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Characterizing strategic design processes in relation to definitions of strategy from military, business and management studies

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This paper reviews existing characterizations of strategy from military, business and management studies and examines how these characterizations may help inform strategic design processes. The paper serves as an entry point for both design researchers and practitioners interested in understanding the rich and nuanced perspectives that such varied characterizations of strategy may provide.

Keywords: strategy; design strategy; strategic design

Introduction

Numerous books, articles and theoretical considerations have been dedicated to strategy, and there is no agreed-upon definition of the concept (Kenny 2018). Columnist Matthew Parris has lamented the widespread use of the word strategy at a point that the term becomes almost meaningless: ‘There exist few modern circumstances where the removal of the word “strategy” from any passage containing it fails to clarify matters’ (Parris 2012). Broad definitions emphasize how strategy is about ‘maintaining a balance between ends, ways, and means; about identifying objectives; and about the resources and methods available for meeting such objectives’ (Freedman 2013, xi); or, in other terms, ‘the core of strategy work is always the same: discovering the critical factors in a situation and designing a way of coordinating and focusing actions to deal with those factors’ (Rumelt 2011, 3). Studies in strategy have a long tradition and stem from a variety of disciplines and contexts including military, business and management.

Within the design fields, scholars and practitioners presented their considerations on strategy with contributions ranging from engineering design (Hsu 2009; Holt 1991) and ergonomics (Dul and Neumann 2009), up to design management (Lockwood and Walton 2008; Nixon 2016; Borja de Mozota 1990), all the way up to

collaborative design (Hyysalo and Hyysalo 2018) and architecture and urban planning (Kempenaar and van den Brink 2018; Hill 2012). The interest that design thinking has awakened across academic publications and popular press, particularly in relation to how design methods and approaches can help frame and address complex problems has contributed to stimulate discussions about the strategic potential of design for business endeavours (Liedtka 2015; Johansson-Sköldberg, Woodilla, and Çetinkaya 2013; Cooper and Junginger 2011).

However, whilst some design researchers took into account nuanced depictions of strategy (Heskett 2017), in some other cases, scholarly reflections remained anchored to the business and corporate sphere with works that built on underspecified characterizations of strategy. There is the potential to further develop this area of design research (Boztepe 2016).

As a starting point, this study builds on a definition of strategic design as a ‘professional field in which designers use their principles, tools and methods to influence strategic decision-making within an organization’ (Calabretta, Gemser, and Karpen 2016, 9)¹. Strategic decision-making can occur when designers make long-term plans and also when they actualize these plans by their day-to-day decisions, within or in collaboration with the organizations they are eventually working with (Friend and Hickling 2012). In these contexts, decision-making can be supported by strategic design processes ranging from the use of specific sequences of tools and methods, all the way up to vocabularies that can help look at the design process from a strategic angle and to the adoption of strategic principles (Simeone 2019). The aim of this paper is to examine

¹ This definition is broader than other existing characterizations of strategic design, which are more anchored to ‘business considerations such as competitive positioning, pricing strategy, distribution strategy and advertising strategy’ (Brown 2019, 41).

such multifaceted views of strategic design by connecting them to characterizations of strategy elaborated in military, business and management studies. In plain terms, the research question addressed in this paper is: *How can characterizations of strategy from military, business and management studies further current understandings of strategic design processes?*

Methods

While broader studies on strategy adopted a more systematic (Ronda-Pupo and Guerras-Martin 2012; Chereau and Meschi 2018) and historically-grounded (Freedman 2013; Gaddis 2018; Ghemawat 2002) approach, this paper builds on a narrower set of strategy characterizations across fields as diverse as design, military, business and management studies². These characterizations are clustered around three main categories: (1) rational and analytical perspectives, (2) emergent and systemic aspects of strategies, and (3) power dynamics, persuasion and deception in strategy. On the one hand, this categorization emerged by analyzing and clustering the sources – i.e. books and papers on strategy - through a concept-centric framework in which ‘concepts determine the organizing framework of a review’ (Webster and Watson 2002, xvi). On the other, this framework somewhat maps three viewpoints (Visser 2006) that have been used in cognitive design studies to look at the design process: (1) Herbert Simon’s rationalistic proposition of a ‘science of design, a body of intellectually tough, analytic, partly formalizable, partly empirical, teachable doctrine about the design process’ (Simon

² The label ‘management studies’ is used here in a broad sense to signpost those publications which examine the application of strategy beyond the traditional areas of concern of corporate strategy, which is, in general, more focused on business and profit-oriented ventures than on topics such as strategic management of NGOs or philanthropic processes or political strategy.

