoted to the study of caregivers' experience on a large scale and scope. The findings of our project have become the ground for further research and healthcare policy.

The benefits of an experience design Segur for a real hospital future

1. Seeing a creative assembly made up of 80% female designers (not consultants)
2. Not having to wonder if caregivers were consulted
3. Not having to look for the concrete life solution behind a directive
4. To have the hope that double empathy will enter the hospital and infuse its policies in our lifetime
5. Not to have to promote yet another technological platform
6. To be able to shout a loud and clear "no" to technological solutionism
7. Not to be the tree that hides the forest of equipment and remuneration
8. To try to stop the hemorrhage and the exodus of nurses
9. To address the fact that the only emotional support that caregivers can hope to receive is applause
10. To finally experience care and coexistence with the caregivers

Annex 1: Reactions and feedback from participant caregivers

Bravo and thank you in any case for this beautiful work! Your ideas are very interesting, especially the one about Radio Blues Blanches which dematerializes the on-call room. Also, having experienced it, identifying old and new collaborators in the ICU room is essential, your colored scrubs on which we can display our names, it's great.

Elodie, the anesthesiologist/resuscitator coordinator.

It was exciting! Thank you very much, thank you all for this work. The proposals appeal to the sensibility, we feel that each one of them touches something important. The crisis reporter is essential to make the human link during the crisis. The big General Assembly of the Hospitals is great! We will have to foresee a substrate of the State and the managers of the health structures, to invite them to look at the situation from the other side...

Patrick, the good captain resuscitator.

You did an amazing job! Thank you for giving your time to health... I loved the idea of the candles. Instead of counting the dead daily, a candle in the windows out of respect for the families and the people they were seems so much sweeter and dignified to me... The idea of the sound badge, the color code, the decompression lock, the apartment I think it's great, it's humane ideas, and it's exactly what the hospital needs... THANKS! I really hope that all your work will come to fruition.

Marie, the caring trainer.

The decompression chamber, we have all experienced it, and it is indispensable. The Great General Assembly of Hospitals, allowing caregivers to get together and make a unified return to the DGS and ARS, is great. Your concepts are touchingly accurate.

Myriam, pediatrician at Cochin Hospital

As an HRD, I gave a testimonial on administrative issues. In this regard, we are in a learning phase to capitalize and learn from everything that has happened during this period. Your work is very timely, it is very interesting thanks to your study to take this step aside and to model relational issues that are of the order of feeling. I noted the notion of crisis reporter: it's very interesting to design on information sharing. Internal communication is paramount, and that's one of the points you emphasize.

Nathalie, the 24-hour HRD.

I am very interested in the depth and relevance of your participative approach. It is necessary to support a process of creativity in a crisis situation, this is what you have done, and it is especially in these situations that we need to have the audacity to go further.

Delphine, head of internal communication at the University Hospital of Liege.

Bravo and thank you for this very innovative project.

Sophie, neurologist

Notes

1. "Start-ups facing the health crisis: Necessary mobilization or market opportunity? 400 disruptive initiatives in Italy, France, China and South Korea". https://www.labsante-idf.fr/focuslab-special-covid19/

2. The emergence of a critique of "band-aid" technological innovation: The Conversation article "Making handmade masks, collecting donations... Can we really call them social innovations?" https://theconversation.com/fabrication-de-masques-artisanaux-collecte-de-dons-peut-on-vraiment-parler-dinnovations-sociales-137635

3. Article by Choregraphy on Medium "Experiential care", hyper-responsibility or hyper-personalization" https://medium.com/@hello_66502/experiential-care-hyper-responsibility-or-hyper-personalization-57f6d51424c6

4. Twelve designers attended (Thaïs Dol, Marjorie Colin, Aude Omerin, Morgane Amorin, Linda Acosta, Marianne Franclet, Clara Lanthiez, Bernadette Kalaj), all of them female designers. On Tuesday 2 and Thursday 4 June 2020, they mobilized for two very intense days, during which they produced numerous ideas.

5. Poster inspired by the artists "Guerrilla girls".

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Bio

Géraldine Hatchuel is a designer and a pioneer in the field of experience design (FYP Editions 2018). She is a teacher-researcher at AgroParisTech and ENSCi where she created the first course in France on experience design originally entitled "Choregraphic storyboarding", where she develops her thinking and method involving the design of the body and emotions. Combining her background in performing arts, business/management and design, she theorizes Experience Design as a discipline for transversal practices to design narratives and business models of organizations, companies and communities using tools such as double empathy, co-immersion and co-scripting. She is also CEO at Choregraphy (1st mission-driven company) and founder of La Story Room based in Paris-Montmartre.

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Shifting the Value of Experience: From Design to Strategy

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76–97

This paper is a reflection of the evolution of a user experience (UX) consultancy's transformation into a brand experience consultancy in an increasingly competitive market in China. As part of this transformation, the value of design has shifted from tactical to strategic. The authors compare and contrast the nature of experience design and experience strategy and how they are delivered to close the gap between designers and strategists. While this paper serves as a case study of one consultancy in China, the lessons, knowledge, and understanding gained are applicable to the user experience industry and global design community at large.

#x thinking

#experience design

#experience strategy

#design

#strategy

Introduction

In the two decades since Joseph Pine and James Gilmore (1999) popularised the concept of the experience economy, the relationships between people, technology, design, and business have become more interdependent. The development and adoption of the internet has digitally transformed businesses, and the mobile internet has allowed people to connect to one another, brands, and content from anywhere at any time. Social networks have exponentially multiplied the rate at which information is disseminated.

As the experience economy has developed across diverse industries, researchers have been studying how businesses can enhance their value through the delivery or staging of experiences (Chevtchouk, Veloutsou, and Paton 2021). As evidence of this, we can refer to the recently established World eXperience Organization (WXO), with its Founding Circle of leading experience pioneers representing sectors including user experience, customer experience, employee experience, immersive theatre, gaming, themed entertainment, travel and tourism, healthcare branding, marketing, virtual reality, augmented reality and merged reality. While all of these are related to experiences and the experience economy, they all approach the notion of experience from different perspectives.

User experience (UX) is often associated with the experience people have with products, systems, services, as well as objects with which people interact through a user interface (Law, Roto, Hassenzahl, Vermeeren, and Kort 2009). However, customer experience represents the entire experience, including the search, purchase, consumption and after-sales phases of the experience across multiple channels (Verhoef, Lemon, Parasuraman, Roggeveen, Tsiros, and Schlesinger 2009). Employee experience is also an important factor in providing a positive impact on business performance (Itam and Ghosh 2020). Brand experience is even broader, encompassing in its scope all commercial human experiences (Chevtchouk, Veloutsou, and Paton 2021).

The concept of the experience economy has been applied to immersive theatre, gaming, themed entertainment, travel, tourism and healthcare industries. Immersive theatre has become a widely adopted term to describe performances that use installations and expansive environments that invite audience participation (White 2012). Gaming includes digital and non-digital forms. Furthermore, related concepts from the gaming industry have been adopted in fields outside the entertainment industry, with the gamification of non-game-based products (Seaborn and Fels 2015). In the midst of these developments, the travel and tourism industry have also started to incorporate the experience economy, but the research is still at an early stage (Chang 2018). The healthcare sector cannot be excepted from this comprehensive shift, and healthcare providers are beginning to understand the value of experience (Sharan 2020).

The advancement of digital technologies has enabled the delivery of new forms of experience, and people are investigating how world-changing technologies such as virtual reality, augmented reality and merged reality can be leveraged to deliver “wow” experiences (Pieskä, Luimula, and Suominen 2019).

The experience economy has evolved along a different track in China. Starting in the 2000s, brands in China focused primarily on the visual attributes of their products. With so many products on the market, industrial design was used as the means of differentiating products from competitors. Imitation was inevitable, becoming so pervasive business analysts branded 2008 as "The Year of the Copycat" (Huang and Lai 2020).

During the early to mid 2010s, businesses in China focused on the efficiency of their prod-

ucts. Brands leveraged smartphones and mobile internet access to help users solve problems in innovative new ways. During this time, we saw the meteoric rise of Tencent's WeChat messaging platform, Yu'e Bao's digital financial services and DiDi's ride-sharing services (Huang and Lai 2020).

Since the mid 2010s, brands in China have further evolved, with a focus on developing relationships. Consumers no longer select products and services based on utility, appearance, and efficiency. Rather, they measure and choose products and services based on their values, meaning and significance (Huang and Lai 2020).

With the advancement of the experience economy in China, its UX market is increasingly competitive. Small upstart agencies are competing at lower price points and traditional management consultancies are entering the market, providing design services in addition to strategy.

Strategy can be understood as the selection of a course of action towards achieving specific objectives for shaping the future. It is a master plan for securing a competitive position, carrying on operations and achieving the desired ends for the long-term. The essence of strategy is choosing to perform activities different than those of the rivals (Mckeown 2019; Johnson, Whittington, Scholes, Angwin, & Regnér 2011; Porter 1996).

With the advancement of the experience industry, the preferred courses of action in experience design to maintain a competitive advantage has changed. Over the course of the past decade, we have witnessed a shift from an emphasis on user interface design to user experience design and finally to customer experience strategy. We have witnessed more mature approaches to experience design on the part of various companies. However, solely focusing on the experience of apps and websites has failed to maintain a company’s competitive position in the transition towards an experience economy.

With rich experience in designing for leading companies, we believe now is the time to embrace a broader viewpoint toward experience in the current market and business in China. Leading experience designers should be thinking about the dynamic relationships between enterprise capabilities, brand value and propositions, the holistic experiences across experience dimensions and customer lifetime relationships, all of which contribute to the formulation of strategies for increasing long-term competitiveness in the experience economy. We named such a modality of thinking ' eXperience Strategy'.

The elements of eXperience Strategy should include the positioning, planning, and operation of the brand as well as analyses of experience and users in order to fully understand the spectrum of experience from both the company’s and people’s perspectives, so as to overcome the diverse business challenges in the Chinese market.

To meet these challenges in the Chinese market, the authors have led the transformation of senior-level designers into strategists at a renowned Chinese experience consultancy. Comparisons were created to illustrate and understand the differences between these functions to close the gap between designers and strategists. The authors present this article to establish a foundation for promoting eXperience Strategy as an evolution and extension of user experience.

TANG Consulting was founded in 2007 as one of China's first UX consultancies, focusing on UX research, strategy and design. Initially, client projects were simple and specific: enhance the value of their devices and software by making interfaces more attractive and intuitive.

The company expanded its expertise in user interface (UI) and UX into the experience consultancy it is today. This evolution wasn't spontaneous, its services expanded over time. Advancing beyond

the aesthetic quality and usability of products, research insights contributed to product innovation. Eventually, the scope of work was no longer bound to devices and screens but to overall service planning across the whole customer journey-from before a consumer has even come across the brand to after the life of the product or service. Today, TANG has evolved into an "eXperience" consultancy, delivering eXperience Strategy, eXperience Design and eXperience Management solutions for clients.

As the distinction suggests, "eXperiences" are not to be confused with "experiences". Denoted with a capital X, they are branded, intentional and superlative. The X represents the missing, often elusive, element that defines exceptional consumer experiences.

This paper is an analysis and reflection on the contrasting differences between delivering experience in the form of design versus the experience in the form of strategy through the evolution of TANG. It examines what they delivered, to whom and why the consultancy shifted from primarily delivering design projects to strategic solutions. This study can be taken as an exemplary case representing the transformation of user experience industry inside and outside China, as the value of experience continues to evolve.

Through the expansion of China's experience economy, TANG has served leading companies seeking to improve how they approach consumers and deliver the brand value proposition to their target customers. The consultancy's case studies from the past decade chronicle the transition of emphasis from experience design to experience strategy. Although both practices are based on X Thinking, there are distinct differences between them. We will use two of TANG's iconic cases to illustrate the details.

