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DESIGN STRATEGY AND NEW SCENARIOS

Virginia Borges Kistmann

Abstract

The present article discusses design management and methodologies in the context of contemporary scenarios that are characterised by volatility, uncertainty, complexity and ambiguity, or VUCA. Based on the literature, it considers design activity from a managerial perspective, as well as encompassing its processes and problem-solving activities. Furthermore, the text extends the discussion to encompass the notion of design in relation to so-called 'wicked problems' in complex systems. In conclusion, the article explores the potential for articulating these themes. The findings of the study suggest that values play a pivotal role in the preservation of identity, and that design activity is a concomitant factor in this process. This is alongside intuitive thinking when it comes to defining strategies. It demonstrates the significance of methodologies that facilitate the integration of processes and, consequently, the utilisation of novel technologies. It is finally posited that conducting in-depth research on the subject is imperative.

Keywords

VUCA scenario, design management, design methods, wicked problems, design thinking.

INTRODUCTION

This article makes a theoretical contribution to design strategies in response to changing scenarios, focusing on design management and methodology. These currently new scenarios are represented by the acronym VUCA, where volatility, uncertainty, complexity and ambiguity are present. This context shows the need for new ways of thinking about design strategies, since prescriptive and structured methods are still widely used in design management and projects and it raises the issue that this article aims to address.

The term 'strategy' originated in the military and was later adopted by administrators and designers. It refers generically to the way in which objectives can be achieved. Sun Tzu's famous work, The Art of War (TZU, 2025), remains widely read to this day.

In the 1980s, concepts originally attributed to Sun Tzu became popular and inspired several authors, particularly in the field of administration, where they became associated with the term 'management'. From its Greek military origin, the term 'strategy' can be defined as a plan or method of action designed to achieve specific objectives or results in a company. In a figurative sense, it can also be synonymous with skill, cunning or cleverness, which can be related to design expertise.

Through a strategic action, design involves positioning a company in a market. In order to achieve this, it is necessary to create a scenario that will guide the company in the short or long term. This ultimately aids the definition of product development policy and provides feedback on the entire process. Consequently, there is a constant search for strategies that enable differentiation in the market.

Therefore, a future situation is the target of both design and strategy. In this way, design is constituted by manifestations that can be plans, projects or working hypotheses, towards the construction of a new synthetic reality (BUCHANAN, 1992).

Thus, this text begins by examining the use of strategy in a set of academic works in this field. It considers design activity from a managerial point of view, as much as in terms of projects, processes and problem solving. The approach consists of a discussion of the themes of design and strategy, exploring the connections between them. The present work also explores methodologies that exhibit enhanced speed and adaptability to novel scenarios. It does so by presenting a range of design actions that address the unstable scenarios confronting us. In this context, designers are individuals or groups who create plans to achieve specific goals.

Furthermore, the text explores how companies need to have a strategic intent and plan to achieve their long-term goals, while facing markets as a complex system in design management. So, it discusses the possibilities of articulating these strategies, particularly in the context of short-term strategies such as 'design thinking' and 'strategic design'. And it examines how this has happened since the beginning of the 20th century, with a non-intentional design strategy. And finally, supported by the articulation between these aspects, considers design in complex systems, drawing on Buchanan's concepts.

The study is presented in three topics: design management as strategy; design strategy and methods; wicked problems and design strategy; and final considerations.

DESIGN MANAGEMENT AS A STRATEGY

Design becomes more effective within organisations when it permeates all actions and becomes a core competence[1]. By doing so, design contributes to the company's strategic actions by establishing new internal relationships and achieving results in supply systems. In this case, a transversal, interdisciplinary, design-related approach is necessary, known as 'design management' (MOZOTA, 2003 ; WOLF, 1994). Design management provides a new perspective on how to structure a company's existing potential and offers new types of innovation-focused resources.

The design management process is a complex approach that seeks to systematise design activity by formalising companies' internal processes through administration. This requires dialogue to be promoted between designers and project stakeholders to facilitate organisational integration and to consider internal and external perspectives.

It is important to note, however, that strategies are necessary at each of its levels to achieve the desired outcomes. At the strategic level, for instance, the objectives of the design in relation to the company's general behaviour and strategic intent must be defined. The aim at the tactical level is to develop strategies that align design with various business sectors, thereby increasing synergy and facilitating processes such as production, marketing, and professional qualification. At the operational level, design strategies are defined in

[1] Core competence is defined as a value and differentiates it and which is reflected in its competitive position.

detail. At this level, design strategies are thoroughly researched to find solutions to identified problems.

But a retrospective analysis of the historical context reveals that at the close of the 19th century, William Morris and his associates established the British Arts and Crafts movement, a paradigm of strategic foresight. Drawing upon the vision of John Ruskin, a critic of industrial capitalist society, William Morris, also a socialist, sought to create a world in which crafts and art were integrated.

This idea gave rise to the company, which from 1875 adopted the name Morris and Co, and enjoyed worldwide success, with its products being offered in a variety of ways and still being sold today (PARRY, 1996).

It could be argued that this strategy was unsystematic, or even innate. Nevertheless, Morris and his group had a strategic intention for the company linked to a mission, a vision and established values for what they considered to be the role of design. The range of considerations was extensive, incorporating the production method adopted and environmental issues concerning respect for nature. The latter aspect is characterised as an action focused on interior design and architecture. The designs were distinguished by the incorporation of floral, botanical and zoological elements, as exemplified by the accompanying figure.

