

The Changing Role of Strategy and Design: Evidence-Based Investigation toward an Interdisciplinary Approach

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ABSTRACT

Contemporary developments have triggered the emergence of interdisciplinarity, which fosters learning across different areas of expertise. Particularly, the volatility, uncertainty, complexity and ambiguity (VUCA) are reshaping perspectives across all management-related areas, from private to public sectors and from strategy to policy level. This article explores the historical developments of strategy and design and how these domains are converging toward an interdisciplinary perspective: design management or strategic design. Over the last 40 years, developments in each domain have posed common questions and established the interdisciplinary intersection of design management, relying on the notion of design culture and proposing alternatives to achieve sustainable competitive advantage. These discussions have extended beyond academia to boardrooms, fostering innovative solutions and becoming focal points for management consulting firms. This article examines how this intersection and interdisciplinarity are shaping management consulting services and empowering firms that act as early adopters of collective, participatory, iterative, and evidence-based design-oriented methodologies.

Keywords: strategic design, design management, strategic design consultancy, dynamic strategic approaches, transient advantage

JEL Code: M10, M21, L21, O31, L10, L22

Introduction

The primary objective of this paper is to conduct a chronological examination of the evolving relationship between strategy and design over the past four decades, focusing on their intricate intersection. Employing a comprehensive analytical approach, this study explores various strategic models to evaluate their contemporary viability in generating and sustaining the competitive advantage. Additionally, this paper investigates the drivers behind the adoption of innovative strategic frameworks, emphasizing customer experiences and innovative problem-solving as central components.

Additionally, this study aims to delve into the pivotal role of design in facilitating innovation and differentiation. This section illustrates the pragmatic applications of design in the spheres of organizational functions and strategic initiatives. This investigation will explore the implications of these advancements for management and design consulting firms. Subsequently, the roles undertaken by both designers and business professionals within the current volatile, uncertain, complex, and ambiguous (VUCA) environment will be examined, along with the challenges inherent in achieving a harmonious synergy between strategy and design.

To fulfill these objectives, this paper adopts a structured methodological approach based on content analysis. This analytical technique provides a rigorous framework to scrutinize the intricate interplay between the realms of strategy and design. By systematically dissecting textual and visual data, content analysis facilitates the identification of patterns, thematic developments, and latent insights that shape the evolution of these domains.

The application of content analysis as a methodological lens offers a systematic means of investigating the historical trajectory of strategic and design paradigms. This approach enables a comprehensive exploration of textual artifacts and other relevant materials, providing a rigorous basis for understanding the complex interactions and mutual influences that have contributed to their convergence. Through this methodological lens, this study provides a nuanced and scholarly examination of the evolving relationship between strategy and design, yielding insights that contribute to a deeper appreciation of their synergistic dynamics in contemporary management contexts.

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The main aim of this paper is to examine how the connection between strategy and design has evolved over the past forty years, with a focus on their convergence. This study employs a detailed analytical approach to explore various strategic models and assesses their current effectiveness in maintaining competitiveness. Furthermore, this paper seeks to understand why companies are adopting new strategic ideas that prioritize customer satisfaction and innovative problem-solving in response to the rapidly changing business environment.

Another objective is to demonstrate the significance of design in fostering innovation and distinguishing a company in its market. This paper provides practical examples of how design is used in a company's everyday tasks and plans. Additionally, this chapter will discuss how these developments influence firms specializing in management and design consulting. The roles of designers and business professionals in today's VUCA environment will also be explored alongside the challenges they encounter in integrating strategy and design.

This analysis is conducted through a methodological approach centered on content analysis, which provides a thorough understanding of the interplay between strategy and design. By meticulously examining verbal and visual data, this method helps identify emerging patterns and significant themes, thus illustrating the evolution of these fields. This approach not only sheds light on the historical developments of strategy and design but also clarifies how they have increasingly intersected and influenced each other.

1. Strategy and Competitive Advantage

Throughout the evolution of management science, various definitions of strategy have been proposed that are influenced by both historical conditions and contemporary developments. Hofer and Schendel defined strategy toward the 1980s as the alignment of an organization's "internal resources and capabilities with the opportunities and risks in the external environment" (Hofer, 1978). Rumelt later included sustainability in his definition; "strategy is a set of targeted actions that a firm takes to gain and maintain an advantage over its competitors" (Rumelt, 2011).

Henry Mintzberg, a pivotal scholar in strategic management during the evolutionary period between the two definitions above stated that strategy could mean the following:

- "A plan for the future (intended strategy) but also the past (realized strategy)
- A position – the decision to offer certain products in certain markets (external), but also a perspective – a way of doing things (internal)" (Mintzberg H. , 1994).

Michael Porter defines; "Strategy is the creation of a unique and valuable position, involving a different set of activities" (Porter M. E., 1996).

Leadership thinker Michael Watkins:

"A business strategy is a set of guiding principles that, when communicated and adopted in an organization, generates a desired pattern of decision making. A strategy is therefore about how people throughout the organization should make decisions and allocate resources to accomplish key objectives" (Watkins, 2007). These definitions are not alternative approaches to one another but represent different dimensions of the strategy concept. In practice, various strategic approaches are combinations of some or all of these concepts, each weighted differently.

Strategic management is a continuous activity that includes stages of control and evaluation of selected applications, in addition to the components mentioned above (Ergin, 1992). "Strategic management is an integrative field of management that combines analysis, formulation, and application in the pursuit of competitive advantage. To achieve superior performance, companies compete for resources" (Rothaermel, 2017). There are two basic approaches to explain enterprises' performance in strategic management: resource-based and industrial organization models. Contemporary developments have introduced an alternative cluster of thoughts, including the concept of sustainability, which will be further examined in the subsequent chapter following the introduction of these two fundamental approaches.

1.1. Industrial Organization Model

The industrial organization model, which prioritizes industry factors where enterprises operate as the main determinants of performance, dates back to the 1930s. Mason revealed a determinative relationship between industry structure and company performance in his research (Mauri, 1998; Mason, 1939). Fog developed the industry structure-conduct-performance (SCP) model, inspired by Mason's research (Fog, B. & Joe S. Bain, 1959.) According to Bain businesses will regulate their activities according to the conditions of the industry in which they operate, and these regulations determine their market performance (Yozgat, 2013).

The industrial organization model (I/O) is based on an outside-in perspective. This perspective states that a company has more influence from the industry in which it is competing than from the decisions its managers make in their businesses (Bowman, 2001). It is accepted that the performance of a firm is primarily determined by the industry's determinants, such as barriers to market entry, product differentiation, economies of scale, and the degree of concentration of businesses within the industry (Hitt, 2009).

However, many researchers have ignored the fact that different activities of enterprises may affect their performance in the future (eg, Phillips, 1974; Scherer, 1980). In the 1980s, Porter's adaptation of the industry structure- conduct-performance model to the field of strategy served as a bridge and created a link between theories of industrial organization (Thompson & Lockett, 2009; McGahan, 1997; Hoskisson, 1999). This adaptation links business performance entirely to sectoral factors and uses a resource-based approach that largely ignores the impact of industrial factors in explaining performance (Thompson & Lockett, 2009; Priem, 2001; Mosakowski, 1998). Thus, a more comprehensive approach has emerged, addressing why some organizations operating in the same industry and under similar market conditions—the basic question of strategic management studies—are successful while others are not at the same rate.

1.2. From Resource Based to Dynamic Capabilities Approaches

The most widely accepted of the unique resources approach, which is one of the two main approaches to explaining business performance, is RBV¹ (Barney J. , 1991; Wernerfelt, 1984), CBV² (Sanchez, 2008; Sanchez & Heene, 1997), and DCV³ (Katkalo, 2010; Teece & Pisano, 1997). In fact, all these approaches can be categorized as derivatives or successors of the Resource Based Approach (Houthoofd, 2012).

Although Wernerfelt was the first to use the concept in 1984, the historical background of the principles of the Resource Based Approach can be traced back to the school of Ricardo, which explained how valuable resources that are scarce and immobile can create profit and gain (Ricardo, 1817).

This approach is “based on the concept that businesses consist of a variety of tangible and intangible resources such as assets, processes, skills, knowledge, etc.” (Penrose, 1959; Wernerfelt, 1984; Prahalad, 1990; Barney J. , 1991). “When these resources are combined, they create ‘Capabilities’, some of which, either individually, or in combination, create a set of ‘Core Competencies’, that provide a sustainable competitive advantage to the firm” (Amabile, R. Conti, Lazenby, & Herron, 1996); Design4Services, 2019).

Not all resources are equal. Rare resources that create a sustainable competitive advantage, which are difficult for rivals to imitate, are particularly valuable. Barney strategically named these resources and capabilities that will create a competitive advantage (Barney J. , 1986). RBV builds this whole structure, which is based on the resources and capabilities of the firms, on two basic assumptions. First, no two companies have the same resources and talent pool, even if they are in the same industry. This is the resource heterogeneity assumption. Penrose defined businesses as the sum of physical and human resources and highlighted the heterogeneity of these resources among businesses (Penrose, 1959).