Experience Design Case Study

The first case study involves an app designed for China Merchants Bank, Ltd (CMB) in 2013. As the sixth-largest bank and leading retail bank in China, CMB played an influential role in promoting e-commerce. This project aimed to extend the quality of its mobile banking service and redefine the core value of the app. Utilising the human-centered philosophy of X Thinking, mobile functions were reconfigured around actual customer use. To fulfill these needs, the consultancy utilised multiple user scenarios to group functions, resulting in more efficient app organisation (Figure 1).

The operational flow was optimised based on customer use, not bank operation. Its trendy icon design also reinforced the client brand, enriching the visual perception while using the app. This feature-focused approach resulted in the successful app design the client required.

The features of the case were centered around an exclusive focus on app design, limited segmentation of personas and realisation of the brand value proposition. It was a user-centered design process with consideration of users' needs and wants for banking and elaboration on scenarios and flows, resulting in more efficient and effective use through experience design.

These features demonstrate the central tenets of X Thinking, emphasising the dynamic relationship between people, value and sustainability (Huang and Lai 2020). We can see the vital role of "people" in the design process. For the purpose of banking apps, a user-centered page layout and operation process with a stylish, flat UI created the best value for customers, in terms of both functional and emotional aspects.

However, the principle of sustainability, which enjoys a privileged and significant place at the

heart of X Thinking, isn't as obvious in this single project. The second and third projects for the same client, CMB, will demonstrate the centrality of sustainability in X Thinking more clearly.

Service Design and Omni-Channel Experience

By 2016, the overall quality of app design in the banking industry had reached a level that lacked clear competitive advantages. Online experiences alone could not help retail banks to distinguish themselves from one another. This was when TANG leveraged service design and the concept of omni-channels to provide new value for banking customers. Through strategic cooperation with Eight, Inc., a design consultancy known for their work on Apple retail stores, user needs were examined from a broader perspective.

The scenrio they explored incorporated detailed touchpoints along the customer journey, with reference to a range of stakeholders in the service system. Each of these touchpoints was like a scene in a movie containing different domains of experience. The language and behaviour of different personnel — including lobby managers, customer managers, high-desk clerks, and low-desk clerks — were redesigned to provide a "personal experience". The physical environment (spaces and furniture) and digital environment (ATM & VTM) were also redesigned to enrich the "environment experience". Through these redesigns, CMB was able to provide new "product & service experience" (Figure 2).

The distingishing feature of this case lies in the use of omni-channels and a macroscopic view of the service, but the core remains the same. Value creation for customers and a user-centered design process remain at the core of this project. However, through this particular case we can better understand how sustainability figures in X Thinking. Following the developments of user experience and an upgrade in consumption, companies needed to actively utilise design in different domains of experience for increased competitive advantages: product and service, behaviour, digital and physical environment and communication (Huang and Lai 2020).

The continuous pursuit of excellence in user experience will result in the sustainability of customer loyalty over time. By reference to this example, we can better appreciate how the dynamic relationship between people, value and sustainability functions.

Experience Perception on the Internet Age

Since the emergence of the internet era and corresponding developments in the understanding of service design, the convergence of offline and online in customer acquisition, activation, retention, referral and revenue became universal. User experience became an industry convention. Companies probed into customer life cycles, omni-channels, and customer journeys to provide better user experiences and identify new competitive advantages. No matter how user-centered these efforts may seem, there is still one thing missing. We do not have enough user voices.

We often use questionnaires and interviews to explore consumer needs and wants. They are effective, but resource-intensive. In 2020, eXperience Perception Indicators (XPI) were introduced to respond to a new generation of customers native to the internet era and the experience economy. They tend to rely on the internet to inform their purchase processes, prefer word of mouth testimonials of relatives and friends rather than commercials in various media and are more attracted to better experiences, rather than simply the purchase of products and ser-

vices. XPI is the tool TANG invented to measure how well customers perceive brand value and domains of experience using big data.

Online comments and opinions provide insightful information for companies to view through the lens of experience. These positive and negative reviews about products and services contribute to so-called big data, and are further categorised into four different domains of experience for detailed examination by brands.

Here is an example of XPI performance of major banking companies in 2020, representing 361,300 comments from 21th January 2020 to 30th September 2020 using the Social Master Database. The results reveal the evaluation of experiences among six banks based on online customer feedback (Figure 3).

Based on an analysis of the supplied data, XPI helped to identify two essential trends in banking. First, product and service experience were essential metrics for measuring experience competitiveness. In particular, digital products and services played crucial roles as initial touchpoints in the customer journey. Therefore, better OMO (Online Merge Offline) products and services are key elements for any banking experience in a contemporary digital environment. Second, personnel and environment experience were becoming more important. Leading experience companies need to improve these two domains of experience to maintain a competitive advantage.

As a result of earlier improvements in customer experience, CMB led in XPI performance amongst its competitors. Their communication experience had the highest score, suggesting customers have a very good impression of the brand even when current service and products are less favorable than commercials or other marketing efforts may indicate. However, with the effects of advertisements decreasing dramatically in the internet era, we tend to believe customer memory of previous experiences also influences these scores. Another possibility may be indicated in words related to positive experiences at the bottom of the graph. Successful co-branding helps to promote the brand (Figure 4).

However, the personnel and environment domains of experience fell behind the industry average. CMB needs to reshape these two domains of experience to further improve their competitive advantage. Additional details can be found in the bank XPI report (Tang Shuo 2021).

To summarise the case study of CMB, we can see the development of user experience across one domain or multiple domains at once. The analytical methods to measure and interpret user experiences have also increased. User experience is expanding in both depth and complexity to include personal perspectives on physical and digital brand interactions. Importantly, the principles observed by X Thinking, namely user-centered value creation and sustainability, are fundamental for every industry.

Experience Design versus Experience Strategy

Companies need to shift toward an experience strategy model, one that incorporates elements of X Thinking in a well-developed experience economy based on user experience, domains of experience, competing among other brands that recognise the principles of people, value, and sustainability (Table 1).

Experience strategy encompasses the interconnected nature of enterprise capabilities, brand value proposition, holistic experience across experience domains and customer lifetime relationships to support informed decision making for long-term competitiveness in the experience economy. The

Table 1: The corresponding key elements of experience thinking and experience strategy. *Source: authors.*

X Thinking	Sustainability	Value	People
Experience Strategy	Brand Experience Strategy	Experience Strategy	User Strategy

methods of experience strategy include the analysis of industry competitiveness, brand value, user perception, stakeholder priorities and XPI.

The process of experience strategy is one of analysis, position, operation in terms of the core elements: brand, domains of experience, and people. Therefore, each experience strategy case will first conduct analyses using these methods to determine the position that the company finds itself in among competitors and to identify strategic opportunities. The outcome is to clearly define the strategy that connects the brand value to user needs through the domains of experience. By establishing an experience strategy, specific tactics for each of the four domains can be generated to guide subsequent design activities.

Experience Strategy Case Study

The second case is Xiao Guan Tea (XGT), the most renowned tea brand in China. The company was founded by Chinese entrepreneur Du Guoying as his fourth venture. The brand was officially announced in 2016 with revenues reaching ¥2 billion RMB in 2019. Prior to its introduction, there were few Chinese tea brands. Although types of teas are well-known, the total revenue of the top 10 brands did not exceed those of Lipton. With market potential and consumption upgrade in its favor, the company recognised a strong need for a tea brand that combined the high quality of Chinese tea and elevated customer experience. Through the development process and using analyses of the corresponding domains of experience, the initial framework of the experience strategy took shape (Figure 5).

The starting point for this case is distinct from typical experience design. Normally, experience

design begins with design goals and target users, and the nature of the projects is within a digital environment, including app or website design. However, the purpose of the XGT project was to explore the dynamic connection between the new generation of consumers and a new brand in a Chinese tea market that at present remains without a dominant brand.

Process of Experience Strategy

The first step of the project was to collaboratively define the brand value proposition as providing a modern version of high-quality Chinese tea with a brand personality that was contemporary, yet still steeped in rich tradition. This definition gave a clear orientation to the experience design process.

Second, the personas of the target consumers were elaborated to include demographic features and corresponding functional, emotional and spiritual needs. The selection of key personas went through a series of analyses, positioning, and operation planning. Notably, the process wasn't just human-centered or user-centered, but also brand-oriented and company-driven. Experience strategists worked to determine the fit between stakeholders and brand through multiple iterations. Moreover, the connection between users and brands was carefully designed through the relationship model developed by TANG (Huang and Lai 2020). The sustainability of the brand's relationship with users was also articulated.

Finally, the guiding experience principles and details of the four domains of experience were identified. The product and service domain should provide a sense of value; the behaviour domain a sense of ritual; the digital and physical environment domain should stimulate the five senses; the communication domain should have a compelling story. These four domains of experience collectively express the brand value proposition, contributing to brand loyalty for XGT (Figure 6).

The depth of the experience design was revolutionary for the tea industry. A nitrogen-sealed aluminum capsule provided a high-quality package ensuring freshness. Government-certified cultural heritage tea masters supervised the manufacturing processes. The personal stories of professional tea makers were broadcast at the Chinese New Year. The product line was introduced applying the relationship model. The internal design of the retail store created a modern, welcoming atmosphere for buyers. The display of tea capsules demonstrated a delicate and splendid shopping experience. The sales assistants within the retail store provided a journey of tea exploration and enjoyment. All these features incorporated the four domains of experience, unified the brand value proposition and generated a sense of connection between the target customers and the brand.

Framework of Experience Strategy

The experience design described above was simplified for improved understanding of the steps, but the actual development was far more detailed and required intense research and revision through the iteration process. The development of the experience strategy included positioning, planning, designing and implementing stages requiring an intensive collaboration with Xiao Guan Tea, resulting in the creation of the first modern brand of Chinese tea.

In summary, the success of Xiao Guan Tea reveals the crucial connection between people and value delivered through four domains of experience, contributing to the sustainability of the brand. A new generation of Chinese consumers expected a modernised tea experience, one that required a new brand that satisfied their needs through product and service, behaviour, digital and physical environment

as well as communication. The company identified this promising business opportunity and applied experience strategy to fulfill these needs, resulting in a renowned brand and remarkable revenues.

In the era of the experience economy, insights into this process illustrate the framework of experience design, one that connects brands to people via four domains of experience. This framework also illustrates the essential elements of experience strategy as a means of evaluating the effectiveness of its execution.

Deliver *What* to *Who* and *Why*

We further analysed the differences between delivering experience design projects and experience strategy projects in terms of the role of practitioners.

First, we needed to understand the inherent differences between the two types of projects. There are three core aspects that an agency or consultancy needs to define at the beginning of every project: *what* is being delivered to *who* and *why*? We can summarise the core differences between these projects through the following statements:

1. Deliver *design* to *product managers* for *implementation*.

2. Deliver *strategy* to *executives* for *decision making*.

The *what* of this matrix refers to the good which is deliverable to the client. Experience design projects focus on enhancing the user experience of digital products, services, physical environments, digital environments, communication channels, staff standard operating procedures, or any combination of the preceding. Strategy, on the other hand, is about defining a mid-term to long-term goal, prioritising a set of activities to pursue and establishing a means of measuring success that will provide unique value to the business.

The *who* here refers to the key stakeholder or decision maker on the side of the client. The key stakeholders of experience design projects are often product managers. They are responsible for delivering the project on time and within budget. However, they often don't have the authority to allow the design project to work outside the responsibilities of the stakeholder's department or organisational silo. The key stakeholders of experience strategy projects are higher ranking employees within the organisation, often at the executive level. They oversee the direction of their respective areas, determine the key business activities under their employ and ensure successful execution. They have the authority to reach across departments.