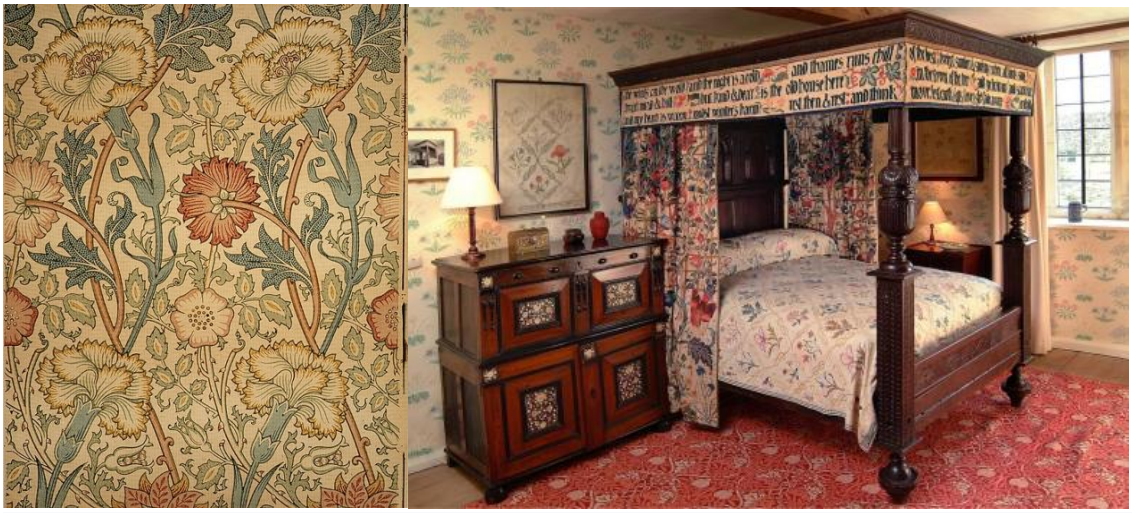

Figure 1. Pattern for wallpaper designed by William Morris (1834-1896) and room decoration with Morris and Co. products.

Source:https://www.metmuseum.org/art/collection/search/337071; https://blogs.bl.uk/business/2021/03/design-for-a-better-life.html.

Consequently, the company's strategy was predicated on a worldview, replete with values and a mission to be fulfilled. In a similar fashion, the company's products translated into an aesthetic approach that associated art, in the sense of beauty, and artisanal production. This constitutes a strategy in terms of both process and result, becoming a core competence.

This example suggests that design actions, and consequently their strategies, may not have been systematically conceived or systematically programmed based on a clearly defined strategy. It can thus be posited that design can be both unsystematic and unintentional. But, from the 1950s onwards, studies relating design to competitive performance intensified in response to threats to products in international competition during the post-war period.

New industrial arrangements arose during this time, increasing competitiveness between companies in different countries in a capitalist context. Consequently, design management emerged as a

shift towards administrative aspects. At the International Design Conference in Aspen in 1951, for instance, the central theme was 'Design as a Management Function' (DMI, 2025).

Initially, Farr (1953 ; 1966) and Archer (1965 ; 1974) focused on the functional aspects of design. It was considered imperative to initiate an investigation into the requirements for a new product, to define the time and budget for its development, to establish the briefing and to deliver it to the designer and/or design team and other related specialists, and to create and manage a clear communications network. In order to achieve this objective, it is imperative that all the actors involved are engaged in the new product development process. In addition, the function of designers with regard to project coordination throughout the production line, packaging and accompanying communication material was pertinent.

This affected how companies behaved, leading to an expansion of corporate vision through the adoption of design policies aimed at improving customer experience and increasing competitiveness in the market. The Italian company Olivetti, for example, used design to strengthen its brand, adopting a strategic approach that led to its success in the 1970s. This strategic approach is evident in the poster that the company developed. As well as presenting the product itself, the poster shows how the product can be used, its formal details, and how it fits with the company's image in the design of the name and the letters on the keys. It thus demonstrates the desired future of a corporate design strategy.

Figure 2. Poster by Olivetti presenting the Valentinne typewriter designed by Ettore Sottsass.

Source :https://designdobom.com.br/2020/05/icones-do-design-a-maquina-de-escrever-valentine/

Still in the 1970s, the Design Management Institute was established in the USA. The DMI is responsible for the Design Management Journal and the Design Management Review, both of which are still in publication today (DMI, 2025). However, the field of design management expanded in subsequent years. After a lull in the 1980s, the 1990s saw design management emerge as distinct field, with contributions from authors in England, France, Germany and the United States. There was a tendency towards maintenance in the 2000s, but it was still mainly European and American authors.

From the 2010s onwards, an increase in the number of publications was noticed, also indicating an expansion to authors from Asia and

South America. Nevertheless, recently, publications on design management have expanded less[2].