Second, “resource and capability differences between businesses can be very long-lasting because it is very costly or impossible for competing businesses to develop or supply these resources and capabilities” (Rothaermel, 2017). This assumption assumes resource immobility. In resource-based strategies, the basis of the competitive advantage of an enterprise is the heterogeneity among the resources of the enterprises and the immobility of these resources.

Two assumptions, namely, explaining enterprise resources and capabilities and heterogeneity and immobility of resources, are quite abstract and are not directly explanatory of firms' abilities and shortcomings. However, a framework can be developed based on these definitions and assumptions.

This framework is called the “VRIO” and the framework is built on the questioning of four important elements related to enterprises' activities. These; relates to value, rarity, imperfect imitability, and organization (Barney J. , 1991) . The answers given by enterprises to the evaluations of these elements determine whether the resources and capabilities of that enterprise will lead to superiority or weakness. In the “value” inquiry, it is evaluated whether the resources and capabilities can respond to environmental threats or opportunities are evaluated, and whether they help develop strategies that can eliminate threats or take advantage of opportunities. The assessment of “rarity” questions whether available resources are currently under the control of very few competitive businesses. In the analysis of ‘imitability,’ it is examined whether the acquisition and development of the said resources by enterprises creates a cost disadvantage for competitors. Some rare resources are legally protected through patents,

¹ Resource Based View

² Competence-Based View

³ Dynamic Capabilities View

copyrights, trademarks, and other intellectual property rights. Additionally, certain resources are inherently complex to imitate as they evolve and become integrated within the business over time, ultimately becoming distinctive features of the company. If a resource is irreplaceable, it implies that competitors cannot find alternative methods to replicate its advantages. Furthermore, the organizational aspect of the inquiry determines whether there is adequate structure and power within the organization to leverage these resources effectively alongside other policies and procedures (Rothaermel, 2017).

1.3. From “Sustainable Competitive Advantage” to contemporary discussions:

Porter emphasizes “that businesses must have a sustainable competitive advantage in order to outperform their competitors in the long run” (Porter M. E., 1980; Porter M. , 1985). He described two main paths to achieve a sustainable competitive advantage; “*Low cost leadership, which is defined as the ability of the enterprise to produce at the lowest cost compared to all its competitors in the sector*”, is one of them. Successful implementation of differentiation strategies, which is defined as “*the ability to offer unique products and services by emphasizing distinctive elements such as innovation, high technological adaptations, ease of use, prestige, quality and trust*”, is another way to have a sustainable competitive advantage (Yozgat, 2013).

Porter makes the strong claim that a business runs the risk of being ‘stuck in the middle’ “when it tries to pursue both low cost and differentiation strategies at the same time” (Porter M. E., 1998). However, this argument does not seem coming from an examination of industry organization, i.e., external factors (Jørgensen, 2008). Instead, the ‘stuck in the middle’ derives from Porter’s analysis of the ‘different resources and skills’ required to successfully implement total cost leadership: “process engineering skills, low-cost distribution, tight cost control systems” (Porter M. E., 1998). On the other hand, “strong marketing skills, product engineering, strong cooperation with marketing channels, strong coordination between R&D, product development and marketing, ability to attract creative people and qualitative control systems” are also the requirements of differentiation strategies (Porter M. E., 1998).

A different interpretation offered by Peteraf in his highly cited article “The cornerstones of competitive advantage: A resource-based view” suggests that diversification can be described as resource-based, providing a different perspective on Porter’s “stuck in the middle” warning (Jørgensen, 2008; Peteraf, 1993).

For RBV, having a VRIO framework inherently creates a sustainable competitive advantage. Maintaining and enhancing these distinguishing features foster sustainability. Barney stated that strategic resources are likely to support a sustainable competitive advantage. (Barney J. , 1991). Organizational culture, e.g., a culture of innovation, is a business resource that is significant in maintaining a competitive advantage and is crucial in adapting to the strategic and competitive environment, enabling the business to reach its potential. It is also recommended that businesses improve their learning abilities to stand out from their competitors.

The average age of the companies in the S&P 500 to decline from more than 60 years in 1958 to less than 20 years today. This has reduced the relevance of tools such as the GE/McKinsey matrix and the BCG Growth-Share matrix, the diagnostic power of which relies on relatively stable industry structures” (Hunsaker, 2020).

The notion of a sustainable competitive advantage is becoming increasingly rare due to factors like digitalization, globalization, and the reduction of entry barriers, leading to a “flat world”.

Rita McGrath, a reputable academic who has been responsible for important advances in the field, commented on this new situation:

“Competitors now come from many fronts, barriers to entry have decreased, and your company can face competition from startups, large tech companies, other industries, and even other geographies. The accelerated pace of change in consumer and technical trends makes long-term carefully drawn but out-of-touch strategies obsolete. The traditional approach of building a business around a competitive advantage and then hunkering down to defend it and milk it for profits no longer makes sense” (McGrath R. G., 2013). This is not merely an observation. As McGrath compared the continues (2000-2009) successful companies with their competitors, the major conclusion was: “They are successful, McGrath wrote, because they are exploiting temporary competitive advantages, not sustainable ones” (Kinni, 2014).

“Change is now the norm, not the exception. Uncertainty has replaced predictability”, “As we hear for many years that the environment is changing rapidly and so must be the processes relevant to strategy”, “On the other hand the environment is not just dynamic also complex” (Hunsaker, 2023 (forthcoming)).

In contemporary discussions on strategy in the new millennium, frameworks and methodologies for strategic management must adapt to the new dynamic conditions. As such, strategic approaches have been developed to address these changes, focusing on recognizing that the duration of the competitive advantage is decreasing, especially in technology-intensive industries. Even industries traditionally considered low-tech have experienced rapid changes due to increased technological utilization, making competitive advantages less durable. Recognizing that product functionality can be easily duplicated, companies are increasingly focusing on delivering exceptional customer experiences and innovative problem-solving, which transform relationships into competitive barriers.

Taking inspiration from previous work by MacMillan, Eisenhardt, Doz, McGrath emphasizes “a transient strategy focuses on the velocity of competitive advantage, instead of building one advantage and defending it. But the world is now changing so quickly that no business can plan for every eventuality” (McGrath R. G., 2013).

Businesses require a portfolio with multiple transient advantages that can be assembled quickly and abandoned immediately.

Key features of this view:

- It is a strategy approach that is more customer-centric than industry-bound.
- There are arenas (a pot of addressable resources) not only in the factor markets (labor, capital etc.), but also for customers and other stakeholders.
- Competition: significant competition from other industries, not your own. Main competition in both kinds of arenas; customer markets and the factor markets.
- You must recognize the "inflection points, trigger points, and signposts" in your market, which are never static. They should help spot changes and tell you if you should alter the course and, eventually, the decision to get in or get out.
- Discovery-driven planning is an integral theory for the body of the "lean startup" movement and a strategic method. Experiments should be conducted before locking in investment. Set up experiments, build options, and test the hypotheses. Test and learn. Running many small experiments will help you not risk all your money on one idea. A carefully constructed set of experiments proves the viability of big investments (McGrath R. G., 1995; Mankins, 2022).
- Asset use is based on flexibility, not optimization. Build flexibility in the form of hedging and options, where the relative value of competing strategies is favored over the absolute value.
- Experimentation important than analysis.
- Instead of long-term (yearly or longer) quarter based or on rolling basis budgeting.

Businesses today must navigate a landscape where strategic approaches that once offered long-term stability are less effective. This dynamic, ever-changing environment necessitates a new kind of strategic thinking—one that is adaptive, evolvable, and able to quickly shift as conditions change.

The next question is how should we choose the best strategic approach under these circumstances?

Those thinkers of new strategies (Rita McGrawth, Steve Blank, Eric Ries, Alex Osterwalder Yves Pigneur, among others) used to be called dynamic strategic thinkers. The adaptive, evolvable, shaping, and transient strategies are similar to the traditional static strategy. These are not merely iterations of traditional strategies but represent fundamentally different frameworks for understanding and responding to the business environment.

The book "Your Strategy Needs a Strategy" by Reeves and the recent publication "Ambidextrous Strategy: Antecedents, Strategic Choices, and Performance" attempt to differentiate and define these modern strategic concepts further. These studies address the significant shifts in how businesses operate and the environments in which they compete, suggesting that traditional strategies of strategic planning may no longer be adequate (Reeves et al., 2019; Zakrzewska-Bielawska, 2021 (Reeves, 2012).

According to them, the environment in which a business operates can significantly influence the type of strategic approach that is most effective. They categorize strategic styles into classical, adaptive, shaping, and visionary, depending on factors such as the predictability and malleability of the environment. For instance, in industries like oil, for which the market conditions are predictable but difficult to change, a classical strategy might be most effective. Conversely, highly unpredictable sectors like fashion, an adaptive strategy may be more appropriate. Where companies can shape their industries, a shaping strategy becomes viable, and in environments that are both predictable and susceptible to change, a visionary strategy can be employed.