[1969] 1982, 58); (2) Donald Schön's idea of design as a process that emerges from 'tests, moves, and probes of experimental action' (Schön 1987, 280) and where 'reflection feeds on doing and its results' (Schön 1987, 280) and (3) design as a meaning-making activity (Krippendorff 2006), which qualifies design as a construction of representations (Visser 2006).

For each of these categories, the paper examines (a) a selection of classic and more recent works on strategy from military, business and management studies and (b) scholarly work on strategic design. The latter stems from a close reading of contributions coming from books, conferences and journals (Gemser et al. 2012) in the design field. These journal databases and Google Scholar have been used to identify books and papers that contained the words 'strategy', 'strategies' and 'strategic' either in the title, the abstract or the keywords. Adopting a snowball approach previously used in literature (Ravasi and Stigliani 2012; Hernández et al. 2018), these contributions have been analyzed also to check whether the works they cited could be of interest. Subsequently, the author carried out a selection of the whole material and examined the selected contributions (some 70 books, journal articles and conference papers) in relation to the three main categories presented above. These categories are considered as three complementary ways to look at scholarly work from different angles.

The paper aims at integrating existing systematic studies that look into the design contributions to competitive forces, value creation and fit, resources and capabilities, and strategic vision (Stevens and Moultrie 2011; Stevens 2011).

Rational and analytical perspectives on strategy

Views from military, business and management studies

A recurrent metaphor to represent strategy is the game of chess, where the player closely and rationally analyses and evaluates all her options (i.e. the available resources and the possibilities to put at play these resources) and then tries to outsmart her opponent.

Such analytical view has been quite influential since the first systematic studies on strategy in the nineteenth and twentieth centuries (Freedman 2013), from the works of Antoine Henri de Jomini on how commanders should carefully examine theatres of war and lucidly organize their troops (Jomini [1838] 2008), up to the management and business considerations proposed in the twentieth century by influential thinkers - such as Alfred D. Chandler (Chandler [1962] 1990) and Kenneth Andrews (Andrews 1971) - who all praised the benefits of meticulous planning.

A rational and analytical approach can be used to identify and drive the strategic positioning of an organization both in relation to how the organization is different from its competitors (Porter 1980) and in relation to the specific environmental and contextual conditions of operations (Ronda-Pupo and Guerras-Martin 2012). Design is acknowledged as a powerful tool for such strategic positioning (Kotler and Rath 1984). Even though some theorists take into account the challenges of an accurate and precise planning when lacking full control of future possibilities and events, strategy is still tasked to provide 'rules for decision under partial ignorance' (Ansoff 1965, 120). A logical structure is considered a key element of strategy, particularly in relation to how high-level policies, resource commitments and actions should be coherently interlinked (Rumelt 2011). Coherence is also a key descriptor in the characterization of strategy proposed by Arnaldo Hax and Nicolas Majluf by integrating definitions offered by

other scholars mostly within management and business studies and which describes strategy as ‘a coherent, unifying, and integrative pattern of decisions’ (Hax and Majluf 1988, 102).

Rational and analytical perspectives in strategic design

Within the design field, various authors have recognized the importance of careful and methodical planning while defining and executing strategy (Lockwood 2008; Evans 1985; Borja de Mozota 1998). The introductory section of the book *Recipes for Systemic Change*, stemming from the work on strategic design of the Helsinki Design Lab, contains a quote from the chess Grandmaster Savielly Tartakower: ‘Tactics is knowing what to do when there is something to do, strategy is knowing what to do when there is nothing to do’ (Boyer, Cook, and Steinberg 2011, 22). The view emerging from Brian Boyer and colleagues’ book emphasizes the analytical dimension of design (Simon [1969] 1982) and qualifies strategic design as an integrated approach to tackle complex situations. Strategy is what should drive the major design functions in a firm: ‘[a]ny firm must have a strategy, whether implicit or explicit, which determines the nature of the firm, its products, markets and values’ (Heskett 2017, 57).