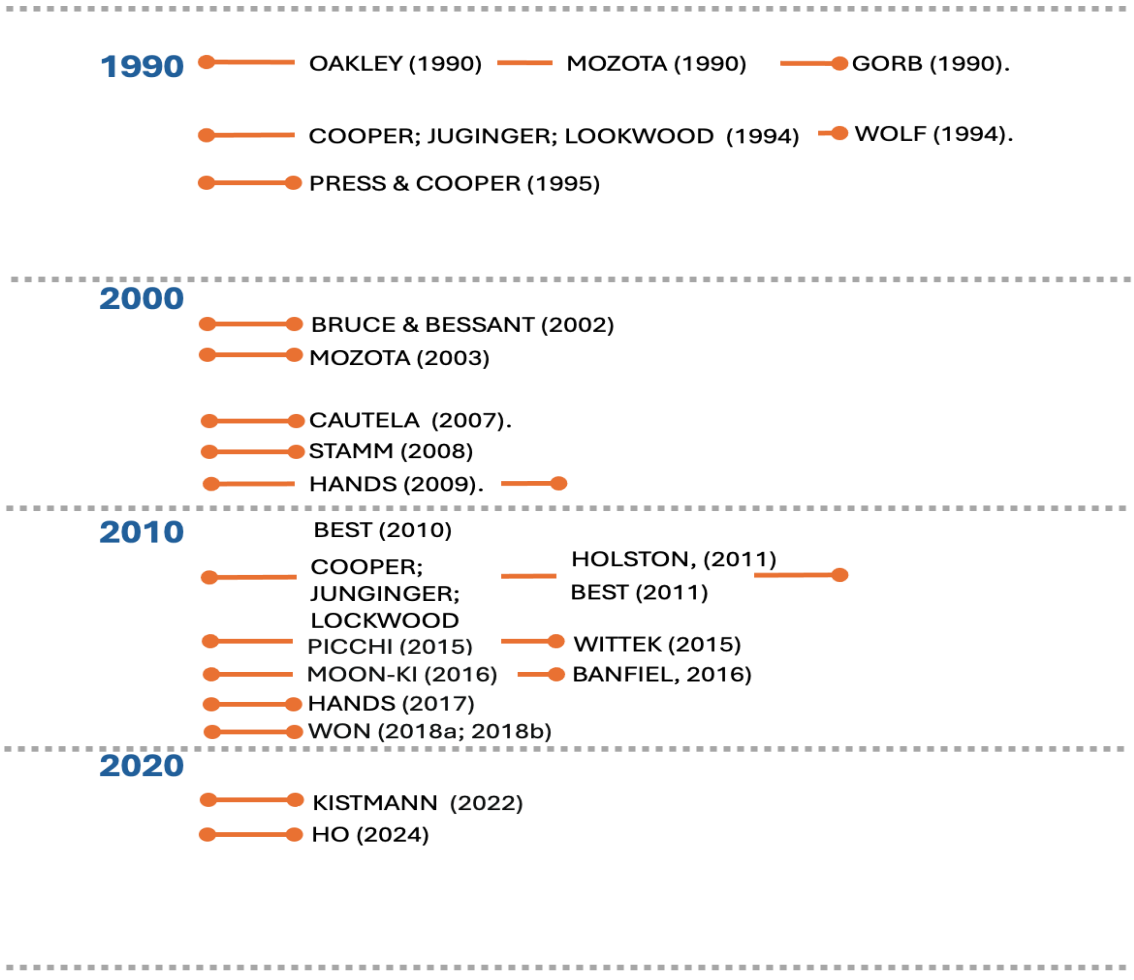

Figure 3. Design management literature between 1990s and 2020s. Source: The author.

These publications relate design to the field of management, integrating design into organisational structures and emphasising its importance for company success. They are based on traditional administration, where management is largely about control.

Recent management studies still emphasise the importance of managerial aspects, albeit with new context. In this sense, the

[2] It is important to note that the study considered a range of publications predominantly in English, and it is possible that many others may exist in other languages and may not be accessible.

prescriptive approach to design management based on traditional business schools is criticised. The argument is that today's society is too complex, volatile, uncertain and ambiguous to allow for programmed, systematic and linear action.

In contrast, start-ups have been shown to offer a means of experimentation with greater autonomy, with the potential for unexpected outcomes, while concomitantly accelerating the design process (JONES, 1970). The term 'start-ups' is used to denote either small companies that focus on market niches, or companies that are established predominantly within larger corporations and which are exploring new market niches. The objectives of some initiatives are rooted in lifestyle, whereas others are oriented towards achieving social impact. The outcomes of these processes are rapid growth and high profitability. It can be seen as a response to the new challenges we are currently living, however, in certain instances, they can also have a negative impact on sustainability.

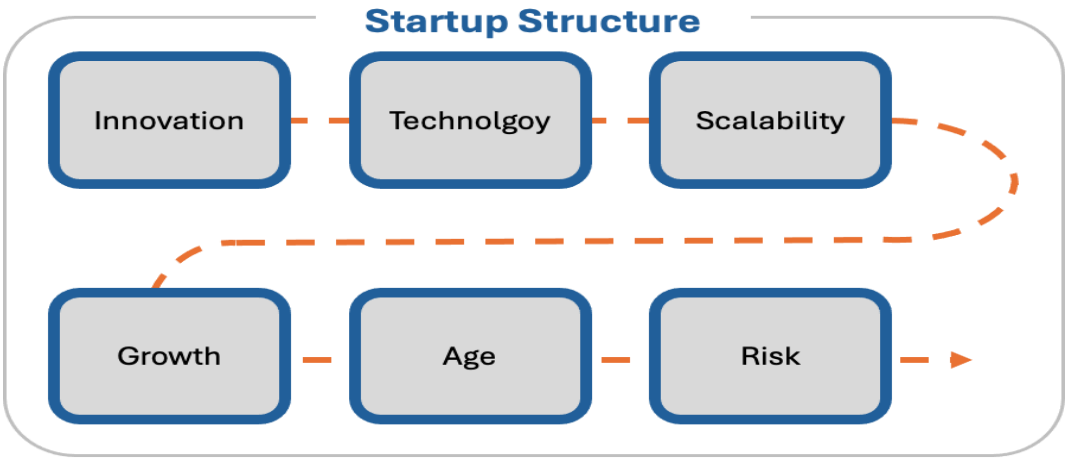

Figure 4. Startup structure.