Finally, the *why* here refers to the purpose of the project's existence or being. The purpose of experience design projects lies in their implementation. As a result, the deliverables of design projects are detail-oriented and provide the necessary specifications that define "what to do" and "how to do it" for product managers to implement the design. The purpose of experience strategy projects is to facilitate decision making by the executives responsible for the project. It answers the question "Why should the business make this decision?" It provides the information necessary to make an informed decision on the future of the business.

In summary, the core nature of an experience design project is focused on delivering detailed design specifications to a product manager in the low- to mid-level of the organisational hierarchy for the business to implement a better experience for consumers. The core nature of an experience strategy project is focused on delivering a proposed direction for high-level executives to decide on the future of the business (Table 2).

The nature of the project determines *how* the methodology is used and the way the project is delivered. The following sections will compare and contrast the roles that design, research and communication play in design and strategy projects (Table 3).

Role of Design

What is design? According to Richard Buchannan, it is the "human power of conceiving, planning, and making products that serve human beings in the accomplishment of their individual and collective purposes" (Buchanan 2001). Similarly, John Heskett defined it as "the human capacity to shape and make our environments in ways to satisfy our needs and give meaning to our lives" (Heskett 2005). More broadly, Herbert Simon defined design as “courses of action aimed at changing existing situations into preferred ones” (Simon 1969). Often, the act of design is relegated to the making of products and environments. This is the case in experience design projects where the act of design is oriented around the production of tangible artifacts such as objects, apps, environments, communications, etc. These are concrete in nature. However, the value of design is not just in the making, it is also in the conceiving and planning.

In experience strategy projects, the act of design is focused on the development of structure. It is the creation of an argument that takes seemingly unrelated information to form a storyline that represents the logic of a business direction. It connects multiple ideas together to form a cohesive train of thought that leads to a decision. Compared to experience design projects, experience strategy is much more abstract in nature.

Role of Research

Research for both design and strategy projects focuses on the specific problem the project or business is facing. All information gathered is for the purpose of solving the problem at hand rather than applying theory to a general class of problems, developing an understanding of the general nature of design or the development of first principles. In the rush to deliver projects to clients, most of the research conducted is clinical (Friedman 2013).

Research for experience design projects is often used for developing inspiration for products, services, communications, environments and behaviours. The research generates ideas and opportunities, it evaluates these ideas in the form of prototypes, and it explores when these tangible artifacts are used in the real world (Sanders 2005). Case studies and existing knowledge are particularly useful as a starting point. Research can define benchmarks that are set as guideposts during the process of design.

Research in experience strategy projects revolves around the development of reasons. Rather than serve as inspiration for *what* and *how* something should be made, research for strategy projects serve as the arguments for *why* something should be done. It should help decision makers in their selection of preferred courses of action. Research in strategic work generates the information and ideas that form the storyline or logic of decisions. Because courses of action and decisions are linked to context, applicable case studies are limited in quantity. No two business contexts are exactly alike and thus finding a sufficiently similar case is extremely difficult.

Role of Communication

Communication plays an important role regardless of whether the deliverable is design or strategy oriented. There are two critical points in time for communications in both types of projects: the proposal and the final report. The proposal is

Table 2: Experience Design vs Experience Strategy: Deliver WHAT to WHO and WHY. *Source: authors.*

	Experience Design	Experience Strategy
Deliverable	Design	Strategy
Stakeholder	Product Manager	Executive
Purpose	Implementation	Decision Making

Table 3: Experience Design vs Experience Strategy: The Role of Design, Research, and Communications. *Source: authors.*

	Experience Design	Experience Strategy
Design	Making Artifiacts	Developing Strategic Structure
Research	Generating Inspiration	Developing Reasons
Communication	Methodology	Problem Distillation and Solutions

needed to persuade decision makers that you are the candidate best suited to carry out the project on behalf of the stakeholder. The report is used to persuade stakeholders that the deliverable satisfactorily meets the project objectives agreed upon during the proposal process. Though design and strategy projects both have a proposal and final report, it is the mindset and expectation of the stakeholder that determines the key differences in communications between product managers and executives.

For an experience design project, the product manager in charge is primarily concerned with successful implementation of a project on schedule and on budget. As a result, the logic of a design project proposal focuses on communicating that the consultancy is qualified, predictable and reliable in its ability to resolve a predefined problem and execute a desired solution. The contents of a design proposal often include a defined methodology, a projected process and a sample of prior related projects. The proposal can serve as an educational document to highlight some of the key tools that will be used, the key activities that will be performed and the key deliverables from the various stages of the engagement. Prior projects from well-known brands are used to serve as a form of endorsement and evidence of success.

At the end of the project, the product manager needs to make sure that everything the design consultancy promised has been executed and delivered. The design report at the end of a project reviews which tasks were performed and the predetermined deliverables. The report creates a connection between the summary of the tasks to the outcome of the designed deliverables. In addition, the product manager needs to ensure any hand-off of the final design from the consultancy to execution includes a detailed design with specifications needed for final implementation.

Executives, who are often the key stakeholders for experience strategy projects, are quite different compared to product managers of experience design projects. They are typically extremely busy and time is their most precious resource. Communications with executives need to be direct, concise, and drive to the heart of the matter. As a result, strategy proposals and reports are often in the form of an executive summary or may include an executive summary in front of the full proposal or report. While design project proposals and reports can be more than eighty slides/pages long, an executive summary should be no more than twenty slides/pages.

The primary purpose of executive summaries is to help facilitate strategic decisions. The proposal needs to include a clear articulation of the problem and a proposed solution. The content is communicated in the form of storylines to frame the narrative and help stakeholders understand the problems at hand and strategies used to resolve them.

The executive summary should be sufficient for them to understand the situation and make an informed decision. However, if the information presented in the executive summary is not sufficient in its argument, the stakeholder can choose to allocate more time to review the full document to make a decision (Table 4).

Conclusions

During TANG's fourteen year history, the value of design has shifted from a tactical orientation to a strategic one. This shift occurred as key stakeholders on the client side moved up the organisational hierarchy. As they moved up, so has the value of design. Experience design as a means of solving tactical problems helped brands deliver better experiences. Over time, however, design has evolved into a strategic endeavor that helps

Table 4: Experience Design Proposal vs Experience Strategy Proposal. *Source: authors.*

	Experience Design Proposal	Experience Strategy Proposal
Purpose	Help the company design artifacts	Facilitate the company in making strategic decisions
Contents	Methodology and Design Cases	Problem Distillation&Solutions
Roles & Responsibilities	Actively design on behalf of the company	Facilitate the understanding of problems and strategy through the use of frameworks
Time & Pages	LongTime / More than 80 Pages	Limited Time / 20 Pages
Primary Content	Design Cases	Storylines and Logic
Team Members	Project Manager, Researchers and Designers	Strategists and Researchers

Table 5: From Experience Design to Experience Strategy. *Source: authors.*

	Experience Design	Experience Strategy
WHAT	From Tangible	To Abstract
WHO	From Mid-Level	To Top-Level
HOW	From Methodology	To Results-Oriented

brands determine what to do and what not to do in order to achieve business objectives given time, resource and budgetary constraints.

That is because strategy is about prioritisation. It is not just about shifting time frames from short-term to long-term, but sacrificing short-term business activities to achieve long-term objectives.

The WHAT shifted from the tangible to the abstract. The WHO shifted from the product manager to the executive. The HOW shifted from a preoccupation with methodology to becoming more result-oriented. The shift from design to strategy, however, is not defined by such boundaries. Rather, it exists on a spectrum from design to strategy and projects have attributes of both in varying degrees (Table 5).

Ultimately, however, one of the greatest limiting factors in the value of design has less to do with the act and value of design and more to do with the word itself. Design is commonly associated with execution, not strategy. As a result, has traditionally been conceived of as being at most a mid-level business activity. Overcoming the preconceived notions of design and the misperceptions of executives often proved too much of an obstacle to overcome.

The shift in value did not just occur in design, it has also shifted from design to experiences. This was more than a shift in language, it was a shift in mindset. Design often communicates in the form of process, while the logic of experiences allows designers to communicate in the language of results. The shift in value of experiences from design to strategy is helping designers to evolve into strategists.

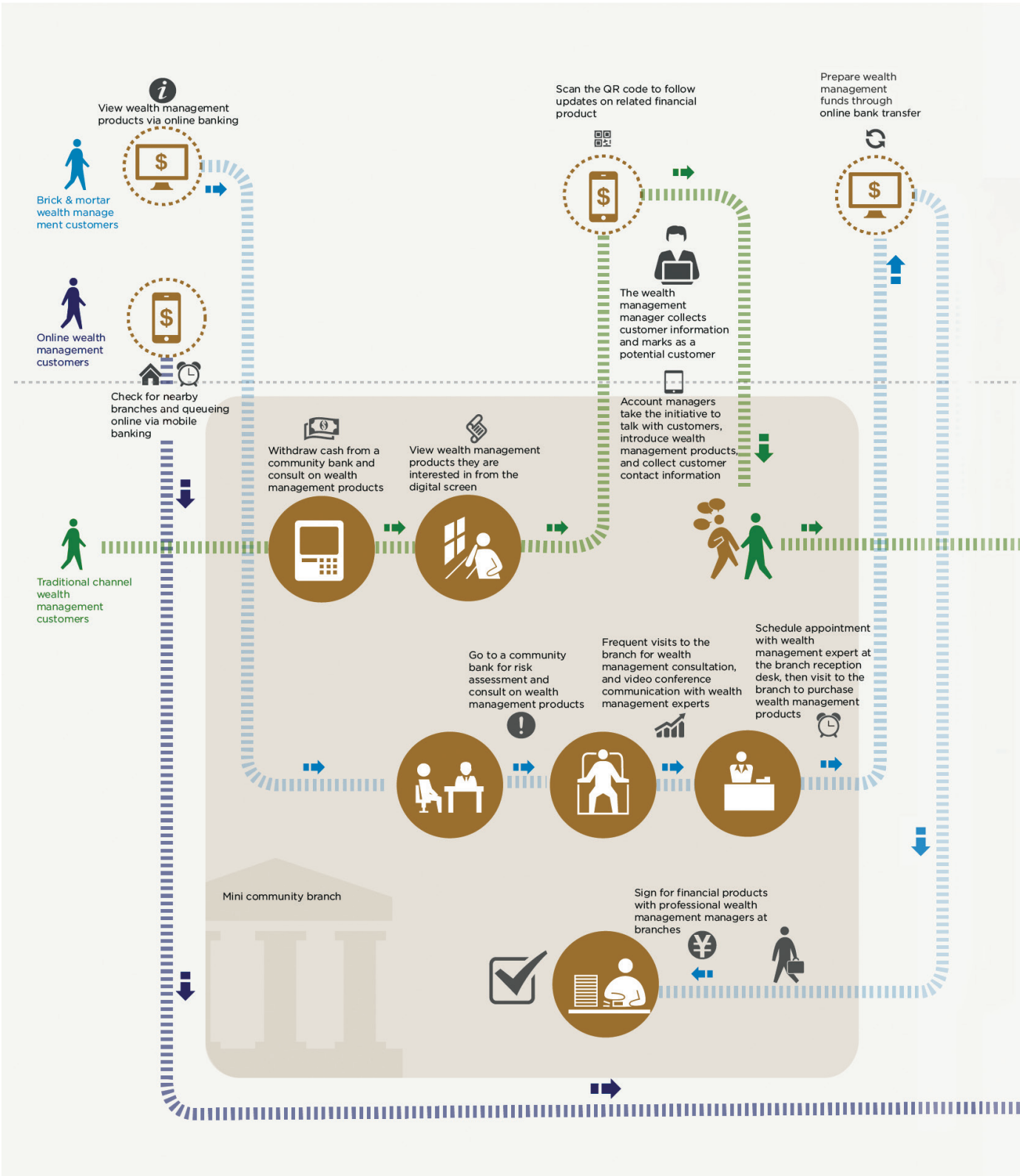
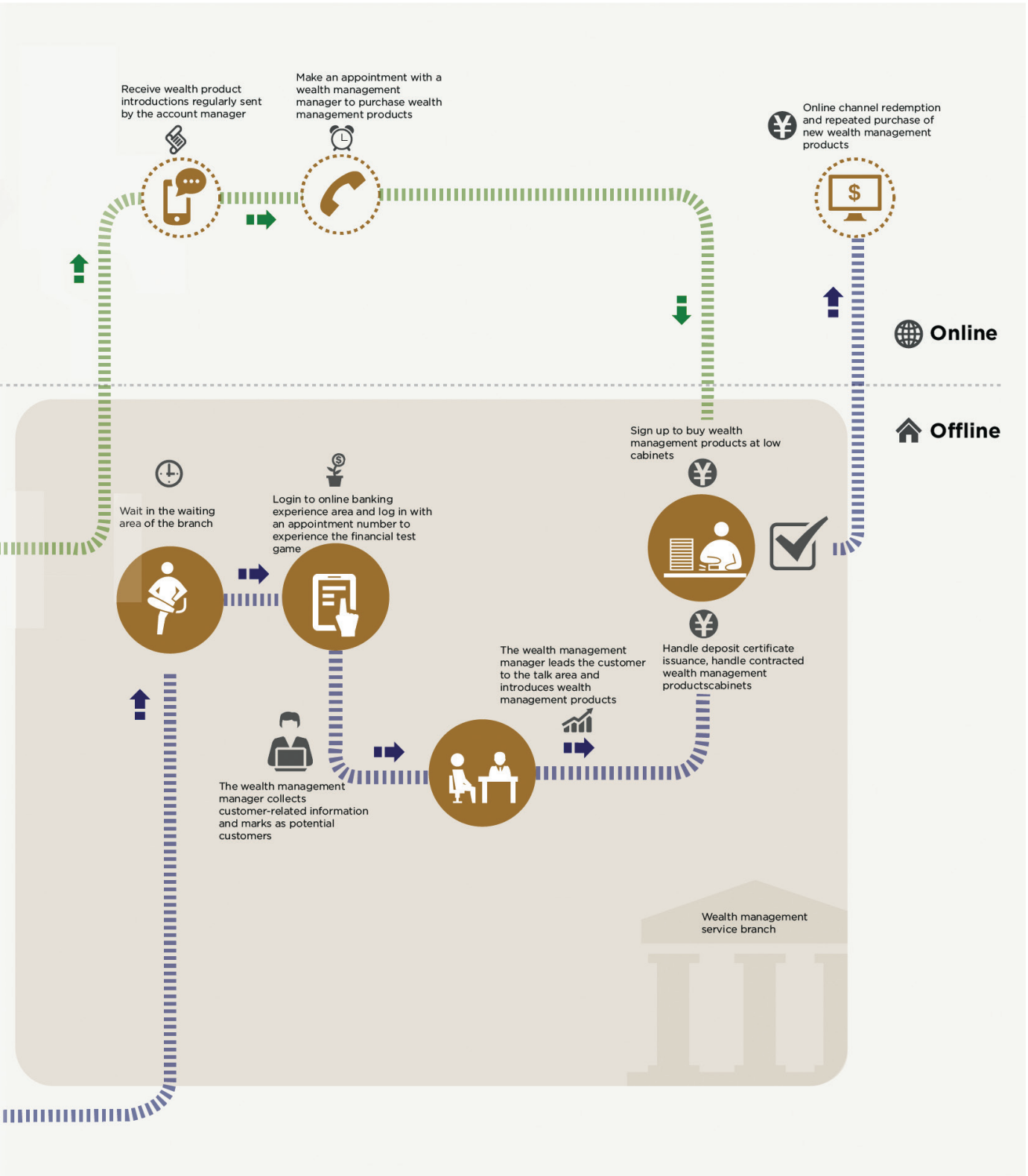