After all, a company entering a different phase of its lifecycle may well require a change of strategic direction. Environments for start-ups tend to be malleable and require visionary or shaping strategies. As a business grows and matures, when the environment is less malleable, adaptive or classic styles are often preferred. For companies in a decline, the environment becomes more malleable again, generating opportunities for disruption and rejuvenation through either shaping or visionary strategies (Martin Reeves, 2019).

How should we develop the strategy based on the chosen strategic approach?

Mankins ve Gottfredson propose a new scenario approach in their article (Mankins, 2022). Accordingly, you should define exceptional but reasonable scenarios. The objective of exploring these extreme scenarios is not to pinpoint the most probable outcome but rather to unearth novel and diverse strategies for competition and success across a spectrum of possible futures. Additionally, this approach identifies “no regret” beneficial moves regardless of how events unfold. The scenarios are not viewed as likely but represent the outcomes the company could face, with very different impacts for the company. These are the basis for identifying several no-regret moves by management. The need to concentrate on the consequences rather than the likelihood

of something happening is also the idea of the Black Swan Approach of Taleb. Taleb's ideas on uncertainty have contributed to strategic decision-making (Taleb, 2007).

In fact, we see the roots of this approach in Taleb's Black Swan. His concepts on uncertainty have revolutionized approaches to strategic decision-making. These ideas underscore the critical importance of prioritizing potential outcomes over the likelihood of an event occurring (Taleb, 2007). As we remarked at the beginning of this section, the only criticism is not on sustainability. In the current dynamic environment, the sources of dynamics are interdependent, and companies are under intense pressure to demonstrate their social legitimacy (Bonabeau, 2002; Hunsaker, 2020). In a broader view, Hunsaker and Knowles define this as a transition from shareholder capitalism to stakeholder capitalism (Hunsaker, *The strategy of change*, 2023 (forthcoming)). The new motto is; "In dynamic environments, understanding when and how to change is the essence of strategy" (Hunsaker, 2020).

2. Design and design management

Mozota in her latest elaboration on design management remarks; "Design fundamentally is about change as it responds to the external environment to identify opportunities to create new design activities and outcomes" (Buehring & Borja de Mozota, 2021).

Design appeals to all emotions and senses. Therefore, it is one of the important non-price factors preferred for differentiating the products and services offered. Heskett explained that the emergence of design "as a strategic tool goes back to the 1950s, when designers such as Donald Deskey and Raymond Lowey defined design as a high-level planning activity necessary for business competition" (Heskett, 2017; Boztepe, 2016).

Design has become an ever-changing field with unclear boundaries, both as an individual concept and with the concepts associated with design in recent years (Hobday, 2012; Utterback, 2006). For example, innovation theory draws on substantial knowledge from Schumpeter, but there is no equivalent basis for design (Whicher A. H., 2016). This situation creates a serious obstacle to demonstrating the impact and meaning of design at both the micro and macro levels. (Whyte, Bessant, & Neely, 2005; European Commission, 2009).

Icsid⁴, which represents 140 organizations from 40 countries and an estimated 150,000 designers, renamed itself: World Design Organization (WDO) in 2017. We can see this change as the organization's effort to become the framework of all design activities, not limited to industrial design. The interesting thing is that Icsid was founded in 1957, made the first industrial design definition in 1959, and went through the updates in the following years, announcing that it gave up on making a definition in the general assembly held in Sicily in 1971 and removed the definition from the organization's "constitution" (World Design Organization, 2019). In its 29th Congress held in Korea in 2015, it redefined industrial design after 44 years. We can say that even the oldest and most widespread international design organization has a constant difficulty in defining design and has given up defining it for a long time, and when redefining "industrial design" in 2015, it actually defines design in the broadest sense as a matter of fact, 15 months after this definition, in January 2017, the organization removed the name "Industrial" from its name and transformed into the World Design Council.

The last industrial design concept determined by the World Design Council (WDO) in October 2015, as mentioned above, is actually a very comprehensive general and up-to-date design definition beyond industrial design: "Industrial Design is a strategic problem-solving process that drives innovation, builds business success, and leads to a better quality of life through innovative products, systems, services, and experiences" (World Design Organization, 2019). When we remove the word industry from this definition, just as the institution that created the definition removed it from its own name, a contemporary and inclusive definition emerges.

The European Union defines design in the Design Policy Monitor report published in 2015 as follows:

"Design is a problem-solving approach that can be used in the private and public sectors to encourage innovation in product, service, or even policy making by putting people first" (Whicher, Swiatek, & Cawood, 2015, s. 6).

While this difficulty in defining the field makes academic studies challenging, it also causes resistance because a clear common perception cannot be created in the fields of managerial and policy-related issues where design is the tool.

Finally, although there are many definitions of design in the historical process, as we have discussed above, it is possible to define it as follows from a management perspective: "Design has been defined as a process that seeks to optimize consumer satisfaction and company profitability through creating performance, form, durability, and value in connection with products, environments, information, and identities" (Kotler & Rath, 1984).

⁴ The International Council of Societies of Industrial Design

2.1. Design Culture

It is helpful to take a short look at design culture to better understand its relevance to strategy in the next section. Although there are many design culture definitions, according to Scaletsky and Costa, there are (at least) 5 common characteristics of these definitions regarding design culture(s) (Scaletsky & Costa, 2019).

The first characteristic is “the capacity to create, imagine future worlds, and project oneself **in time**” describes this; “trying to define what would define **design thought**, it necessarily goes by an imagination that makes a reality possible and that releases itself from analytical thinking details” (Buchanan R. , 2015).

Uncertainty is a characteristic of every design culture. It is related to our incapacity to build models that consider every variable in a world that does not already exist. Buchanan has shown that design problems are problems that mostly appear during the process, and they are not previously clear (Buchanan R. , 2007). Furthermore, if clear in most cases, “problems are poorly defined and poorly structured, as they could be called wicked problems” (Buchanan R. , 1992).

Where uncertainty exists, risk naturally exists. The inevitable part of constructing future worlds is ‘risk’ in the decision-making. It is the third characteristic of design culture. “The idea of risk in design is closely linked to a ‘what if’ idea, which is present in design reasoning and assumes several paths are built and then decision-making strategies are sought to decide which paths to follow (or return to). These strategies are based on simulation, modeling, and testing” (Scaletsky & Costa, 2019).

The next characteristic is nonlinearity. This does not merely refer to not following clearly described project paths but also refers to an open process in which many paths can be worked on an identical time. This critical and reflective practice that takes us astray. During decision-making, you take risks and make revisions based on criticism and reflection. Develop new alternatives in a process of continuous learning looks like a disorder, but it is a non-linear characteristic of design culture.

Manzini saw design due to “combining three human gifts: critical sense, creativity and practical sense” work (Manzini, 2015, s. 45). Practical sense is the fifth characteristic of design culture and can be defined as the ability to identify viable ways to make things. Those 5 characteristics are in a very tight relationship and can only be understood as a whole.

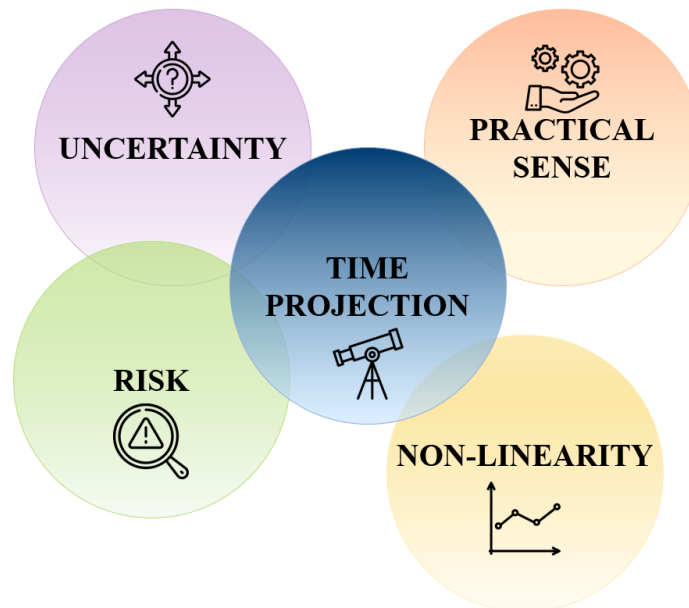


Figure 1. 5 elements of design culture according to (Scaletsky & Costa, 2019)

2.2. Design Management

It is obvious that both the design definition and elements of design culture bear similarities to the previous discussion we followed in the strategy chapter. Due to the changing dynamics in the social sciences, advances in technology, and progress at maker culture, it was inevitable to open up the discussion of design management from the early 90’s on, where we have witnessed fundamental discussion points approaching and compensating each other.