Source : The author

From another perspective, Hamel (2012) redefines strategic planning, requiring a new management approach. Strategic planning must now

be carried out in an increasingly open and participatory way. From his point of view, it can be said that design should be managed through collaborative activities, both internally and externally.

DESIGN AND PROJECT STRATEGIES

The process of envisioning the future of organisations involves formulating strategies generally associated with how organisations position themselves in the market also in the short term. Traditionally, the initiation of a problem-solving process, is characterised by intentionality and systematicity, that results in the deliberate and methodical interference with the organisational strategy in its entirety. This interference is achieved through the adoption of specific strategies aimed at the realisation of predetermined objectives.

It can be posited that, in principle, the processes of planning, executing manoeuvres and devising strategies are inherently human activities. In our quotidian lives, we engage in the formulation of strategies that are directed towards the resolution of problems. Regarding the concept of design, this activity is considered as being intrinsic to its practice and it is an irrefutable fact that every design activity is inextricably linked to a particular problem, the resolution of which is imperative for the successful completion of the activity (BERNSEN, 1989). While the problem calls for an analytical approach, the solution necessitates a synthetic approach.

It is evident that the problem and its solution can be observed in a multitude of design methodologies, particularly within a linear structure. The primary objective of such methodologies is to facilitate the process in a logical manner. These include the provision of feedback and the management of demands that designers encounter

in professional practice when dealing with situations involving deadlines and costs. In this sense, its aim is to identify the best solution to a given problem. Absent such a systematic approach, the solution may prove ineffective and potentially incur financial or temporal losses.

From the 1960s onwards, several design methodologies emerged with the aim of ensuring greater security in the results produced by designers, reducing the time required to find solutions and, consequently, lowering the costs of production. This aspect has been explored by authors such as Archer, Jones, Bonsiepe, Baxter and Bürdek, between others.

These methodologies adopted a Cartesian principle, structuring the system into subsystems and directing the process in a network that expanded and concentrated until the final solution was achieved. It is widely acknowledged that such structures generally comprise seven distinct stages, namely: the initial briefing, problem analysis, research, concept development, prototyping, testing and implementation.

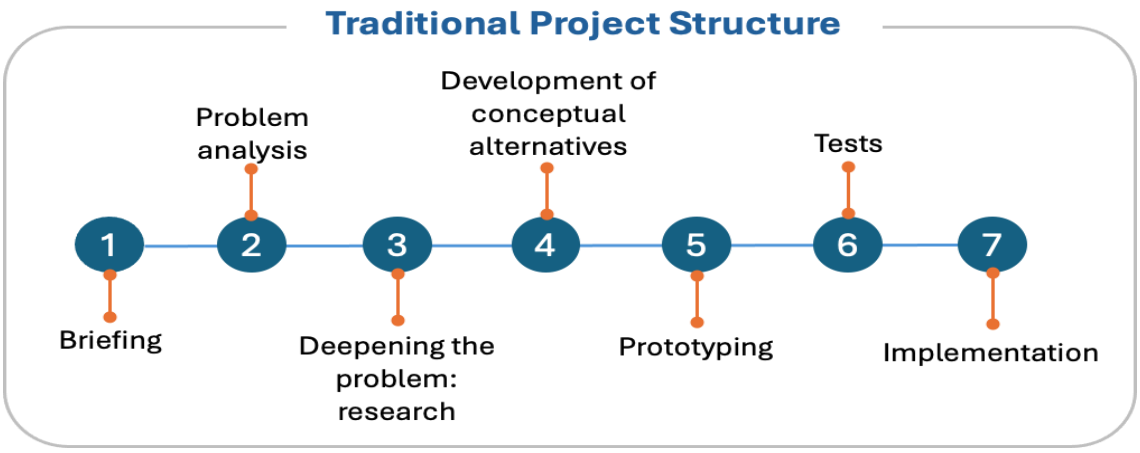

Figure 5. Traditional project structure.

Source : The author.

In the course of time, methodologies founded upon ergonomic studies have come to the fore. Subsequent to this, issues concerning user participation have gained increased prominence, and their experience has been considered central to the search for optimal solutions. These were complemented by methodologies that employ prototypes as a means of accelerating the design process, with the objective of identifying solutions that align more closely with consumer preferences.

More recently we found the designation 'design thinking' among them. This was named and adopted by the company Ideo, denoting a design approach that includes several stakeholders. The term 'design thinking' is linked to a concept developed by Richard Buchanan (1992). He published the article Wicked Problems in Design Thinking, in which he advocated for a novel approach, "design thinking", predicated on integrative disciplines, as opposed to specialised ones. For him, the prospect of generating knowledge that transcended the realms of literature, and the laboratory was contingent upon the presence of disciplines that seamlessly integrated knowledge, communication and action (BUCHANAN, 1992). This approach had a significant impact on the organisational structure of the highly successful company, IDEO (2025).