Studies in strategy abound in design management, which tends to look at the corporate and organizational components of strategy (Nixon 2016; Svengren Holm 2011; Borja de Mozota 2002) and where design strategy is seen as ‘the effective allocation and co-ordination of design resources and activities to accomplish a firm’s objectives of creating its appropriate public and internal identities, its products and service offerings, and its environments’ (Mark Olsen cited in Best 2006, 50). Design strategy helps companies in more effectively competing in the marketplace by clearly linking company strategy and design (Chung and Kim 2011; Hertenstein and Platt 1997). Performances of design processes and projects should then be measured in

relation to how they help to achieve specific strategic goals and how they align with the whole organizational strategy (Holston 2011).

The use of rational frameworks of analysis borrowed from corporate strategy such as five forces (Grundy 2006), SWOT and PESTEL (Holston 2011; Ho 2014) or the use of other quantitative research methods (Hsu 2009) is considered an important component for the application of strategy in design. Design-specific approaches have also been presented in literature, like, among others, in the case of the ‘strategy wheel’ to review and measure company’s capabilities (Boeijen et al. 2014) or the ‘quality pyramid model’ to express the relationships between design and quality (Owen 2001). Cara Wrigley introduced a ‘Design Innovation Catalyst framework’, which relates to ‘how the specific knowledge and skills of designers [can] be better articulated, understood, implemented, and valued as core components of strategic innovation in businesses’ (Wrigley 2016, 148) and can facilitate interplay of design, innovation, and business.

Strategic design processes are seen as based on sequences of rational moves (Vossoughi 2008). Building on a definition of strategy as ‘an integrated set of choices that uniquely positions the firm in its industry so as to create sustainable advantage and superior value relative to the competition’ (Lafley and Martin 2013, 3), Alan Lafley and Roger Martin provided a series of rational thinking tools and logical frameworks to analyze and define strategies.

Emergent and systemic aspects in strategy

Views from military, business and management studies

Field Marshal Helmuth Karl Bernhard Graf von Moltke – one of the commanding figures of the 1870 Franco-Prussian War – was responsible for the famous observation

that no plan survives contact with the enemy (Moltke 1995). He argued that war could not be conducted sitting at a strategy table and through predefined plans, but field commanders should be given the authority to improvise and respond to the unpredictability of the battlefield. Strategy should be seen as an emergent, artistic activity, as ‘a system of expedients’ rather than as a ‘scholarly discipline’ (Moltke 1995, 124).

A bit more than a century later, Henry Mintzberg proposed a view of strategy as a ‘pattern in a stream of decisions’ (Mintzberg 1994a, 934). His point was that strategic planners cannot have enough foresight to fully anticipate future courses of actions and external events (Mintzberg 1994a). Therefore, his idea was that there could be ‘deliberate’ and ‘emergent’ strategies (Mintzberg 1994b). A deliberate strategy depends on a clear, precise and often centralized definition of intentions and plans. This deliberate strategy can be successfully executed when no interference from external forces (market, politics, technology) or events occur. Conversely, in situations when the influence of external and unpredictable factors is significant, strategy would emerge from a sequence of context-dependent decisions made by managers or other individuals while trying to respond to the constraints and imperatives imposed by the external environment. These decisions would unfold courses of actions that are affected by external forces and events at a point that centralized control is lost. Therefore, organizations should always be alert in observing the results of their decisions and in continuously trying to react to unanticipated outcomes. Strategy is a paradoxical process in which the more organizations plan ahead for success (e.g. narrowing their focus, committing resources and developing specific capabilities toward this specific focus), the more they may actually increase their chances for failure as future is uncertain and unpredictable (Raynor 2007). This is why learning, flexibility, responsiveness and

constant adaptations are central in strategy (Harris and Lenox 2013; Hax and Majluf 1988). To this end, strategic approaches might value those design processes that are open to emergent opportunities and that specifically design flexibility into the proposed solutions (Liedtka 2002).