When the concept first emerged, it meant the management of the design service provided internally or outsourced in manufacturing companies (Dreyfuss, 1955), (Chung K.W., 1992), whereas a current definition is in the DMI⁵ (2019), which underlines a holistic understanding of a managerial system like:

“Design Management encompasses the processes, business decisions and strategies that create effectively designed products, services, organizations, communications, environments, systems and brands that enable innovation and improve our quality of life and ensure corporate success.”

At a deeper level, Design Management, in three factors; economic, social/cultural, and environmental—aims to connect design, innovation, technology, management, and customers to gain a competitive advantage (very likely to appeal to any external environmental analysis). It is the art and science of strengthening design to improve collaboration and synergy between ‘design’ and ‘business’ to increase the effectiveness of design.

The scope of design management ranges from the tactical management of corporate design functions and design agencies to its strategic use as a driver of corporate success and a competitive differentiator. This scope includes the application of design thinking or design processes to address common business issues.

Mozota & Wolff (De Mozota B. B., 2019) defined the period since 2015 as follows: design management,

- “adds value through strategic conversation value (building skills, framing problems)
- solves design problems related to cultural changes, digital transformation, and design for all
- develops and fuels design skills in every function of the company”

Design leadership helps achieve goals such as making a company sustainable in a globalized context of social well-being.

Also in this article, Mozota underscored the evolution of strategy tools like SWOT or PESTEL as they widened to functional, cultural, esthetic, sensorial, emotional, experiential, and environmental dimensions. This is progress in the relation between design and management, which she defined as “design and management as convergent forces” in 2008.

Another contribution of this article is the recognition of the concept referred to as “silent management.” Although designers have and practice project and process management capabilities, they are unlikely to speak of these ‘design management’ capabilities. Similar to the silent design view that Dumas and Mintzberg they called it ‘silent management’; designers manage without knowing.

Strategic Design or Design Strategy - Effectively Positioning Designers as Strategists” by Brown focused on the key factors a (potential) design manager has to master in order to contribute to strategic work (Brown, 2019)

Brown’s further contributions in 2019 are the Triple Bottom Line and Strategic Balancing. He defines the Triple Bottom Line as the impact of design in relation to a balance between impacts on people, profit, and the planet. On the other hand “ ‘Strategic Balancing’ represents the strategic considerations (current strategy and competitive positioning) that need to be taken into account by a strategic designer when transitioning the design to its final ‘Strategic Design’ form.” As balancing objective and subjective factors is fundamental to design, and applied to strategy, it could mean leaving less to those vague notions or to chance.

Historically, the progress of alignment between these two disciplines has influenced design management approaches. To track this development, we would like to address the theoretical approaches discussed in both disciplines in a separate chapter, as the interchangeability of terminology remains one of the most challenging factors, as mentioned at the beginning of the chapter.

3. Relationship Between Strategy and Design: Context and Evolution

Although the relationship between design and strategy has been investigated for several years, it has also evolved over time. This evolution stems from both the transformation in the role of design and the progressive advancements in strategic theory. The economic background always bears the perspective of the “value” of design. Scholars like Mozota and Liedtka approached the value of design at the organizational (micro) level, whereas Heskett and Julier elaborated on the macro level.

The academia and a group of researchers who have approached design as a strategic tool and proved that traditional design approaches are inefficient have, most commonly, two different starting points. First, the critics of traditional strategy schools are very weak in times of uncertainty, and the latter strategy is a product of an analytical set on analysis. These criticisms have been shared regardless of the specific role of design in strategic approaches. An important claim of Siegal regarding the nature of development can be traced as follows:

“For the past 20 years American industry has been run by managers. They are trained in business schools to be numbers-oriented, to minimize risks and to use analytical, detached plans—not insights gained from hands on experience” (Siegal, 1982).

⁵ Design Management Institute

Following this claim, an important notion of design being fundamentally about change “as it responds to the external environment to identify opportunities to create new design activities and results” is an important statement with the effort of management constantly finding a balance between tightness and looseness and, strategically, between analysis and emotion or intuition (Lorenz, 1994). In her discussion of intangible aspects of strategy, Mozota asserts that while companies may possess a clear mission, a strategic vision, and robust portfolios, they are also complex human systems. Within these systems, the designer’s ability to observe, coordinate, visualize, simplify, and synthesize is invaluable. From an external perspective, traditional core services help customers to do things to increase efficiency. Strategic services relate more to the effectiveness of doing the right thing (Weiss, 2002).

Our investigation of strategy in the first chapter started with the development of the concept of the “competitive advantage” starting from early 80’s. The exhibit above gives an understanding of the essential keywords around the development of strategy-related theories that can use the ‘design’ element. This chapter provides a historical understanding of how these key concepts approached each other through several discussions. Very recently, this discussion emerged terminology like ‘strategic design’, where designers’ can influence decisions and provide guidance on issues impacting an organization’s long-term sustainability and competitiveness or the use of design to improve and maintain performance in business or efficacy in nonprofit organizations (Micheli P. P., 2018). However, the term ‘strategic design’ is adopted ambiguously in both empirical and professional literature, with a variety of meanings from utilizing design to distinguish and increase margins by enhancing the perceived value of ‘designer goods’, to shaping the corporate strategy itself. A parallel discussion on design strategy is a long-term plan for implementing design, particularly at a product, rather than corporate.

3.1. Evolution of Design’s Role in Strategy: From Value Creation to Strategic Tool

The combination of both of our key words in this article has a long-standing relationship, and it is keen to follow the historical development of using the combination of both words to open up new perspectives in industrial settings. One of the first pieces of evidence of this historical companionship from a marketing perspective was put by Philip Kotler in 1984 in his work on “Design: A Powerful but Neglected Strategic Tool” and can be considered an example of *Zeitgeist* :

“What they don’t realize is that good design can enhance products, environment, communications, and corporate identity” (Kotler & Rath, 1984).

This early approach bears important marketing and communication notions, including product development as a component of marketing. The proposition has also suggestions like educational programs for the executive level, including raising awareness among strategic decision makers regarding design.

Following the marketing perspective of Kotler in 1987 Mintzberg and Dumas brought the discussion to a strategic level. The work of Dumas on ‘silent design’ a term on what is design by people who are not designers and are unaware that they are participating in design activities, continues in all organizations studied, even those that have formal design policies and open design activities, whereas Mintzberg, one of the few strategists who understands the potency of design, however, underestimates its power when he only speaks of the correspondence between design ‘insight’ and the ‘intuitive or insightful process’ of strategy development (Lorenz, 1994). Among the industrial cases, the most prominent case of a company that for the first time allowed itself to use its designers’ ‘soft’ skills—their insight and intuition—as part of its broader process of ‘crafting strategy’ is the Ford Motor Company, with its Taurus/Sable project in the early 1980s (Mintzberg H. , 1987).

Later in 1992 R.S. Sisodia carried the scope of design from product to process in his article “Competitive Advantage Through Design”. He claimed that the managers of 1980s solved their concerns by creating value for customers. They used the interaction between customers (tangible or intangible). “And this interaction is overwhelmingly driven by two things: product and process design” (Sisodia, 1992). Additionally, Buchanan elucidated in 1992 how the core principle of successful design has transitioned from the creation of tangible artifacts to the development of complex systems (Buchanan R. , 1992).

Later on, Lorenz underlined the significance of strategic use of design and emphasized industrial design and the designer. The participation of the designer from the very beginning of the project is essential, and design as a function is at the intersection of marketing and R&D departments. The importance level of such a design department must be set at the same level for both departments so that the integrator role of design can function smoothly (Lorenz, 1994). This aligns with Henry Mintzberg’s concept of “Crafting Strategy,” where he underscores the organic development of strategy through day-to-day activities, challenging traditional strategic planning (Table:1). This perspective on design’s strategic roles aligns also with Victor Seidel’s exploration of design-led strategy consulting, where he identified four key roles: strategy visualizer, core competence prospector, market exploiter, and process provider (Table:1).