Since the 1990s, the concept has been expanded, explored and disseminated using integrative thinking from various disciplines as well as the use of an expansion and contraction aspect (BROWN, 2009; AMBROSE & HARRIS, 2011). Following this, with the expansion of the use of 'design thinking', the British Design Council proposed a graphic representation to explain how its structure operates. This graphic

representation is called the Double Diamond (DESIGN COUNCIL, 2025).

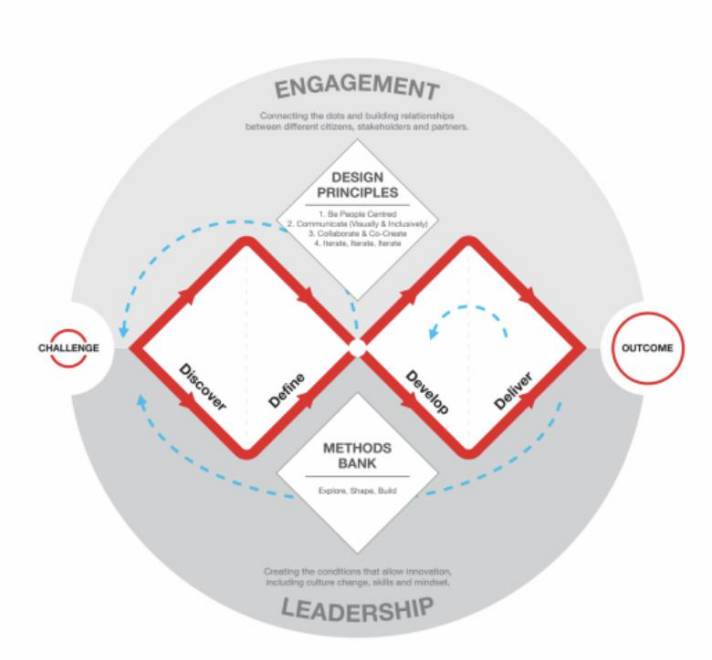

Figure 6. Double Diamond.

Source: Design Council, 2025.

In 2011, in a manner close to Buchanan's propositions, Best (2011) explores the potential of 'design thinking' as a catalyst for innovation and transformation. Her work delves into the significance of design in this context, emphasising its role in facilitating innovation and change processes. The analysis further explores the integration of 'design thinking' with strategic considerations, offering a comprehensive exploration of its application in both innovation and change management scenarios.

The integration of 'design thinking' into various disciplines, including business administration, has led to its notable growth and evolution. It has emerged as a prevalent tool within numerous corporate entities. In a similar manner, the term 'strategic design' is utilised in numerous publications addressing issues related to innovation through design.

The "design thinking" is therefore predicated on a process that expands in the discovery and development stages and is synthesised in the definition and discharge stages. Its present approach incorporates feedback loops through principles and method banks, as well as engagement and leadership. This vision aligns, to a certain extent, with the design process as a recurrent cycle of expansion and contraction, or exploration and synthesis like in Jones (1970).

The concept developed by Buchanan had also a significant impact on the so called 'metadesign' and 'strategic design'[3], terms that was later coined to describe a novel approach to the methodology of design, with the emphasis placed on the creation of new meanings for future scenarios. Buchanan emphasises the importance of creating new discourses, specially from its 'four orders of design', where creation of new environments can be created.

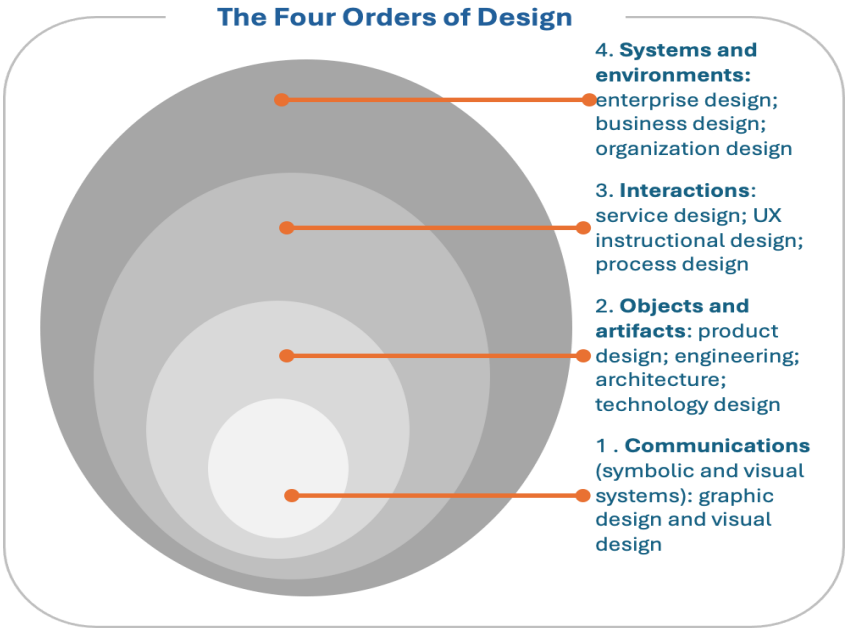

Figure 7. The four orders of design accordingly to Buchanan's.