This is a view that is aligned with theorizations of strategy and management in non-linear, chaotic and adaptive systems (Beinhocker 1997) and of value creation in complex business systems (Normann and Ramirez 1993; Lusch and Vargo 2014) and with studies that explore strategy as stemming from distributed and networked governance and open innovation (Chesbrough and Appleyard 2007) or from the uncoordinated everyday actions of a multitude of individuals (Chia and Holt 2009). Rather than seeing strategy as a ‘focused line of attack—a clear statement of where, how and when to compete’ (Beinhocker 1997, 33), organizations should focus on being prepared to perform well in a variety of future environments also building on repertoires of responses to new and unanticipated situations (Reeves, Haanaes, and Sinha 2015).

Emergent and systemic aspects of strategic design

Within design research, a good number of scholars offered reflections on how to tackle ill-defined and wicked problems (Papanek 1972; Rittel and Webber 1973; Buchanan 1992; Bayazit 2004; Teixeira 2017) and on the challenges of designing within complex ecosystems (Fuller 1969; Thackara 2005; Irwin, Kossoff, and Tonkinwise 2015; Manzini 2010). However, fewer authors directly engaged with literature on strategy or fully built on strategy as a core analytical concept for their studies. Nigel Cross defined design strategy as ‘the general plan of action for a design project and the sequence of particular activities (i.e. the tactics or design methods) which the designer or the design team expect to undertake to carry out the plan’ (Cross 2008, 193). Cross argued that a design strategy should be articulated into a framework of intended actions (i.e. specific

combinations of methods and techniques) and a management control function to adapt these actions along the way. Along the same lines, Kevin McCullagh pointed out that design strategy ‘is not about grand conceptual ideas but it is instead a pragmatic blend of thinking ahead and en-route adaptation’ (McCullagh 2008, 67). Design is here seen as an exploratory and reflective practice emerging from (potentially, multidirectional) sequences of design moves (Schön 1987).

In some reflections focused on landscape architecture, Annet Kempenaar and Ari van den Brink noted how the strategic dimension of design emerges from the application of design principles such as: ‘taking a dynamic systems perspective, addressing multiple geographical scales, looking from history to future, creating a continuing dialogue with stakeholders, reframing the region, sensing and responding, balancing direction and openness’ (Kempenaar and van den Brink 2018, 85). Keeping in mind these principles helps strategic design – i.e. ‘the involvement of design in vision development and strategy formulation’ (Kempenaar and van den Brink 2018, 81) - in steering the design process in a flexible and adaptive fashion and in selecting possible methods and approaches to face ill-defined, fuzzy and volatile problems. Adopting a systemic perspective, Anna Meroni looked at strategy as ‘any action that takes a direction and moves, making a system evolve with success, according to some flexible but clear rules, and adapting to changes in the environment’ (Meroni 2008, 33). Meroni described the role of strategic design as related to ‘conferring to social and market bodies a system of rules, beliefs, values and tools to deal with the external environment, thus being able to evolve (and so to survive successfully) as well as maintaining and developing one’s own identity’ (Meroni 2008, 31). Within design projects, strategies ‘emerge and unfold throughout the multiple processes that occur in the creative

ecosystem, that is, in the organizational milieu, the market, the society and the environment' (Franzato and Campelo 2017).

Claudio Dell'Era and Roberto Verganti are among those scholars who more carefully examined the functioning of such ecosystems by looking, for example, into how design-intensive industries should carefully manage a balanced portfolio of collaborators to pursue collaborative innovation strategies (Dell'Era and Verganti 2010). A wider picture of strategic design is also proposed by various authors, who examined how narrative frames – i.e. ways of looking at the project or the process from different angles - in different innovation and organizational contexts affect design approaches and strategies (Zurlo and Cautela 2014; van der Bijl-Brouwer and Dorst 2017).

The work of John Heskett (Heskett and Dilnot 2015) and of other authors directly building on his considerations (Boztepe 2016; Kristensen 2016) also deserves to be mentioned here as their approach has a broad take on strategy and examines interplay of various factors including economics, management, design practice, marketing and branding.