Figure 2. The customer journey design for China Merchants Bank in 2016. *Source: authors.*


Receive wealth product introductions regularly sent by the account manager
Make an appointment with a wealth management manager to purchase wealth management products
Online channel redemption and repeated purchase of new wealth management products
Online
Offline
Sign up to buy wealth management products at low cabinets
Wait in the waiting area of the branch
Login to online banking experience area and log in with an appointment number to experience the financial test game
The wealth management manager leads the customer to the talk area and introduces wealth management products
Handle deposit certificate issuance, handle contracted wealth management productscabinets
The wealth management manager collects customer-related information and marks as potential customers
Wealth management service branch

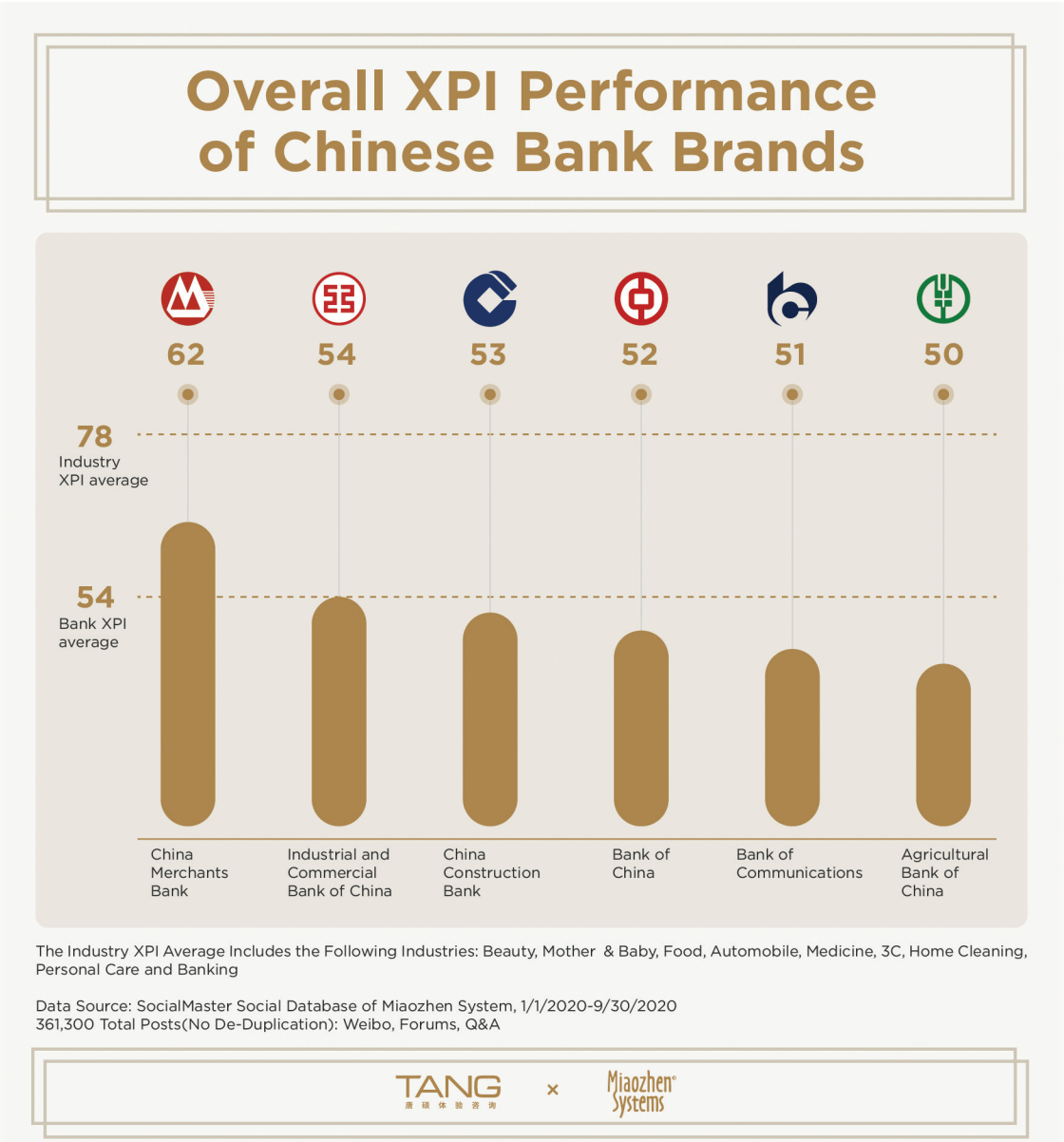


Figure 3. The XPI report for the banking industry in China in 2020. *Source: TANG.*

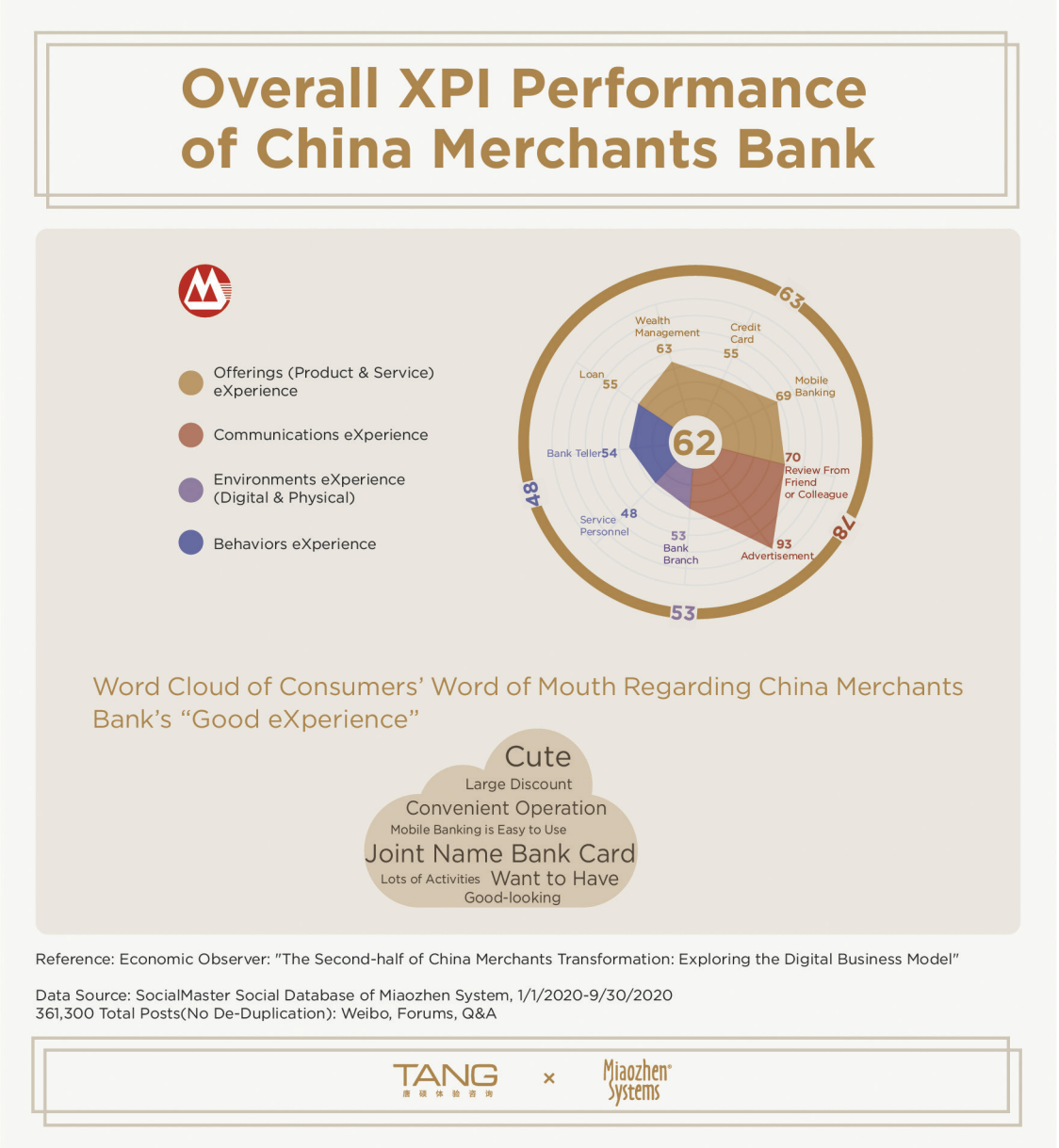


Figure 4. The detailed XPI report for China Merchants Bank in 2020. *Source: TANG.*