Source : The author, based on Buchanan.

[3] ***The assertion that design is not strategic is arguably erroneous, given its inherent strategic dimension.***

In line with this, researchers at the Politecnico di Milano demonstrated a particular relationship between systems that integrate products, services and communication strategies. These systems are based on a network of actors who generate and develop value, creating new scenarios. (ZURLO, 2007 in CAUTELA, 2007 ; MANZINI, 2014 ; POLIMI, 2021). Best (2011) also highlighted how 'strategic design' is imperative at the operational level, to facilitate the establishment of new businesses, new service systems and new applications.

It is also possible to establish a link with Buchanan's (1992) work and more integrated approach, namely product/service system design. The original focus of product/service system design on environmental strategy was expanded in response to the growth of Information and Communication Technology - ICT. Consequently, the concept has become increasingly prevalent in various commercial contexts, particularly in the domain of online shopping.

In addition, the concept of 'design-driven innovation' has emerged as a significant factor in augmenting the role of design in innovation (NORMAN & VERGANTI, 2012). In this case, the definition of problems is problematic, new meanings and metaphors are being sought, and the emphasis on technological advancement is being inverted, as meaning-driven innovation (Fig. 8). Verganti (2012) nevertheless also underscores the significance of a network of stakeholders and interpreters in enhancing a company's capacity for innovation. In response to the prevailing circumstances, the field of design evolved, leading to the emergence of a new paradigm known as meaning-driven design (NORMAN & VERGANTI, 2012). The meanings of products are strengthened by overlapping, in some cases, technological innovations and often financial effects.

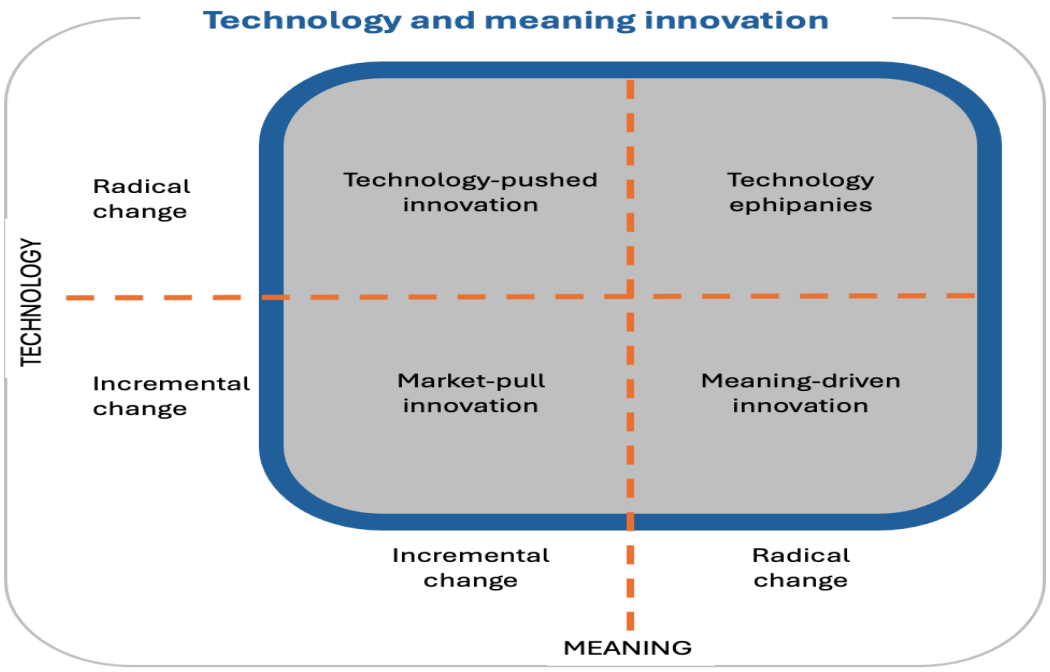

Figure 8. Relationships that can be established between technology and meaning in design.
Source : The author, based on Norman & Verganti.

The relationship that is established between technology and meaning can be radical in nature, to the extent that its extreme adopts. Nevertheless, it can also be regarded as radical in terms of meaning, even when it is based on incremental technological innovation.

Similarly, the term 'strategic design' defines a process for creating strategies where the designer assumes the roles of interpreter, guide and materializer of novel organisational structures. It is evident that the design in question has a significant role to play in the realm of innovation. By facilitating the delineation of processes and the actualisation of their application in products and services, it serves to further the development of novel concepts, as evidenced by the pioneering contributions of designers (ALVARADO, 2014).

All these approaches are aligned with what Buchanan (1992; 2016; 2019) calls 'places of invention' and the creation of new discourses.

The defining characteristic of this phenomenon is the commonality exhibited by the various manifestations in terms of their cognitive approach to problem-solving. Consequently, it assumes a pivotal role in the realm of innovation, as its modus operandi facilitates the formulation of novel inquiries, the identification of hitherto unexplored constraints, and the repurposing of extant discourses.

WICKED PROBLEMS AND NEW SCENARIOS

The examination of Cartesian thought by philosophical discourse commenced in the middle of the 20th century. In 1968, Feyerabend (1968) contested the 'The discourse of method' from Descartes (1637) approach to scientific thinking.