Power dynamics in strategy

Views from military, business and management studies

When studying game theory – which, in the 1950s, gained a significant reputation among strategists (Freedman 2013) – John von Neumann analyzed the game of poker rather than chess. Why poker and not chess, the scientist Jacob Bronowski asked von Neumann? Von Neumann replied:

Chess is not a game. Chess is a well-defined form of computation. You may not be able to work out all the answers, but in theory there must be a solution, a right

procedure in any position. [...] Real life is not like that. Real life consists of bluffing, of little tactics of deception, of asking yourself what is the other man going to think I mean to do. And that is what games are about in my theory (Poundstone 1992, 6).

Von Neumann pointed how, in poker, uncertainty in relation to the quality of the cards that the players hold has a significant role in the players' possibility to bluff and foster unpredictability.

Rather than seeing strategy as logical and rational, a variety of thinkers considered that human decisions in relation to strategy depend in large measure on emotional aspects and are affected by complex social, economic, cultural dynamics and power plays (Freedman 2013; Echevarria 2017). In his seminal work *On War*, the Prussian general and military theorist Carl von Clausewitz argued that war is shaped by a trinity of factors, one being the application of reason to make plans and to control the battlefield, the other two being the uncontrollable play of chance and probability and the primordial violence and hatred that act as a blind natural force (Clausewitz [1832] 1984). Long before, treatises on war and politics already recognized the importance of stratagems, cunning, bargaining and persuasion (Sun Tzu 1964; Machiavelli [1532] 2005). Throughout history, strategy would often be considered as a political art (Gaddis 2018; Paret 1986), as the 'art of creating power' (Freedman 2013, 607), of dealing with current configurations of power and, also thanks to strategic alliances, of establishing new and more favorable power relations. Nowadays, the capacity to control narratives and discourses to persuade, deceive, convince and, ultimately, frame events in light of own interests is recognized as central in essays of political strategy (Trubowitz 2011; Gray 2016), information and culture-centric warfare (Scales 2004; Clemons and Santamaria 2002), and corporate strategy (Hatch 2006; Pfeffer 1992).

Power dynamics, persuasion and deception in strategic design

Within design, such aspects of strategy are considered in the work of a few authors. Kathryn Best looked at design strategy as the way in which an organization ‘intends to use design’ and the way in which ‘design processes can best serve [an organization’s] operational needs’ (Best 2006, 49). Design needs to be supported by chief executives and to be closely integrated with the other existing organizational functions (Song, Nam, and Chung 2010) and this integration process might lead to redistribution of resources, capabilities and responsibilities and, thus, to organizational tensions and conflicts. To this end, designers should consider the possibility to set some alliances within the organization to support buy-in for design processes (Best 2006). In addition, alliances should also be considered as a means to fully exploit the potential of integrated design, production and distribution strategies that involve different organizations (Floré 2017). Design can help integrating not only the diverse perspectives of various organizational departments and functions but also resources and capabilities scattered within and across organizations (Svengren Holm 2011; Boztepe 2018; Boland and Collopy 2004; Borja de Mozota 2006).

From a viewpoint crossing architecture, urban and regional planning, John Friend and Allen Hickling argued that long-term plans are actualized by day-to-day decisions and both plans and decisions are affected by pressure of urgency, competition for resources, turbulence and complexity in the world, cognitive and emotional overload, uncertainty and confusion, interorganizational and organizational conflict and all this can lead to ‘vacillation and inconsistency in the making of day-to-day decisions’ (Friend and Hickling 2012, 4). These day-to-day decisions emerge from the interaction among the varied stakeholders involved in a design project and through rhetorical and semiotic processes of meaning-brokering (Krippendorff 2006).