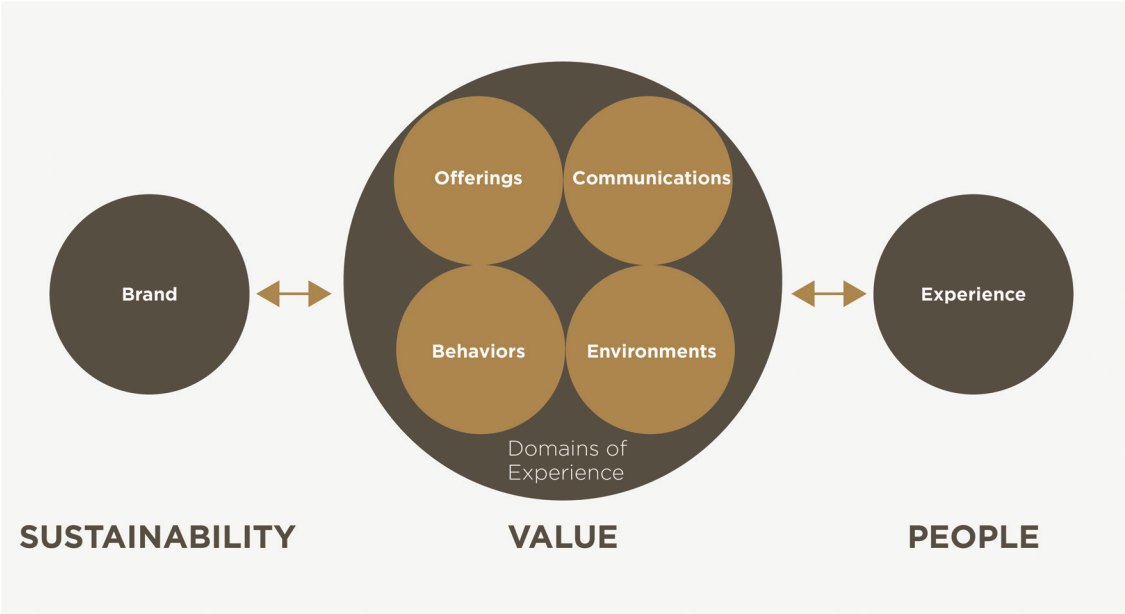


Figure 5: Framework of experience strategy.
Design: authors.

Figure 4. The four domains of experience applied to XGT.
Source: TANG.

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The Fifth Order of Design: The Value of Design in Times of Transition

Mariana Fonseca Braga

98–115

Failures in achieving sustainability are being recognised worldwide. Approaches to tackling sustainability challenges often fail to address the roots of these challenges. This paper contributes to a necessary discussion of an emerging necessity, a research agenda that encompasses the transformative strategic role and value of design in (co-)shaping sustainable and equitable futures. It draws attention to drivers of unsustainability and their complex interplay of design, environmental, economic, societal and individual values that govern our modern society. Richard Buchanan's four orders of design model is reviewed in the process, with a fifth order being suggested to deal with the change of paradigm that sustainability requires. This comprehensive view is critical to tgetting to grips with global challenges (United Nations Sustainable Development Goals) since the shift towards sustainability needs to address the root causes of systemic and interrelated problems that cannot be overcome by reactive marketing and technocratic approaches. Implications for design value, education, skills, and ways of designing are pointed out.

#ethical design

#sustainability

#equity

#design education

 # value

Unsustainability drivers: beyond a design perspective

Greenhouse gas (GHG) emissions are considered one of the main causes of climate change and they have increased 50-fold since the mid-1800s (Climate Watch 2018). Economists argue that GHG emissions are a side-effect of market failure and that

> *…most impacts are (still) not affecting those responsible for the emissions. Instead, these impacts fall on future generations and people in developing countries" (Bowen, Dietz, and Hicks 2012).*

This problem has been recognised since 'Our Common Future' (or the Brundtland report, WCED 1987) by the World Commission on Environment and Development (WCED), a report which also notes disparities in resource consumption:

> *Some consume the Earth's resources at a rate that would leave little for future generations. Others, many more in number, consume far too little and live with the prospect of hunger, squalor, disease, and early death. (WCED 1987, 28)*

From an economic perspective, this is justified by the lack of economic incentives for businesses and consumers to reduce their emissions. In this context, any commitment to sustainability relies on an ethical position. Hence, policy interventions are necessary to make a decrease in emissions economically attractive (Bowen, Dietz, and Hicks 2012).

Moreover, the deep interconnection between poverty and unsustainability is supported by the reasoning that disadvantaged communities tend to "destroy their immediate environment in order to survive" (WCED 1987, 28). Instead of 'destroy', the word 'sell' is more appropriate considering that those who create the bases for these destructive systems, leveraging them for economic gain often escape culpability often escaping culpability and are not mentioned in reports such as these.

Donella Meadows, Jorgen Randers, and Dennis Meadows (2021) demonstrate that early policy interventions are critical to introducing fundamental changes towards sustainability, contributing to humanity's long-term future. They point out that 'the business-as-usual scenario' will only lead us to global collapse, including a shortage of food and health services around 2030. The authors also highlight the need for a societal shift to reach sustainability, explaining that

> *… technology and markets are unlikely to prevent overshoot and collapse" because "society's implicit goals are to exploit nature, enrich the elites, and ignore the long term, then society will develop technologies and markets that destroy the environment, widen the gap between rich and poor, and optimize for short-term gain. (Meadows, Randers, and Meadows, n.d., 5).*

Therefore, there is the need (1) for a widespread change in consciousness among our societies, with the abandonment of worldviews connected to exponential industrial and economic growth that drive unsustainability (Meadows, Randers, and Meadows, n.d.) and (2) the co-creation of responsible worldviews for sustainable and equitable futures by incorporating feedback (Meadows 1994).

Design and (un)sustainability in the four orders of design

Richard Buchanan defines design as "… the human power of conceiving, planning, and making products that serve human beings in the accomplishment of their individual and collective purposes" (Buchanan 2001, 9). The category 'products' in this definition refers to tangible and visible information (e.g., words, images and physical artefacts) as well as services, experiences, interactions and the integration of all these into environments or human systems that shape our way of "living, working, playing and learning" (Buchanan

2001, 12). He further explains that although systems cannot be experienced (as people can only experience their personal pathway through a system), people's lives are strongly influenced by those. This design definition synthesises the evolvement of design knowledge and education in the twentieth century into what Buchanan refers to as the four orders of design (Figure. 1). Each order is a place for (re)discovery (Buchanan 2001).

Design has responded to sustainability challenges in different places of (re)discovery. In industrial design, the ecodesign approach brought attention to diverse methods for designing and manufacturing products considering all the product life cycle in the early stages of product design, such as Design for Manufacture and Assembly (Boothroyd, Dewhurst, and Knight 2002), and for reducing materials employed in products.

However, the result of consumption or the discarding of post-consumer products is only the 'tip of the iceberg', because "the product itself contains on average only 5 per cent of the raw materials" involved in manufacturing and delivering it (McDonough and Braungart 2002) and the obsolescence of products by design accelerates consumption cycles making the reduction of materials irrelevant (Luttropp and Lagerstedt 2006; Karlsson and Luttropp 2006; Petrina 2000). Hence, ecodesign approaches in isolation were proven to be insufficient. Thus, the idea that design and production must be rethought, eliminating the concept of garbage (Dogan and Walker 2003; Dijkema, Reuter, and Verhoef 2000) underpinned the rise of such ideas as circular economy and industrial ecology in the 2000s (Dogan and Walker 2003; Dijkema, Reuter, and Verhoef 2000), calling for a change towards a systemic and holistic view on the part of designers and design, marking a transition in focus from things to human systems.

In the 2000s, global consumption was still considered very high and unequal. "Twenty per cent of the world population consumed about eighty per cent of the world's resources" (Manzini 2007; Tukker et al. 2008). Therefore, the design discourse emphasised the demand side of sustainability issues, arguing the need to understand the sociological nature of sustainability problems regarding culture production and consumption and to break the untenable cycle of wastefulness perpetuated by Western cultures (Petrina 2000). The implications for design expanded into interaction and environmental design, including the need for:

1. A change in the concept of well-being and quality of life disassociated from the idea of consumption along with a behavioural change (Manzini 2007; Tukker et al. 2008) and,

2. Radical innovations in the development of new products and ideas as required (Manzini 2007; Sherwin and Bhamra 1999; Tukker et al. 2008).

Despite these advancements in design for sustainability research, there was little change in design practices for sustainability. Industrial design is criticised due to its reckless impacts on the environment and society. In the preface of *Design For The Real World*, Victor Papanek (Papanek 1972) alerted us to the pitfalls of design in the context of mass production:

> *There are professions more harmful than industrial design. But only a very few of them. And possibly only one profession is phonier. Advertising design, in persuading people to buy things they don't need, with money they don't have, in order to impress others who don't care, is probably the phoniest field in existence today… And skills needed in these activities are carefully taught to young people… (Papanek 1972, ix)*

Other problems include exploitation at work with the payment of low wages for an excessive number of hours worked. For example, about 65 hours

per week, including the use of child and female labour, and the relocation of industries motivated by the cheapness of the workforce (Jeswiet and Hauschild 2005; Petrina 2000; Walker and Dorsa 2001) found usually in "least- and less-advanced" countries. These are still common practices. The example of inequality in the distribution of monetary value throughout the value chain is provided by Stephen Petrina who breaks down the price of one pair of Nike sneakers[1] sold for $100.00 as follows, see figure 2 (Petrina 2000, 223).

In this context, design contributes to creating brand and product values that are not fairly distributed throughout the value chain, attesting to the insidious nature of the accumulation of capital and the extent to which design can be regarded as an unethical practice .

The designer must not merely try to adapt to cover incompatible proposals, pitting industrial capital against vision of sustainability, but "must acquire new skills" by exploring experimental pathways, harnessing local resources and traditional knowledge (Walker 2002). Transition Design also reinforces the importance of place-based knowledges, including indigenous knowledges, design skills and experimental approaches that may continuously evolve to "design within uncertainty, ambiguity, chaos and contradiction" and to address the complexity of systems (Irwin, Kossoff, and Tonkinwise 2015, 7). Beyond skills, ethics is a critical factor as Victor Papanek highlights:

> *… when everything must be planned and designed, design has become the most powerful tool with which man shapes his tools and environments (and, by extension, society and himself). This demands high social and moral responsibility from the designer. (Papanek 1972, ix-x)*

Ethics is the main incentive to embrace sustainability according to economists (Bowen, Dietz, and Hicks 2012) and a necessary value for sustainability that requieres social change towards equity (see Meadows, Randers, and Meadows, n.d.; WCED 1987). Since the 1970s (Papanek 1972) designers have been warned about their unethical practices that contribute to “unsustainable ways of being and doing things” (Manzini 2015, 3) and the importance of ethics connected to ways of *being* (our values, beliefs, principles, and meanings) that form the basis for our reasonings and practices has also been emphasised (Ehrenfeld 2019; Walker 2014; Irwin, Kossoff, and Tonkinwise 2015; Willis 2006). However, the education and capabilities of designers have not advanced enough to tackle complex social challenges (see Manzini 2015) and incorporate ethics into their practices in a more robust fashion. Therefore, there is the need to bring empathy into human ways of being, putting "caring about others and the world[2] as a basic value for change" (Ehrenfeld 2019). Nonetheless, intersectionality issues are still not fully addressed in design education, practice, and research. Particularly, the idea of race and its implications have been overlooked even in people-centred design (design thinking) and only recently has critical thinking aimed at transforming design practices and research begun to emerge.