Table 1. 40 years of Design & Strategy

Strategic Theory/Approach	Contribution of Design	Literature	Author	Year	Strategy Literature
Cost Leadership	"sources of cost advantage through design's impact on manufacturing and after-sales costs, as well as costs of product development and marketing"	Structuring Strategic Design Management: Michael Porter's Value Chain	Mozota	1998	Porter (The Competitive Advantage of Nations, Competitive Advantage); Kotler & Rath (Design: A Powerful but Neglected Strategic Tool)
Differentiation	design as a facilitator, differentiator, integrator, transformer and as good business	Design and competitive edge - A model for design management excellence in European SMEs	Mozota	2002	Porter (Competitive Advantage); Hamel & Prahalad (Competing for the Future); Dumas & Mintzberg (Managing the Form, Function and Fit of Design)
	Perception value is building company competitive advantage through differentiation perceived in the market. design's capacity to contribute to various strategic goals, such as securing niche markets, speeding up diverse product development or developing distinctive identity.	The Paradigm Shift in the Design Profession, from Management as a Constraint to Management Science as an Opportunity	Mozota	2008	Kaplan & Norton (The Balanced Scorecard: translating strategy into action)
Value Chain	decisive competitive advantage throughout the value system, as when design helps by creating interdependencies among a firm and its suppliers and distributors;"	The design agenda: a guide to successful design management	Cooper & Press	1995	
	explaining how design participates in the selection process and continuous improvement process of defining a competitive advantage	Structuring Strategic Design Management Michael Porter's Value Chain	Mozota	1998	Porter (The Competitive Advantage of Nations, Competitive Advantage); Kotler & Rath (Design: A Powerful but Neglected Strategic Tool)
	Defining design as a function within the company structure that modifies processes and innovation management	Design and competitive edge - A model for design management excellence in European SMEs	Mozota	2002	Porter (Competitive Advantage); Hamel & Prahalad (Competing for the Future); Dumas & Mintzberg (Managing the Form, Function and Fit of Design)
	design as a facilitator, differentiator, integrator, transformer and as good business	Harnessing design as a strategic resource	Lorenz	1994	Porter (Competitive Advantage, Competitive Strategy); Kotler (Design: a powerful strategic tool); H.Mintzberg (Crafting strategy); Dumas & H.Mintzberg, (Managing design, designing management)
	"interdisciplinary leveraging of capabilities with design processes and tools as interface helps to make the transition from ideation to implementation. Interdisciplinary team including designer as integrator for "user desirability", "technical feasibility", and "business viability"	Developing tangible strategies	Weiss	2002	Hamel (Leading the Revolution. Boston); Porter (Strategy and the Internet)
RBV/DC	design as a facilitator, differentiator, integrator, transformer and as good business	Design and competitive edge - A model for design management excellence in European SMEs	Mozota	2002	Porter (Competitive Advantage); Hamel & Prahalad (Competing for the Future); Dumas & Mintzberg (Managing the Form, Function and Fit of Design)
	Design as unique core competency (From design as fit to design as resource). Design as an intangible value: Internal skills, process, and knowledge.	Managing Design as a Core Competency - Lessons from Korea	Mozota & Kim	2009	Porter (Competitive Advantage: Creating and Sustaining Superior Performance); Helfat & Peteraf (The Dynamic Resource-Based View: Capability Lifecycles); Prahalad & Hamel (The Core Competence of the Corporation)
	Defensibility (for designer): besides value creation, execution, and scalability, competitors can't easily imitate you	Business Strategy and Design - Can this Marriage Be Saved	Liedtka	2010	
	From design as creator of differentiated products to design as an organizational activity with its own systematic processes, routines and attitude, ingrained into organizations and can be reused. Designer engaged in redefinition of existing strategies to building unique organizational competencies to setting corporate vision by developing future scenarios.	Design Expanding into Strategy - Evidence from Design Consulting Firms	Boztepe	2016	Wernerfelt (A resource-based view of the firm); Simon (Strategy and organizational evolution), (The sciences of the artificial); Porter (Competitive strategy); Mintzberg (The rise and fall of strategic planning); Liedtka, King & Bennett (Solving problems with design thinking); Liedtka (In defense of strategy as design); Kotler & Rath (Design: A Powerful but Neglected Strategic Tool); Barney (Firm resources and sustained competitive advantage); Buchanan (Wicked problems in design thinking)
RBV/DC	The design process is a resource that can be the basis for a company to develop a superior and distinct competitive advantage.	Design Strategic Value Revisited: A Dynamic Theory for Design as Organizational Function	Mozota	2011	Barney (Firm resources and sustained competitive advantage); Mintzberg (Crafting Strategy, Rethinking Strategic Planning, Part II); Dumas & Mintzberg (Managing the Form, Function and Fit of Design), (Managing Design Designing Management); Brown (Design Thinking); Kotler & Rath (Design: A Powerful but Neglected Strategic Tool); Prahalad & Hamel (The Core Competence of the Corporation); Prahalad and Ramaswamy (Co-Opting Customer Competence)
	RBV and DC offered additional framework to explore design's strategic contribution.	Design's Voyage to Get a Seat at the Strategy Table	Boztepe	2018	Andrews, K. R. (Directors' responsibility for corporate strategy); Ansoff (Corporate Strategy); Barney (Firm resources and sustained competitive advantage); Dumas & Mintzberg (Managing design/designing management); Eisenhardt & Martin (Dynamic capabilities: What are they?);...
Core Competences	explaining how design participates in the selection process and continuous improvement process of defining a competitive advantage	Managing Design as a Core Competency - Lessons from Korea	Mozota, Kim	2009	Porter (Competitive Advantage: Creating and Sustaining Superior Performance); Helfat & Peteraf (The Dynamic Resource-Based View: Capability Lifecycles); Prahalad & Hamel (The Core Competence of the Corporation)
	Collaborative strategic work between general manager and design manager	Managing Design for Competitive Advantage - A Process Approach	Olson, Slater and Cooper	2000	Porter (Competitive Strategy)
	A model for managing design as a core competency. The transition from design as fit to design as core competency.	Managing Design as a Core Competency - Lessons from Korea	Mozota & Kim	2009	Porter (Competitive Advantage: Creating and Sustaining Superior Performance); Helfat & Peteraf (The Dynamic Resource-Based View: Capability Lifecycles); Prahalad & Hamel (The Core Competence of the Corporation)
Transient Advantage	VUCA (volatility, uncertainty, complexity and ambiguity)	Foresight and Design: New Support for Strategic Decision Making	Buehring & Bishop	2020	Hamel & Valikangas (The Quest for Resilience); Buehring, Henning & Liedtka (Embracing Systematic Futures Thinking at the Intersection Of Strategic Planning, Foresight, and Design); Hamel (Leading the Revolution: How to Thrive in Turbulent Times by Making Innovation a Way of Life); Liedtka (Strategic Thinking: Can It Be Taught?); Learning to Use Design Thinking Tools for Successful Innovation)
	To exploit the transit advantage through "presumptive design"	Presumptive design: Design provocations for innovation	Frishberg & Lambdin	2015	Book: McGrath (Transient advantage) (Are you squandering your intelligent failures?)
Balanced Scorecard	provide a systemic view of a design value model and exploratory work for the issuing of the Design Manager Balanced Scorecard but also a dynamic system of relationships between the selected measures.	The complex system of creating value through Design: Using the Balanced Scorecard model to develop a system view of design management from a substantial and financial point of view design management from a substantial and financial point of view	Mozota	2005	Kaplan & Norton (The Balanced Scorecard: translating strategy into action);
	design as a pertinent management tool for corporate knowledge and organization system.				
	customer perspective (design as differentiator); process perspective (design as coordinator); learning perspective (design as transformer); finance perspective (design as good business)	Four Powers of Design - A Value Model in Design Management	Mozota	2006	Kaplan & Norton (Linking the Balanced Scorecard to Strategy)
	not just design but design management's power to create value in companies				