In design, this criticism was expressed specially from 1950 onwards, a period which witnessed the emergence of a critical approach within the domain of Postmodern design.

Figure 9. Postmodern furniture from different designers organized under the name Memphis.

Source : https://commons.wikimedia.org/wiki/File:Memphis-Milano_Design_Collection.jpg

Postmodern design emerged as a response to the rational crises that beset the incapacity of science to address global issues. A novel conceptual framework has been developed to address the intricacies of contemporary contexts, that in its aesthetic aspect was a way to create new meanings.

In parallel, a systematic approach aimed at enhancing comprehension and formulating effective solutions, emerged from the field of biology. This approach was pioneered by Bertalanffy in the 1950's (2010), who also criticised the Cartesian approach. His General Systems Theory, which, due to its comprehensive and non-limiting theoretical contribution to integrating fields of knowledge, seeks to develop principles that cross the various fields of science. This conception results in the vision of organisations as a whole and not as separate parts, formed by a number of internal and external variables that influence the feedback system (BERTALANFY, 2010). This systemic approach contributed to the theory of design, serving as a model for the development of systems, as we can saw already in Jone's (1970)

Design Methods: seeds of human futures.

Bertalanffy's approach is analogous to the autopoietic vision of Maturana and Varella, insofar as it enables a new conceptualisation and configuration of phenomena. Furthermore, it facilitates the integration of subjects of different natures from a global perspective (MATURANA AND VARELLA, 1995).

From these standpoints, the configuration of existing or proposed relationships proves to be of paramount significance in the establishment of organizational frameworks, thereby delineating the identity of the system in question.

Bomfim (1993) clearly stated that several factors interact in the development of projects. The inherent complexity of these factors frequently hinders our ability to discern the interplay between them. Consequently, in the contemporary era, design problems are often referred to as wicked or complex problems.

This phenomenon is especially evident in the contemporary era. As Alvarado (2014) asserts, the economic globalisation and the rapid pace of technological advancement engender a highly dynamic and volatile environment for corporate entities. In this context, markets are characterised by hyper competitiveness, with consumers presenting new needs and seeking lower prices, affecting brand loyalty. Consequently, companies are compelled to differentiate themselves in order to generate a sustainable competitive advantage, as tangible assets are no longer sufficient, rendering innovation essential. In such contexts, the presence of complex problems becomes particularly evident. These systems are characterised by a lack of clarity in their formulation, resulting in confusing information that is accessible to a significant number of clients and decision-makers.

This is especially apparent in the contemporary era, which is characterised by its volatility, uncertainty and contradictions. Consequently, the conventional methodologies employed are inadequate. Consequently, while the linear method is predicated on a specific problem with defined conditions, the design of complex problems suggests a general indeterminacy.

In order to provide a more comprehensive analysis of the operational mechanisms of design thinking, Buchanan (2016) has proposed an

articulation of this concept in the form of a plurality of factors, as illustrated in Figure 10 below.

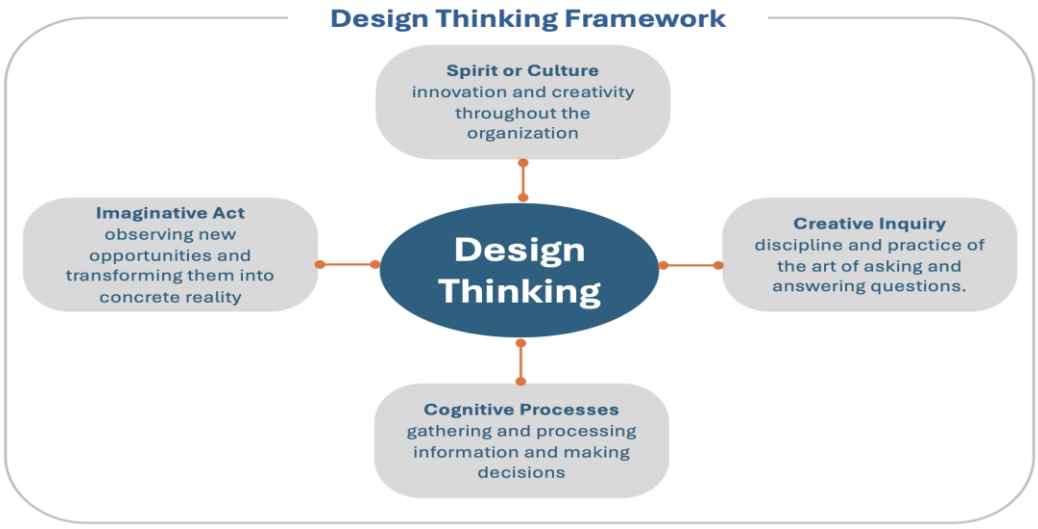

Figure 10: The framework of design thinking.
Source: The author, based on Buchanan.

As previously seen, the term design thinking has expanded in design field since de 2000, but it originally comes from Buchanan's (1992) studies, which advocate the integration of design and directly impact design management and project activities. The conception and planning of the artificial, whether as a plan, project or working hypothesis, in which there is an intention of operations with a significant impact on human experience, is an important consideration. In essence, design consists of the construction of a material and/or immaterial world. Moreover, as it is an integrative discipline, it should not be regarded as a technical specialisation: The concept of 'places of invention' is employed in the context of design, whether in relation to this or that design.