In this matter, Sylvia Wynter's work provides a compelling critique of modern thought, especially on the ethical implications of the European colonial project, clarifying racial difference as a human signifier that informs the idea of humanity itself through coloniality and its associated principles and values. Modern thought posits and designates "Man"[3], the product of modern philosophical and scientific projects, as the human being. Statements of the human are based on dualisms derived from the religious ethics of Scholastic thought and the civic ethics of modern thought, that divide the world into “Grace” and the “geographies outside Grace”[4], pure and impure, European and non-European, the coloniser and the colonised, rational and irrational[5], naturally selected and naturally de-selected by evolution, the human and the inhuman (Ferreira

da Silva 2015, 90-94; see also Ansfield 2015). These secularised tenets of the natural and rational man inform the development of sciences and of juridical, political, societal and economic architectures, power relations and principles (see Ferreira da Silva 2015). Those subjected to colonial power and domination occupy the "space of otherness", "outside Grace", they are disavowed through the deployment of institutional accounts that continue to influence 'human' systems and their power relations.

Initiatives towards an education in Art and Design that can contribute to tackling these complex social challenges by decolonising design education, knowledge and profession are starting to emerge (see table 1 for examples).

It is worth noticing that beyond admitting and hiring black, indigenous and people of colour (BIPOC), the question is how to retain and integrate diverse backgrounds and cultures, creating structures which enable their value to be recognised instead of erased, to fit in historical *privilege boxes*. The disadvantages that BIPOC need to overcome require privileged groups to recognise and to be conscious of their own privileges beforehand.

Table 1: Examples of decolonisation initiatives in design.

Initiatives	Examples
Creation of new courses.	Transdisciplinary Design MFA at Parsons
Change in or creation of design curriculum.	Programme framework of the School of Design at Carnegie-Mellon University (as of June 14, 2021 on the Carnegie Mellon Design's website). 'Race' and Space new curriculum in the UCL Faculty of the Built Environment at The Bartlett (Zewolde et al. 2020). OCAD University design curriculum (Tunstall 2018). Film Studies MA at Lancaster University (as of June 14, 2021 on the LU's website).
Report.	Sofia Ackel's report on decolonising Lancaster University (Ackel 2018)
Communities, tools, and projects dedicated to diversity and decolonisation of design knowledge and education.	DRS Pluriversal Design SIG (as of June 14, 2021 on the Design Research Society's website). Critical Alphabet (Noel 2021). Future Education and Literacy for Designers (FUEL4Design 2020).
Industry initiatives	Diversity in Design (DID) collaborative (Keh 2021)
Implementation of policies that enable to hire minority groups in academia.	See OCAD University (2018).

Neoliberalisation, design and (un)sustainability

Inequalities are being exacerbated worldwide while institutional mechanisms keep communities marginalised and in poverty, a fact which has been observed by economists (Acemoglu and Robinson 2012; Chetty 2021; Sen 1999). Social mobility and peoples' capabilities are usually hampered in these circumstances. What becomes clear is that the principles of neoliberal economics have proven themselves to be unsustainable, effective maintaining the privilege of a few groups. Tenents of capitalism (production, accumulation of capital and competition as they operate) cannot coexist with sustainability.

Design corroborates changes in neoliberal economics throughout history, a process illustrated by Guy Julier (Julier 2017). With progressive deregulations in global trade and the privatisation of state industries and services (e.g., Reaganomics in the USA and Thatcherism in the UK), design works as a response to *global competition*. In the New Economy (the 1990s), design becomes a *core company competence* with 'faster, better and cheaper' practices based on (1) the evolvement of digital information technology networks that changed the structuring of supply chains (e.g., Amazon.com, eBay.com), (2) the possibility of focusing on organisations' core capabilities *through design*, innovation, and brand building, (3) the exploitation of Eastern Europe manufacturing and service bases that provided cheaper labour and material costs.

In the 1990s and 2000s, financialisation was intensified with the rise of shareholder value within corporate governance, *the rise in profit through financial* rather than commodity production systems and the rise of financial trading. Tangible and intangible assets are in continuous exchange. In financialisation, "design contributes to value creation and is used strategically to differentiate and provide protection on assets through law" (e.g. licensing out of designs for others) (Julier 2017), thereby contributing to "the competitive advantage of organisations and accumulation of capital".

In the 2007-8 global financial crisis and economic recession, governments struggle to decrease their deficit and encourage the private sector by cutting their own spending (Julier 2017). There is the emergence of "social design" programmes for collective benefit within two streams: the development of cheaper and more user-focused services in regional and national governments, as well as the strengthening of politicised activist design practices which propose alternative economic and social frameworks to confront the regime of austerity (Julier 2017).

Within the context of neoliberalism, design contributes to unsustainability when it plays a part in the obsolescence of products (Luttropp and Lagerstedt 2006; Karlsson and Luttropp 2006; Petrina 2000) and in the exploitation of workers (Jeswiet and Hauschild 2005; Petrina 2000; Walker and Dorsa 2001) when under the commercial pressure to maximize competitive advantage and profit. These also contribute to perpetuating unsustainable consumption, waste and poverty. The latter is considered cause and effect of unsustainability (WCED 1987). On the other hand, the austerity regime reinforces the social role of design,which becomes a resource for policy making and social innovation with the plummet in public budget.

Although social design and innovation have the potential to enhance the public good, structural inequalities impact people's *beings* and their potential deployment (see Sen 1999). Consequently, policies play a crucial role in enabling political freedoms, economic facilities, social opportunities, transparency guarantees and protective security that can create conditions for people to act and bring about change (Sen 1999).

Creative and innovative answers and economies are necessary not only to respond to our local and global complex challenges but to proactively promote change, rethinking, reflecting, envisioning, strategizing and acting upon sustainable futures[6]. This requires a shift in current worldviews to adopt sustainable forms of growth and *purposes* that can "be accommodated by the sources and sinks of the earth" and address the root causes of inequity (Meadows, Randers, and Meadows, n.d., 16).

The value of design

Design which was initially concerned with the tangible world of products and communication has expanded its scope of work into services, and its influence into matters of organisational strategy, competencies, and attitudes (Boland and Collopy 2004; Borja de Mozota and Valade-Amland 2020; Buchanan 2015; Brown 2009; Michlewski 2008; Zurlo 2019). In the process, it has become an important asset to bring about change and innovation (Borja de Mozota 2006; D'Ippolito, Miozzo, and Consoli 2014; Heskett 2016; Junginger 2008).

In the public sector, experimental design approaches and practices have gained attention due to their ability to tackle complex challenges in uncertain environments, navigating ambiguity. This is important,for instance, when the circumstances require creative solutions instead of pre-set answers provided through conventional policy-making processes (see Junginger 2014). In doing so, the value of design for private and public organisations relies on its capabilities, approaches, methods and processes rather than on its outputs (Borja de Mozota 2011; Borja de Mozota and Valade-Amland 2020; Julier 2017).

These transitions reflect on the growth of design specialisations (see Julier 2017) and on the need to incorporate design capabilities into *different worlds* (e.g., citizens, policy makers, civil servants, and other professional cultures) (Bason 2014; Boland and Collopy 2004; Julier 2017; Junginger 2014; Manzini 2015, 2019; Mortati et al. 2016).

The synthesis of an interdisciplinary literature review on qualitative and quantitative dimensions of the value of design in the fields of economics, marketing, business, management and design is illustrated in figure. 3.

This is not a static framework as new dimensions can emerge, as well as quantitative and qualitative approaches can be found regarding the same variable depending on the methodology used to understand and 'measure' value and performance. Moreover, despite the categorization of key stakeholders from users to society, the benefits identified can influence diverse categories.

Research on the value of design is still failing to address the transformative role of design, especially at a societal level. Furthermore, although the value of design and its potential have been justified and explored in diverse fields, there is still confusion and lack of evidence on the value that design can create at different levels and 'layers' (as per the four orders of design, particularly at the systemic level).

This is partially justified by the fact that successful design does not happen in isolation, a phenomenon which has not escaped the notice of design management studies. It is integrated with other organisational and external conditions and capabilities (Gorb and Dumas 1987; Fonseca Braga and Zurlo 2018; Pilditch 1990; Westcott et al. 2013; Zurlo 2019). Hence, it is difficult to precisely distinguish the design contribution from other variables that may also impact a firm's performance (Chiva and Alegre 2009; Gemser and Leenders 2001; Roy and Riedel 1997). The strategic adoption of design is related to organisational culture aspects rather than economic reasonings, and design deployment is seen as a matter of choice at the micro-level (Fon-

seca Braga 2017). However, at the macro-level (e.g., political and socio-economic systems) the value of design remains obscure and hotly debated (see Bason 2014; Julier 2017; Mortati et al. 2016).

The fifth order of design: Ethical design

> *The story we tell about modernity (our current social paradigm) is leading us astray. We are living within institutions based on flawed beliefs and norms… The persistence of these ideas can be attributed to the strongly conservative nature of societal reproduction, and the lack of any serious intellectual revolt in the West. (Ehrenfeld 2019, 107)*

After an era of human-centred design which emphasised empathy as the main principle and capability of designers in contrast to the mainstream of Western design, it is now, more than ever, necessary to recognise that this discourse and its related practices are insufficient to address unsustainability and inequity issues. Besides, people are not users, consumers, customers, or clients of the planet.

Richard Buchanan proposes the four orders of design that show the places for design discovery in the 20th century. These design orders have been often dominated by human-centred perspectives, especially that of design thinking[7], with a few exceptions such as design-driven innovation[8], product-service systems, beyond human-centred design[9], design futures[10]. Furthermore,

> *Western design approaches and methods often neglect the "space of Otherness"[11] and all other ways of "conceiving, planning and making", thinking, articulating, learning and creating knowledges that evade and exceed Western political, societal, juridical, scientific and economic paradigms. (Buchanan 2001)*

Under these Western paradigms, 'human beings' legitimise the domination and exploitation of the Earth, nature and even of other human beings and their systems. However, these conceptions are "leading us astray" (Ehrenfeld 2019, 107).

This model needs to be reviewed considering the transformative role of design in light of the need to address unsustainability and its interconnected issues of inequity in the twenty-first century, taking into account of:

1. The political, social, and economic institutions that govern peoples' and, thus, organisations' lives and which can limit the deployment of human capabilities (see Sen 1999).

2. The need to change the values of modern Western society (Manzini 2015; Meadows, Randers, and Meadows, n.d.; Papanek 1972).

3. The foundations of power relations amongst *human beings* (see Ferreira da Silva 2015; Ansfield 2015).

4. The need to reconnect humans to conditions that determine all life (beyond human lives) to thrive on the planet Earth (Ehrenfeld 2019).

Therefore, design education, ways of thinking and working need to be rethought in accordance with a strong commitment to:

1. Influencing institutional arrangements[12] that determine people's socio-economic conditions (see Acemoglu and Robinson 2012; Chetty 2021; Sen 1999).[13]

2. Reconnecting people, place, and planet (see Ehrenfeld 2019).

3. Decolonising design: empathising with and/or being open to different ways of being and living, especially cultures that successfully live in harmony and connection with nature's times and scales[14] and learning from them (Irwin, Kossoff, and Tonkinwise 2015; Walker 2002).

4. Rethinking and repositioning value creation and distribution by design at different levels (individual, organisational, and societal). The contribution of design is still questioned at the societal level, and the idea of race is customarily neglected in design fields, only recently receiving proper attention (see table 1).