Table 1. Continued

Strategic Theory/Approach	Contribution of Design	Literature	Author	Year	Strategy Literature
General Strategy	crafting strategy: the match between design "insight" and "the intuitive or insightful process" of strategy making	Crafting Strategy	Mintzberg	1987	
	Designers contribute to the strategy work on 3 levels: Corporate strategy: what businesses to be in and how to manage the business units Strategic business unit strategy: how to compete with other businesses Functional strategy: how to deploy functional resources	Moving from design to strategy: the four roles of design-led strategy consulting	Seidel	2000	Mintzberg & Waters, "Of Strategies, Deliberate and Emergent."; Grant (Contemporary Strategy Analysis); Porter (What Is Strategy?); Hamel & Prahalad (Strategic Intent)
	Designers have four roles as strategy contributors: strategy visualizer, core competence prospector, market exploiter, design process provider	Moving from design to strategy: the four roles of design-led strategy consulting	Seidel	2000	Mintzberg & Waters, "Of Strategies, Deliberate and Emergent."; Grant (Contemporary Strategy Analysis); Porter (What Is Strategy?); Hamel & Prahalad (Strategic Intent)
	With its focus also to "empower the product development people," it facilitates emergent strategies from lower levels in the organization.	Moving from design to strategy: the four roles of design-led strategy consulting	Seidel	2000	Mintzberg & Waters, "Of Strategies, Deliberate and Emergent."; Grant (Contemporary Strategy Analysis); Porter (What Is Strategy?); Hamel & Prahalad (Strategic Intent)
	the problems design and strategy deal with are of similar in nature sophisticated with multiple variables that cannot be resolved with statistical means alone	Design Expanding into Strategy - Evidence from Design Consulting Firms	Boztepe	2016	Wernerfelt (A resource-based view of the firm); Simon (Strategy and organizational evolution), (The sciences of the artificial); Porter (Competitive strategy); Mintzberg (The rise and fall of strategic planning); Liedtka, King & Bennett (Solving problems with design thinking); Liedtka (In defense of strategy as design); Kotler & Rath (Design: A Powerful but Neglected Strategic Tool); Barney (Firm resources and sustained competitive advantage); Buchanan (Wicked problems in design thinking)
	the need for a more organizational theoretical perspective on design management and design as a strategic resource rather than a strict communication perspective	Design Strategic Value Revisited: A Dynamic Theory for Design as Organizational Function	Mozota	2011	Barney (Firm resources and sustained competitive advantage); Mintzberg (Crafting Strategy, Rethinking Strategic Planning, Part II); Dumas & Mintzberg (Managing the Form, Function and Fit of Design); (Managing Design Designing Management); Brown (Design Thinking); Kotler & Rath (Design: A Powerful but Neglected Strategic Tool); Prahalad & Hamel (The Core Competence of the Corporation); Prahalad and Ramaswamy (Co-Opting Customer Competence)
	Triple Bottom Line (the impact of the design in respect to a balance between the impact on people, profit, and the planet) Strategic Balancing represents the strategic considerations (current strategy and competitive positioning) that need to be taken into account by a strategic designer when transitioning the design to its final "Strategic Design" form. It offers a conceptual approach that can help overcome weaknesses in the alignment of vision between the functions of strategy, innovation and foresight, which is the goal of design thinking and its application.	Strategic Design or Design Strategy - Effectively Positioning Designers as Strategists	Brown	2019	Martin (The Design of Business: Why Design Thinking is the Next Competitive Advantage); Esslinger (A Fine Line: How Design Strategies are Shaping the Future of Business)
elevating the design in the organization to a more strategic role	Foresight by design: Supporting strategic innovation with systematic futures thinking	Bühning & Liedtka	2019	Grant (Contemporary Strategy Analysis); Hamel (Leading the Revolution: How to Thrive in Turbulent Times by Making Innovation a Way of Life); Mintzberg (The Fall and Rise of Strategic Planning)	
General Business	As first of its kind this book builds a strong link between design and business. Key messages of this book are not only relevant to business managers, who must integrate design into their business; but also to design professionals, who must learn to engage with the rest of the	(Book) Design Management: Using Design to Build Brand Value and Corporate Innovation	Mozota	2003	Book refers to several articles/books of (Porter, Prahalad, Mintzberg, Kotler, Liedtka, Hamel, Drucker, de Bono)
	IFRS (International Financial Reporting Standards) to measure corporate "intangibles" have created a new valuation framework for companies and a unique opportunity for the design profession and design managers	Managing Design as a Core Competency - Lessons from Korea	Mozota & Kim	2009	Porter (Competitive Advantage: Creating and Sustaining Superior Performance); Helfat & Peteraf (The Dynamic Resource-Based View: Capability/Lifecycles); Prahalad & Hamel (The Core Competence of the Corporation)
General Business	symbiotic relationship between business and design; differences in the core assumptions and decision drivers underlying each approach (business & design)	Business Strategy and Design - Can this Marriage Be Saved	Liedtka	2010	
	process design	Competitive Advantage Through Design	Sisodia	1992	
	EVA (economic value added)	Design and competitive edge - A model for design management excellence in European SMEs	Mozota	2002	Porter (Competitive Advantage); Hamel & Prahalad (Competing for the Future); Dumas & Mintzberg (Managing the Form, Function and Fit of Design)
Wicked Problem Solving, Design Thinking	Designers role as process provider falls squarely into the process-consulting domain, e.g. a process to guide development of a new product line	Moving from design to strategy: the four roles of design-led strategy consulting	Seidel	2000	Mintzberg & Waters, "Of Strategies, Deliberate and Emergent."; Grant (Contemporary Strategy Analysis); Porter (What's Strategy?); Hamel & Prahalad (Strategic Intent)
	Design mking, the ability to broker knowledge and to engage in systems thinking. The Value Model explains the potential of design	The Paradigm Shift in the Design Profession, from Management as a Constraint to Management Science as an Opportunity	Mozota	2008	Kaplan & Norton (The Balanced Scorecard: translating strategy into action)
	Designs shift beyond tangible artefacts toward constructing complex systems	Wicked Problems in Design Thinking	Buchanan	1992	
	the problems design and strategy deal with are of similar in nature sophisticated with multiple variables that cannot be resolved with statistical means alone	Design Expanding into Strategy - Evidence from Design Consulting Firms	Boztepe	2016	Wernerfelt (A resource-based view of the firm); Simon (Strategy and organizational evolution), (The sciences of the artificial); Porter (Competitive strategy); Mintzberg (The rise and fall of strategic planning); Liedtka, King & Bennett (Solving problems with design thinking); Liedtka (In defense of strategy as design); Kotler & Rath (Design: A Powerful but Neglected Strategic Tool); Barney (Firm resources and sustained competitive advantage); Buchanan (Wicked problems in design thinking)
	Linking design tools to strategic challenges	How design thinking opens new frontiers for strategy development	Liedtka & Kaplan	2019	M and G. Hodgkinson, (Making Strategy Hot); Sull and Eisenhardt, (Simple rules: How to thrive in a complex world)

Cooper and Press identified design capabilities to contribute to multiple strategic objectives, such as securing niche markets, accelerating diverse product development, or developing a unique identity (Cooper & Press, 1995). The article Olson, Cooper, and Slater published in 1995 with the name of 'Design Strategy and Competitive Advantage' contributes to the definition of Mintzberg et al. (H. Mintzberg, 1995). Namely, "Design strategy is the effective allocation and coordination of design resources and activities to accomplish a firm's objectives. . . .design strategy as follows: the effective allocation and coordination of design resources and activities to accomplish a firm's objectives of creating its appropriate public and internal identities, its product offerings, and its environments" (Olson, Slater, & Cooper, 1998).

In 1998, Mozota analyzed the role of design based on strategic fit from Michael Porter; "Strategic fit advocates the planning of a company's value chain to develop consistency, reinforcement, and optimization of elements. . . .From a strategic viewpoint, a more careful management of linkages can offer decisive competitive advantage throughout the value system, as when design helps by creating interdependencies among a firm and its suppliers and distributors" (Porter M. , 1985; Mozota, 1998).

It is still a **cost-reduction-based approach**: Cost advantages through design affect the manufacturing and after-sales costs and the costs of product development and marketing. Nowadays, you will interpret, for example, after-sales communications as a critical touching and not as a function that you can reduce your costs.

A survey commissioned by the European Community in the 1990s also showed that business leaders believe that design adds value to their business; At the same time, it became clear that companies still viewed design primarily in terms of product and usability (Joziassse, 2000).

In 2000, Olson et al. updated their contribution of the former article of 1998 on “Design strategy and competitive advantage” with a new article on “Managing Design for Competitive Advantage A Process Approach” and have introduced **core competency** into the design-related discussion and stated “ at the heart of any successful competitive strategy lies a set of distinctive competencies that form the basis of a firm’s source of sustainable advantage” (Olson, Slater, & Cooper, 2000). The article also states that there are strong collaboration opportunities between design and several other firm functions.

In 2000, Seidel stated that designers contribute to strategy work on 3 levels:

1. “Corporate strategy: what businesses to be in and how to manage the business units
2. Strategic business unit strategy: how to compete with other businesses
3. Functional strategy: how to deploy functional resources” (Seidel, 2000).

His examination shows that designers (design consultants) play four roles as strategic contributors:

1. Strategy visualizer: This role involves developing physical and visual prototypes. Using the design and prototyping process neatly matches the questions of strategic fit and strategic intent. “The prototypes should be manufacturable—if not immediately, then through known manufacturing technology—and therefore address strategic fit.” However, they can also explore directions that advance the company’s existing core competencies and guide strategic intent.
2. Core competence prospector: Countless connections to the client’s organization give designers a unique perspective on what is possible within the organization.
3. Market exploiters: They felt that in addition to design know-how, they also provided valuable marketing insights. The **competence prospector** and **market exploiter** roles aim to give the client a new strategic direction based on an understanding of core competencies and market knowledge, mainly working at the planned (**‘intended’**) level of the strategy.
4. Design process provider: In contrast to content-related strategy consulting, as in the cases mentioned above, the last role falls directly into the area of process consulting. e.g. a process to control the development of a new product line. With its focus on empowering product development staff, it also facilitates **emerging strategies** at lower levels within the organization.

Weiss discussed in his article in 2002 the role and contribution of the designer as “interdisciplinary leveraging of capabilities with design processes and tools as interface helps to transition from ideation to implementation”. This scope brings two separate discussions on innovation—namely, creativity-related and business issues—together under the umbrella of design-based processes and design communication. For the first time, the terms “**‘user desirability’**, **‘technical feasibility’** and **‘business viability’** are handled by a **transdisciplinary team**” (Weiss, 2002)⁶.

As one of the most productive scholars in the design management field, Mozota presented in 2005 her work on the Design Manager Balanced Scorecard (DMBS), which is based on the Balanced Scorecard of Norton & Kaplan. This approach links the substantial value creation of design with the financial value creation for the firm. DMBS provides “a systemic view of a design value model and also a dynamic system of relationships between the selected measures”. It is an attempt to go beyond the design integrator role between designers, engineers, and marketing people, the value of design to every employee and all stakeholders (Borja de Mozota B. , 2005).