In this manner, an organisation's strategic positioning is defined by offering a new narrative through design, defining its performance and generating products, services, systems or businesses that are imbued

with meaning for customers. From managerial perspective, it is essential to employ a transversal, interdisciplinary approach related to design. This approach necessitates the facilitation of dialogue between designers and the relevant stakeholders involved in the projects, with a view to achieving organisational integration, thereby complementing both internal and external perspectives.

It is from this standpoint that the concept of design management emerges. In this process, design management can be understood as the administration of the design process in its entirety. Design management has been demonstrated to facilitate the reformulation of organisational culture, thereby promoting competitiveness and enhancing the lives of individuals (BUCHANAN, 2016).

Any how, in all cases, design can be considered a discipline that ultimately deals with the construction of a material world that is linked to its own socio-cultural and economic contexts. Design can be defined as the conception and planning of the artificial, whether as a plan, project or working hypothesis, in which there is an intention of operations with a significant impact on human experience. As demonstrated, the elements under consideration are based on creation and imagination, as well as on logical and organisational processes. Consequently, when considering the management of the company, it can be stated that all these four contexts should be taken into account.

FINAL CONSIDERATIONS

In light of the VUCA scenarios with which we are confronted, traditional methodologies and management approaches to design are indicated to be in need of revision, as is the linear process itself.

Furthermore, there is a necessity to advance in terms of complex systems programmes.

The importance of scenario research is increasing, as it is a valuable tool for identifying new trends over both the short and long term. In this particular instance, it is imperative to consider a group of individuals who possess a wide range of expertise. This should include professionals who are accustomed to intuitive approaches when it comes to envisioning the future.

In general, in order to adapt to the characteristics of VUCA scenarios, it is important to bear in mind that flexibility is key. In this sense, feedback is important in showing new directions to follow. Using new AI technologies to structure the design of projects could offer different options for various scenarios.

In an uncertain and inconsistent scenario, it is important to adapt constantly. Training teams to adapt and foresee helps them to stay ahead of the game. Methods such as Sprint can provide a faster response, which is important for achieving agility in a rapidly changing environment.

In the face of instability, resilience is important. Designers and companies must be resilient to maintain focus, look to the future and adapt constantly. Teams must have clear and transparent internal and external communication, and continuous learning must be incentivised.

The research also demonstrates that the unplanned strategic function of design, which emerges from an initial concept based on well-established values, is important in guiding design activities. Drawing upon the existing body of work produced by Morris and considering

the aforementioned points, it is possible to conclude that values assume great importance when companies are faced with unstable scenarios. Indeed, maintaining a company's identity is greatly facilitated by upholding its values.

Concomitantly, the conceptualisation of design as a core competence is imperative to ensure optimal outcomes in volatile and dynamic scenarios. This is due to the fact that it enables companies to maintain a comprehensive and integrating activity, thereby facilitating the adaptation of programmes to emerging demands. Moreover, it is imperative to emphasise that the provision of effective solutions, which are able to address specific temporal concerns, in conjunction with the fundamental competencies inherent in design, constitutes the pivotal factor in the preservation of a company's distinct identity.

From this standpoint, design can formulate long-term strategies that bolster a company in scenarios where the future is uncertain. It is the responsibility of design at the strategic level to reinforce these elements, namely the vision, mission and values, and to specify the specific competences to be acquired. These competencies must then be broken down at the tactical level, with the aim of strengthening their role, as well as guiding design at the operational level, so that it can propose short-term solutions.

In this sense, with the increase in the complexity of projects, due to scenarios resulting from the high volatility, instability, complexity and ambiguity present in today's markets, design actions increasingly demand an agile and impermanent posture, demanding strategies that are based on new meanings to be produced.

The amalgamation of the various methods contributes to the innovative role of design, since this way of thinking allows us to re-ask questions, point out new restrictions and recycle old debates. It is evident that methodologies such as 'design thinking' exhibit a more dynamic process with constant feedback, thereby demonstrating a correlation with the new scenario, which is characterised by greater consistency. In addition, the models proposed by Milan's concept of 'strategic design' appear to be applicable to the present situation. This could potentially facilitate the establishment of new businesses and start-ups, thereby enabling them to respond strategically to future demands. In this sense, innovation based in technology, design-oriented innovation based upon the creation of meanings plays an important role.

In the context of sustainability, it is imperative to contemplate a transition from large-scale enterprises to small-scale entities. This shift has the potential to diminish financial investments and facilitate the dissolution of companies, thereby enabling them to engage more closely with local communities. This approach can facilitate more expeditious and effective responses in terms of design.

From a design research perspective, the present context provides an opportunity for research that could assist in the development of complex design systems, which in turn could lead to greater consistency in a changing scenario. It is vital that theoretical investment is recognised as playing a significant role in design research and investigation.

Nevertheless, it is imperative to give due consideration to the role of artificial technologies in facilitating this process, as they have the capacity to offer more expeditious responses to the problem. In this

sense, research aimed at recognising and anticipating scenarios, together with the creation of new methodologies, as well as the perspective in which the designer begins to contribute to the creation of new ones, reinforcing their strategic characteristics, is of particular importance. Finaly, it is imperative to give due consideration to the role of artificial technologies in facilitating this process, as they have the capacity to offer more expeditious responses to the problem.

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