5. Expanding the *products* of design and hence, of organisations and systems. New systems, ways of being and thinking may be learnt from other life experiences and cultures neglected in design. These are still to be discovered as it is not possible to anticipate neglected and disavowed worldviews, their purposes, values and concepts.

In the fifth order, we find design fields that require trans-, inter-, and multidisciplinary collaboration and traverse different orders and have the potential to drive change in the fifth order, such as:

1. Biomimicry (with particular attention to Earth's and nature's time, scales, and systems),

2. design activism (e.g., through social and entrepreneurial initiatives such as *slow* and *km 0* movements),

3. design futures (forecasting impacts considering spaces that human activities and systems do not take into account), and

4. participatory design (Sanoff 2008) and co-design (Sanders and Stappers 2008) initiatives which traverse different orders and have the potential to drive change in the fifth order.

Although policy design has been bridging the gap between policy planning and implementation of conventional policy making (see for instance Junginger 2014), bringing different stakeholder groups (including citizens) together in preliminary stages of policy development, there are still several challenges in influencing institutional mechanisms and bringing equity to infrastructures of juridical, political, societal, and economic governance that have their foundations in modern philosophical and scientific projects (see Ferreira da Silva (2015) for these foundations and their implications). Figure 4 synthesizes the concept of the fifth order of design

Implications of and research agenda for the fifth order

Ethics must lead all design orders. The notion of humanity still needs to be refigured (see Ferreira da Silva 2015) to liberate and value other ways of "conceiving, making, and planning", thinking, knowing, learning, visioning, living and *being* that can provide meaningful alternatives to design values and strategies disconnected from the accumulation of capital, exploitation of vulnerable communities and ultimately the institutional and societal values that perpetuate unsustainability and inequity.

In the fifth order, design education and practice need to integrate other knowledges and to have critical thinking and ethics at their core to be transformational and play a role in preparing designers for the challenges of the twenty-first century . These are the premises upon which we can begin (re-)discovering, reflecting on, envisioning and experimenting with design values and strategies that encompass people(s), place(s) and planet(s)

in building sustainable and equitable futures. The ramifications of this are illustrated below.

It is misleading to assume that designers and privileged groups can empathise with neglected or disavowed lived experiences when they have neither been in those places nor have they been educated to recognise and oppose privilege. Therefore, empathy is crucial when possible and genuine. What if everyone could be educated from an early age to be empathic? In the meantime, rather than taking empathy for granted, how can design education contribute to forming designers who are able to (1) actively listen to others, (2) recognise privilege and its harmful impacts, (3) advocate and care for others and about the world?

It is necessary to talk about inequity, diversity and about care for the world in a way that contributes to reflection and to a responsible and respectful *design of the world*. A *dialogic design pedagogy based on mutual learning* (Freire 1970) - rather than top-down teaching that patronises - is key in moving towards equity, social justice and sustainability through design education. The practice of envisioning as a *way of sharing* visions (see Meadows 1994) is a promising way of building upon dialogical educational practices that can unlock different worldviews (and so unimaginable *products* of design may emerge in this openness to *otherness*, unknown worlds and their purposes), stimulating reflection that can inform the building of responsible and respectful *worlds* and values by incorporating ideas and feedback[15] from others.

Designers do not need more tools for *designing a better world* - these will certainly evolve through situated, contextual, dialogical, responsible and respectful education and practices. Designers need to change their values and incorporate critical thinking and envisioning, as well as other forms of "conceiving, planning and making"[16]. Designers are very well-equipped to envision, especially the long-term vision that is required for sustainable worlds[17] and to the co-design of this vision. Can envisioning and co-design skills be utilised to bring reflection, the fostering of plurality (Escobar 2018), equity and sustainability values to design education? Which design capabilities, knowledge, methods and practices can bring the lived experience of diverse peoples to the design of a better world and to new ways of designing?

Undoubtedly, this change of paradigm in modern society requires not only effort on the part of design and designersand a change in values on a broader scale to be transformational but calls for inter-, trans- and multi-disciplinary knowledge, coherenceand collaboration as well as multi-stakeholder involvement and commitment to tackling these complex challenges that require deep institutional and decision-making changes at local and global levels to support a proactive change towards sustainable and equitable futures. So, design education needs to address the (in)ability of designers to work with trans-, inter- and multidisciplinary teams. Designers need to be able to actively listen, clearly communicate with people(s) beyond designers' circles (utilising accessible language) and collaborate with diverse stakeholder groups, including but not limited to experts from other fields and sciences, communities of practice, policy makers, civil servants, citizens, entrepreneurs, neglected peoples and cultures in order to (co-)design caring, respectful and responsible worldviews.

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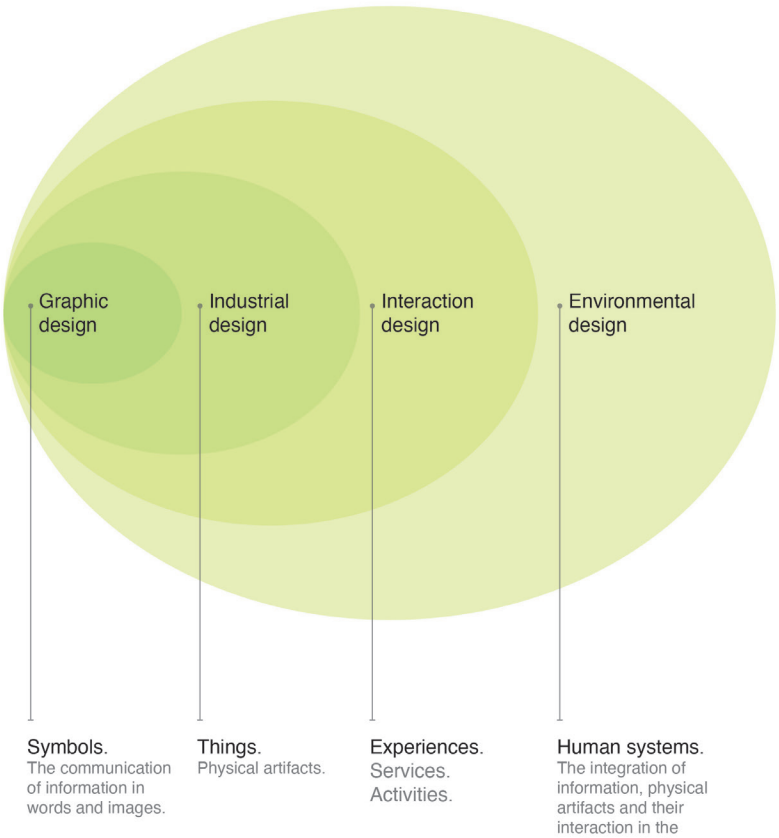

Figure 1: Four Orders of Design. *Source: Adapted from Richard Buchanan (Buchanan 2001, 12).*

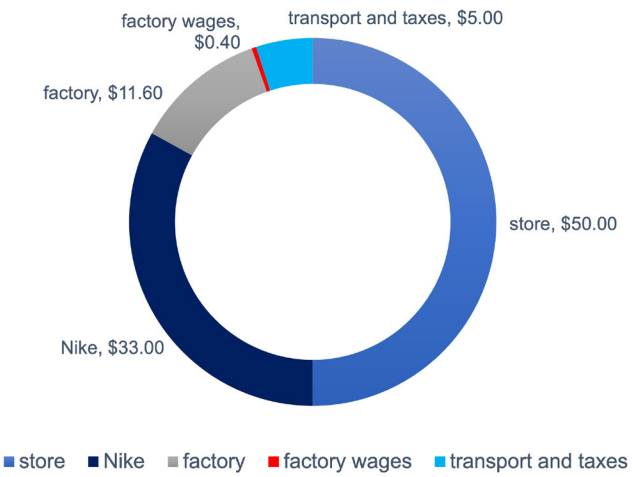

Figure 2: The breakdown costs of a pair of Nike sneakers.
Source: Adapted from Stephen Petrina (Petrina 2000, 223).

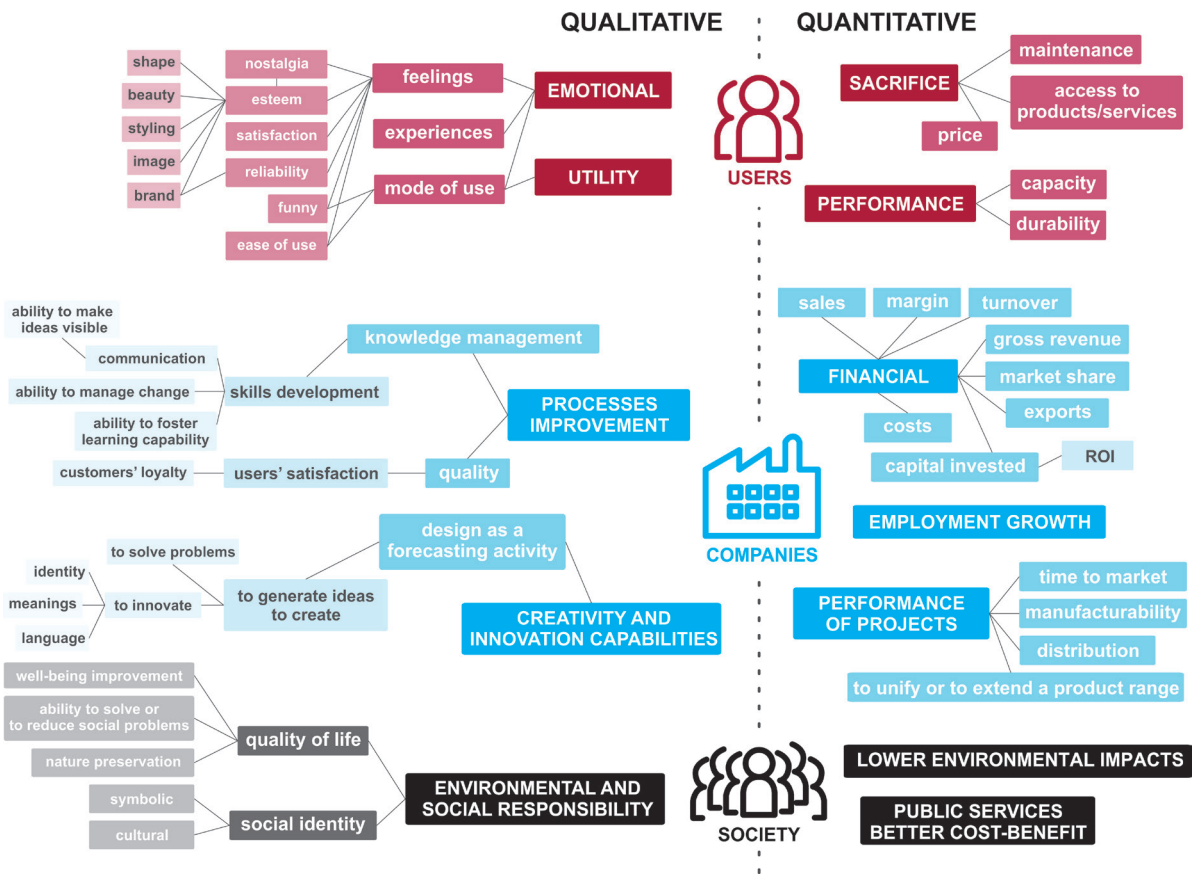

Figure 3: Qualitative and quantitative dimensions of design value. *Source: Adapted from Mariana Fonseca Braga (Fonseca Braga, 2016, 1874).*