Later in 2008 de Mozota made her next contribution and explained the evolution of the relationship between management science and design science. She described the initial relationship as constrained and described it as the “design and management as diverging forces”. With the evolution of the design discipline from project-based to process-based, which is a key factor in design’s contribution to management, she called the new relationship “design and management as convergent forces”. The article also emphasizes the capability of design thinking in uncertain environments. The design can be useful to solve contemporary challenges such as complexity, innovation, and social responsibility with the designer’s ability to broker knowledge and engage in systems thinking, observation, visualization, and prospecting. (Borja de Mozota B. , 2008).

Parallel to de Mozota’s investigation of ‘design and management as convergent forces,’ after a decade of the introduction of the ‘Master in Strategic Design’ at Politecnico di Milano in 2008, Dr. Anna Meroni published an article describing the evolution of strategic design. In this context, she discussed strategic design as an approach that includes, among other things, the development of Product Service Systems (PSS). She claims that “a PSS is a mix of products, services, communication and people; when conceived

⁶ *desirability* (or what motivates consumer behavior) demands an understanding of how people interpret and interact with the things, *feasibility* means understanding how the new technologies can be harnessed, *viability* is the aligning with the organization’s strategic objectives and competitive positioning

to answer a specific need.” Meroni (2008) noted that “the strategic design of Product Service Systems shifts the innovation focus from product or service design to an integrated product-service design strategy, orientated to produce solutions” (Meroni, 2008). To meet these requirements, there is a need for a strategic approach of collaboration with the stakeholders as partners; clients, other firms, public institutions, non-profit organizations, and end users. To generate, provide, and deliver a solution, co-opetition with competitors could also be necessary.

This approach was based on the following strategy definition as follows; “strategy is not a pre-defined program, but a series of successive actions driven by a set of scenarios that could be selected, modified and refined over time, according to environmental responses and inputs” (Meroni, 2008). Continuing her efforts to make the tangible value added more apparent, Mozota brought another dimension to the role and value of design with International Financial Reporting Standards (IFRS). “IFRS evaluates the intangibles in the organization’s capital, where design is involved through intellectual property or creative human capital or brand or customer relationships” (de Mozota, 2009). This has created a new assessment framework for companies and a distinctive opportunity for the design profession. Model for managing design as a core competency. In this article, de Mozota and Kim define the tools and methods for the transition from “‘design as fit’ to ‘design as core competency.’”

As the RBV of a firm’s competitive advantage underlines the importance of intangibles, this article emphasizes the value of ‘design you cannot see’. “Design you can’t see is design as research and knowledge, reinforced by employees’ training and empowerment, adequate organizational processes, and technologies that in the end produce competitive market and brand value” (de Mozota, 2011).

3.2. Contribution of Design to Transient Competitive Advantage: A Strategic Framework

As mentioned in the strategy chapter, after the increasing importance of intangibles and uncertainties in the strategic field scholar, models that question the notion of sustainable advantage and shifting the gear toward more provocative notions are challenging the long-established strategy field.

The book “Presumptive design: Design provocations for innovation” in that respect explains in detail the function and contribution of design (in this case the PrD (Presumptive design)) for transient advantage (Frishberg, 2015). In the field of design, as in strategy, new approaches emerge, or some ideas that have been put forward in the past are starting to come to life. PrD is an agile design research method that is a twist on the usual user-centered design approach to identify your audiences’ key needs (Lambdin., 2022).

“Transient Advantage has taken agile sensibilities into the boardroom by eliminating a static strategy planning process. In its place, strategy is defined as ongoing and dynamic, responding to rapid cycles of the competitive advantage” (Frishberg, 2015). In the traditional view, strategy focuses on measurable objectives, scope, and differentiators in an organization. As noted in the previous chapter, McGrath’s view underlines “such a static definition of strategy no longer serves organizations facing very turbulent market dynamics”. A firm must be prepared to successfully ride the waves of a transient competitive advantage (Muneeer, 2019).

Frishberg explained; “the Cynefin Framework provides a theoretical context for McGrath’s Transient Advantage.”

	Unordered	Ordered
Complex	Unknown Unknowns	Known Unknowns
Chaotic	Unknowable Unknowns	Known Knowns

Figure 2. “Snowden’s Cynefin framework on decision matrix”

Organizations increasingly encounter scenarios within the "unknown-unknown quadrant," a trend that has intensified recently. Through the PrD perspective, strategists are afforded the opportunity to explore experimental strategies akin to those that might be employed in the future. In environments characterized by "unknown unknowns," the imperative action is to engage actively (Frishberg, 2015). PrD is most effective for situations defined as “unknown unknowns”, where the organization must take action

to identify what it does not know. These actions will be experiments that rely on artifacts (prototypes) that drive good stakeholder conversations and illuminate insights.

Viewing through McGrath's framework of Transient Advantage, it becomes essential for organizations to cultivate a vast array of opportunities to adapt swiftly should the external environment undergo significant changes. The concept of generating multiple strategic alternatives is well-established; however, as noted by scholars like Schrage, Ulwick, and others, the essence lies in the ability to efficiently pinpoint viable candidates for survival within targeted markets (Andrews, 1980). At this juncture, PrD excels by pinpointing optimal solutions that address the precise problems identified by customers and markets, achieving this with minimal expense and effort (Frishberg, 2015).

In the intersection of knowledge management, strategy, and design discussion, Turkish scholar Boztepe focused on the work of design consulting firms and identified new and strategic engagements of designers. The generation of alternative ideas, creative thinking, and synthesis characterize the design. Its aims are to redefine existing strategies to create unique organizational competencies to guide the company's direction by developing future scenarios. The strategy development process grounded in user experiences attempts to reduce the risks associated with uncertainty, design's focus on creative thinking has the potential to create opportunities unknown to business and visuals, and prototypes are an integral part of experimental and creative thinking. Boztepe describes the role change after RBV and DC; Design as a single visually differentiated product is easy to imitate and can only bring a short-lived competitive advantage. Therefore, it can be conveniently dismissed as a strategic source. According to Boztepe; "But as design evolves from creator of differentiated products to design as an organizational activity with its own systematic processes, routines and attitude, ingrained into organizations and can be reused then it becomes a strategic resource (Boztepe, Design expanding into strategy: evidence from design consulting firms, 2016)."

The results of the research from Micheli, Perks and Beverland is a good example of how to take design to a strategic level. Six practices have been found to affect the design elevation process; top management support, leadership of the design function, raising awareness of the role and contribution of design, inter-functional coordination, assessment, of design, and formalization of product and service development processes.

Due to its potential to disrupt established norms, design frequently encounters significant resistance (Brown T., 2015). In this article "Elevating design in the organization" the authors described, besides the critical practices, also the potential tensions that should be balanced if design is to be elevated in status. Clear signposts by senior managers, articulation of their unique contribution to the organization's strategic goals by designers, organizational process modifications, and, last but not least, the designers' capacity to work in cross-functional teams as they are fully aware of commercial considerations of the firm build the frame for the potential success of the elevation (Micheli, Perks, & Beverland, 2018).

Liedtka emphasized, "by integrating design practices into strategy development, practitioners can produce both incremental improvement in the performance of today's business model and open opportunities to radically transform it" (Liedtka J. &., 2019). She described five areas where strategy practitioners can benefit from design:

1. How you see opportunity: With integrating Human Centered Design (HCD) in the strategy development process, the process will be (more) customer focused. As the main driver of HCD is the "helping customers get the jobs done" there will be a shift in focus from the organization to the customer. The HCD uses the adjacent possible process through inviting the "uncommon" voices to strategy discussions to discover new insights.
2. Learn through action. The prototyping and experimentation phase: It's a challenging phase because it involves prototyping a novel offering. "It requires going beyond building a minimum viable product to designing and testing a minimum viable business model".
3. Manage a portfolio of bets: As the transitional strategic portfolio management rests on a significant assumption—that organizations actually know the true potential of the individual components of their growth strategies in the current hyper-dynamic environment, knowledge about the true potential is just hypothetical. In today's environment, improving the accuracy of value and risk assessments is more important than estimating market growth and predicting market share. Under these uncertain circumstances, design can offer tools such as The Bring-Build-Buy Map, The potential Value/Risk Grid, Co-creation, and prototyping.
4. Making change happen: According to Liedtka, the scaling phase is the most difficult, which requires the involvement of the rest of the organization in a change process. For the involvement of the whole organization new strategies must be vivid, personally meaningful and compelling to the people who must change their behavior in order to implement them. A strong tool of design and storytelling can help an organization; the designer can translate abstract ideas and high-level prescriptions to a meaningful story for the people.
5. (Radically) The business model is transformed as follows: It is argued that the best use of design thinking is to help strategists imagine, design, prototype, and commercialize entirely new business models to mitigate the threat of disruption.

Rita McGrath posits that the traditional model of sustainable competitive advantages has been supplanted by a paradigm of transient advantages. In this new dynamic, the entrenched structures and systems that were optimized to maximize the benefits of longstanding competitive edges are challenged. These systems are designed for stability and impede the agility required to navigate an ever-shifting landscape of fleeting opportunities. This perspective on the evolving nature of competitive advantages is complemented by Jeanne Liedtka and Saul Kaplan's insights on how design thinking can open new frontiers for strategy development, highlighting its role in enhancing customer-centric approaches and innovative problem-solving (Table:1).

In the book "Managerial decision making: A holistic approach" Foster et al. delineated four essential conditions that organizations must fulfill to navigate the transient competitive landscape (Forrest, 2020). Companies that follow the Transit Advantage strategy move from one wave of competitive advantages to the next without dwelling too long on a wave because it will become exhausted; and they are always looking for the next one that will allow companies to successfully surf waves of temporary competitive advantage by improving their performance. The lifecycle of each competitive wave includes phases of launch, ramp-up, exploitation, and critically, disengagement. During disengagement, organizations strategically divest assets and capabilities that are no longer pertinent, initiating this phase while still earning profits (McGrath R. G., 2013).

To effectively equip a company for these evolutionary waves of transient competitive advantages, it is imperative to adhere to the following steps:

- "Aim at realizing a long-term, unwavering ambition.
- Stabilize relationships.
- Foster strategic agility.
- Make innovation the norm."

3.3. Evidence: The Changing Methodologies of Management Consulting Firms

It is not a new development for management consulting companies to make designs. However, at that time, it seems that they did not attach importance to this issue even in their own practices: "Design-including its 'soft' aspects—was included by McKinsey & Company in its original formulation in of its widely influential 'Business System' 1980 concept, but it tends to be forgotten or omitted when the business system diagram is drawn in practice" (Lorenz, 1994).

An explanation for McKinsey's inability to use design as effectively as it is today comes from Lorenz, based on the definitions of Mintzberg and Dumas (Dumas, 1989). Instead of categorizing strategy as one of McKinsey's 'hard Ss'⁷, "it should be placed in a new position, straddling hard and soft. Without that conceptual shift, the value of design is unlikely to be captured by the company" (Lorenz, 1994). As Dumas argues, the 'soft S' of shared values must involve a broad belief in design as well as aspects of corporate culture that are usually associated with the notion of 'values'. Lorenz also noted that one reason design is typically underutilized is that contrary to the widespread acknowledgment of important marketing principles, no universally accepted description exists of how design can contribute to business outcomes (Lorenz, 1994).

V. Seidel defined the roles of designers in consulting firms in providing strategy consulting services. His studies identified the following strategic roles for designers; "strategy visualizers, core competence prospectors, market exploiters, and design process providers (Seidel, 2000)."

The analysis of strategic design consulting firms shows that designers work across a wide range of activities, from the redefinition of existing strategies to building unique organizational capabilities to setting corporate vision by imagining the future (Boztepe, 2016).

In the 2000s, when uncertainties increased and changes accelerated, traditional design consultancy companies such as IDEO and Ziba attracted the attention of consulting companies specializing in management and strategy consultancy, especially the so-called big five (Joziassse, 2000; Liedtka J., 2010). Management consultancy companies acquired and incorporated design consultancy companies focused on strategy to quickly transfer know-how. "For example, the first strategic design consulting firm, Doblin Group, has become part of Monitor, and then of Deloitte Consulting. Accenture acquired a service design company, and Fjord and McKinsey Company bought Lunar" (Boztepe, 2016).

According to a prospective British survey conducted in 2020, design agencies are seeking models that add value and boost the standing of their industry. They also have to face new competitors—newcomers in their industry—that are strategy consultants (De Mozota B. B., 2019). Boztepe called it "confluence between firms in strategic management consulting and those in design consulting" (Boztepe, 2016). We observe that design-based consultancy companies are increasingly accepted both in companies and the public sector, and they enter into competition with management consultancy companies by providing design training,

⁷ The seven Ss of management. Soft Ss: Style, Skill, Staff, Shared Values, Hard SS: Systems, Strategy and Structure

workshops, and consultancy. While collaborating with institutions like Stanford D-School and Hasso Plattner Institute in Germany, they also perform projects at the corporate, local, and national levels by strengthening their international connections. For example; after kyu of Japanese origin took IDEO in the USA, he incorporated the Istanbul-originated Atölye, and this multinational network was able to cooperate with both the communal institutions and the private sector in different geographies and countries, from the United Arab Emirates to the UK, from Turkey to Qatar. When we look at the projects they have done, we see that they have produced solutions for many needs of the private sector, including strategy development, with different design approaches. Furthermore, in the public sector, they occur in various activities, from designing public services to developing local or national policies.

While we have heard the name of big 5 in the past, especially for the consultancy needs of government and international companies, now we often hear these (next generation)⁸ design consultancy companies.

In her 2018 article, Boztepe analyzed how design can deliver a forceful change in strategy formation. According to the results, there are two ways to contribute at the strategy level; “design works its way to strategizing through repeated client engagement and trust building; starting with design of individual, differentiated products, which doesn’t change the overall scope of the firm then to develop a high level of ownership and enthusiasm for the ideas developed together with the positive effect of internalizing the design process” (Boztepe, 2018). The culmination of this journey involves engaging with products and services that not only affect the client’s strategy but also prompt organizational and social transformations.

The other path is the use of an HCD, a human-centered approach. This approach centers on user research, which delves into user needs, problems, and opportunities. Such research not only facilitates discussions at the strategic level but often acts as a foundation for strategic engagement. By bringing user needs, challenges, and opportunities into sharp relief, user research may initially influence product development but can also necessitate alterations in organizational processes, structures, or overarching strategies. “With the arrival of human-centered design, DCFs added new tools and competencies to their portfolio. DN, in partnership with Elevated ApS, has developed a tool called BreakAway based on Kim and Mauborgne’s blue ocean strategy” (Boztepe, 2018). HCD, which is one of the 5 areas that we explained in the previous section, defined by Liedtka as an area that can be used in strategy practices, has also proven this feature in field studies.

Critical Summary

Ambiguities in the field and concepts

The constant evolution of the design and strategic management fields complicates the understanding of their relationship and thus the creation of synergy, at least in the initial perception phase. Unfortunately, related concepts still lack universally accepted definitions. In recent years, articles have been published attempting to resolve this ambiguity in practice and academia. However, if these concepts were more clearly defined, a broader audience would benefit from the contributions that many studies in the field have made.

Time difference

This study compiled articles written over the last 40 years in the domains of design and strategy. In the same table, you can also find the main strategic resources of the articles. It is observable that the articles were written at any time, regardless of the period during which strategy theories emerged. In short, those who deal with design strategically have benefited from one or more strategic theories during any period, regardless of the period. However, one point still stands out; the field of design often lags behind the strategic field by several years. Approaches that emerged and were discussed in the strategic management domain could only be included in the literature by examining them in the field of design after years. Although it is possible to say that this period has shortened recently, there is still a time shift, and the data are not sufficient to make a definitive comment. Perhaps an example of this can be found in the design-innovation relationship. We see that design-based researchers and writers especially interpreted the adoption of design as an integral section of innovation in the late 90s and the beginning of the new millennium, and in this way, they attracted the attention of both managers and management science, interpreting it as an important step (Weiss, 2002; Kelley, 1999). This is a significant step in terms of bringing design inside the business beyond its traditional function. However, even at that time, there were contributions that design could make to the enterprise, especially at the strategic level, but we see that these only came into play in the following years. The design field often plays the role of follower.

⁸ These consulting companies often refer to their services as next generation: next-generation digital agency next generation creative practice, next generation of diverse creatives and strategists, next-generation learning etc.

VUCA

As de Bono stated in 1992 “Predictive tools are valuable, but only if the future is an extension of the present” (De Bono, 1992). Unfortunately, as described above, the future is more and more uncertain than ever before and it is difficult to define it as an extension of the present. We live in a VUCA⁹ world. Such an environment reveals the need for each other to meet today’s design and strategy needs, as described in previous sections.

Role of the designer

Although there is a real potential to create serious synergy between these two fields, one obstacle is the missing role of the designer. There is still no agreement on the precise responsibilities of designers who want to offer strategic business advice (2000 Seidel). This has another effect: As the two fields approach each other, more business people approach design, and designers act more hesitantly and remain passive. This situation results in the fact that business people only learn and try to use design methods and tools on a superficial level and cannot (or do not) benefit from the philosophy and culture of design. Parallel to this development, how design can continue to exist as an independent and original field has been a topic of discussion in recent periods.

No matter which strategic approach companies choose, the design will contribute to the relevant strategy at each stage; planning, execution, and review. The integration of the business and design approaches opens up new potential for modifying comprehension, the future, and the tools to benefit it.

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⁹ Volatility, Uncertainty, Complexity, and Ambiguity

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