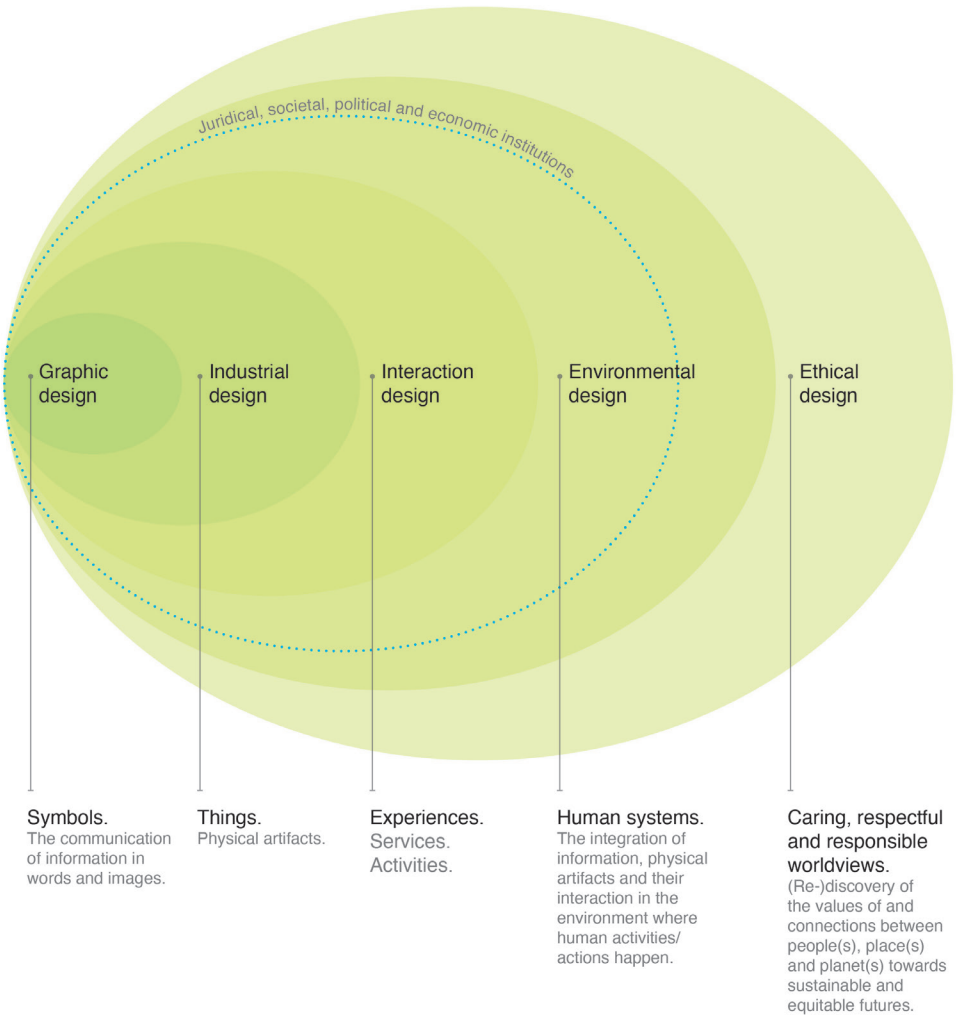

Figure 4: The fifth order of design: Ethical design. A review of Richard Buchanan's (Buchanan 2001, 2015) four orders of design. *Source: author.*

Notes

1. The sneakers last on average less than a year, ending in a landfill (Petrina 2000).

2. John Ehrenfeld redefines sustainability as the conditions for all forms of life to flourish and achieve their potential "on the planet for generations to come" (Ehrenfeld 2019, 106-107).

3. See also Bench Ansfield on the concept of the feudal European men, the "we" of Western European, Christian, heterosexual, aristocratic (and soon bourgeois) men" that creates "racialized human classificatory models in the production and meaning of self / other" (Ansfield 2015, 124).

4. Referring to the secularisation of Judeo-Christian narrative that divides the earth into Jerusalem-centred and "outside this Grace", territories which are expected to be uninhabitable.

5. Related to "the ideological shift away from medieval Christian man and the shift toward secularized rational man as the inhabitants of the Americas, those residing in what was formerly considered to be "outside Grace," were rendered irrational" and are disavowed (Ferreira da Silva 2015, 94).

6. See Meadows 1994 for the importance of envisioning as a way of building responsible worldviews by sharing visions.

7. e.g., Brown 2008.

8. e.g., Verganti 2008.

9. e.g., Cruickshank and Trivedi 2017.

10. e.g., speculative design and design fiction (Dunne and Raby 2013; Sterling 2009).

11. See Ferreira da Silva (2015, 91, 94, 98).

12. e.g., policies, rules, and social norms.

13. See Meadows, Randers, and Meadows (n.d.) for the relevance of sustainability policies, as well as Ferreira da Silva (2015) and Ansfield (2015) for the foundations of institutions and their relations to structural inequalities.

14. e.g. indigenous peoples' ones and traditional local knowledge.

15. See Irwin, Kossoff, and Tonkinwise (2015) for the posture and mindset of designers that may raise new ways of designing.

16. See Willis (2006) and Irwin, Kossoff, and Tonkinwise (2015) for the influence of designers' values, and Noel (2021) for incorporating critical thinking into design education.

17. See Meadows (1994) about the crucial role of long-term 'envisioning' and Meadows, Randers, and Meadows (n.d.) for the importance of considering long-term benefits and costs.

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Bio

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ABSTRACT:

Meditation-inspired Visioning: An Experiential Method to Envision the Future

Rike Neuhoff

116–119

As humans we are urged to imagine and realise radically different, more desirable, and most importantly more sustainable futures (Hulme 2020; Pereira et al. 2019). However, the dominance of dystopian scenarios of irreversible environmental and social collapse, along with business-as-usual scenarios, hinder progress and contribute to a gap in futures literature relating to imagining desirable visions for humanity and how to reach them (Bennett et al. 2016; Rana et al. 2020). In this short paper, I share an experiential, meditation-inspired visioning exercise that can aid in enhancing people's capacity to envision desirable and motivational futures.

#design

#futures thinking

#visions

#meditation

While there exist various persuasive tools, such as scenarios or backcasting, to aid organisations in exploring and reacting to probable futures (van der Duin 2016), there are relatively fewer methods that focus on supporting individuals in imagining and creating *desirable* futures (Wiek & Iwaniec 2014). An increasing number of sustainability researchers, therefore, highlight the need for visioning exercises to enable individuals to think beyond dominant narratives and develop inspiring and creative visions that generate futures literacy, change value systems, and motivate people to alter their behavior in the present so as to reach that vision (Bennett et al., 2016; Pereira et al. 2019; Rana et al. 2020; Wiek & Iwaniec 2014).

A number of studies provide evidence for the positive effects of meditation on increased self-awareness, creativity and divergent thinking (e.g. Colzato et al. 2012; Ding et al. 2014), which suggests the relevance of meditation and its possible uses in facilitating the exploration of personal desires for the future, opening vistas of experience beyond the customary and the already-given.

To demonstrate this, I conducted a series of experiments , employing an integrated design and futures thinking approach. In these experiments, I have designed a meditation-inspired visioning exercise using breath, sound and storytelling (figure 1) to guide participants (students) into an immersive space for imagination that allowed ideas, thoughts, sensations and emotions to arise and be observed (Colzato et al. 2012). In this exercise, I implored the participants to immerse themselves in and surrender themselves to a speculative reverie:

> *I'd like you to take a last deep breath in 2021, slowly prepare yourself to take all the energy that you can to catapult yourself behind the boundaries of 2021 and to land in this beautiful world of 2050 …*
>
> *Colzato et al. 2012*

The participants were invited to simply observe and acknowledge whatever surfaced in their minds. After travelling back to the present, the participants took the time to write down and visualise their visions before sharing them within their group (figure 2). The exercise was used at the beginning of a workshop aimed at developing desirable visions of the future and ideas for policy interventions that could support the transition towards these visions.

The value of the exercise was revealed in follow-up interviews, in which the participants reflected on how the exercise projected them beyond their own immediate space, time, and modes of thinking, into one in which they were surprised by a vivid vision of something previously invisible. For instance,

> *[T]he world in a sense opened up. The gaps were filled in. Like you can see more details of this fictional world through this exercise."; "It made me feel like the world that we were thinking about became more complete"; "I'm usually a very pessimistic person (…) but then all these images of self-sustainability and smaller, you know, communities and solidarity (…) came up.*

The impact of meditation on design and futures thinking practices is largely unexplored. Nevertheless, I hope that these findings can inspire other practitioners to experiment with meditation-inspired approaches to broaden our understanding of how to support individuals to think beyond commonly told narratives and imagine radically different and more desirable futures, thereby creating the seedbeds for sustainable change.

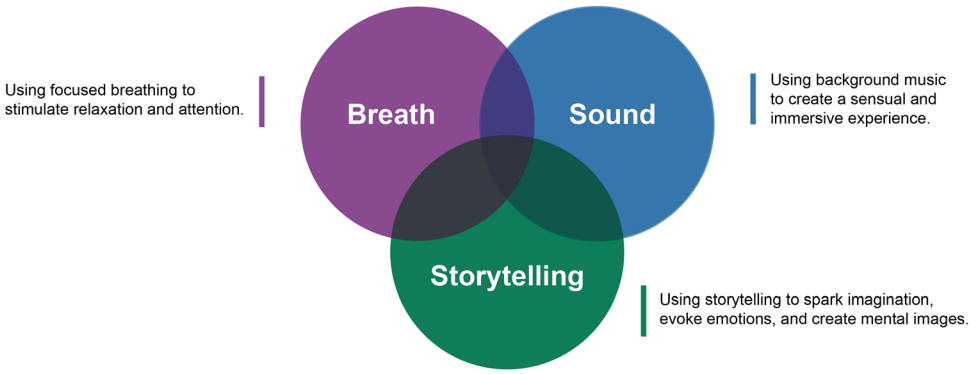

Figure 1. Meditation-inspired visioning exercise employing breath, sound, and storytelling. *Source: author.*

Nobody "works" because they have to but everyone receives a universal basic income, which allows them to focus on what really interests them, for example studying. Places of education are informal, where courses can be taken at will, with no academic pressure/certifications/grades required or mandated. The community becomes more connected to and respectful of nature, seeing it as a vital resource for themselves and the world.

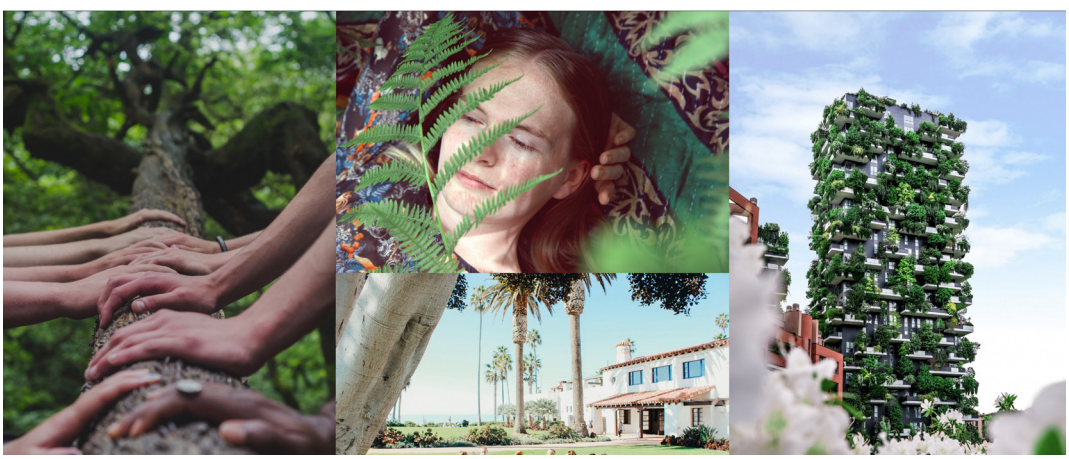

Figure 2. Participant's description and visualisation of a vision as experienced during the exercise. *Source: author.*

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Bio

Rike Neuhoff is a PhD student at Aalborg University in Denmark. Her research explores how participatory design approaches can be combined with futuring approaches to support a democratic transformation towards circular cities.

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