Dan Hill proposed a strategic design vocabulary where the concept of ‘dark matter’ is central (Hill 2012). The dark matter is what typically remains amorphous and nebulous in the background of design processes and yet can dramatically and powerfully affect the outcomes: ‘organisational culture, policy environments, market mechanisms, legislation, finance models and other incentives, governance structures, tradition and habits, local culture and national identity, the habitats, situations and events that decisions are produced within’ (Hill 2012, 83). Although designers cannot have a full control of such dark matter, they still have to take it into consideration while planning and executing their projects. This is a point also made by other design researchers, including Gwendolyn Kulick that hinted at the impact that power relations have in the design strategies behind some development aid projects in Pakistan (Kulick 2017). While examining how slaves were regularly used as skilled craftsmen and designers up to the nineteenth century, Heskett reminded us how exploitation, colonialism and power struggles have had a central position in the history of design (Heskett 2016).

Discussion and conclusions

The perspectives explored in the previous sections emphasize different aspects of strategic design processes. Figure 1 presents a visual summary of the reviewed works in relation to the concept-centric framework (i.e. the three main categories) used in this study.

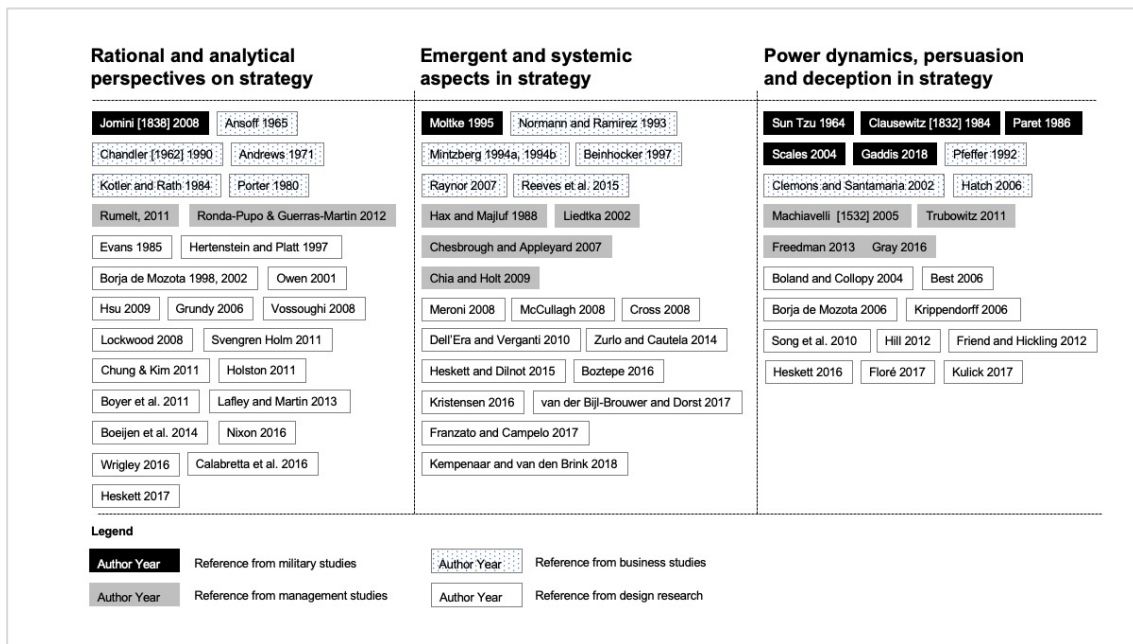


Figure 1 Visual summary of the reviewed works in relation to the concept-centric framework

In relation to the research question presented in the first section (*How can characterizations of strategy from military, business and management studies further current understandings of strategic design processes?*), Figure 1 can help to present some considerations. The figure shows how design research has explored strategic design processes from the three different perspectives mapped in the concept-centric framework. In other terms, the different views on strategic design elaborated in design research and examined in this paper are aligned with research in strategy emerging from military, business and management studies. This demonstrates the breadth of past and more recent scholarly contributions on strategic design processes. These contributions, occurring within the more specialized community of design management but also across the wider design research field, expand the work of influential thinkers such as Herbert Simon, Donald Schön and Klaus Krippendorff (Simon [1969] 1982; Schön 1987;

Krippendorff 2006) by elaborating on rationalist, pragmatist and cognitive and semiotic views of design processes.

However, Figure 1 also shows how the third category ‘Power dynamics, persuasion and deception in strategy’ remains a bit less explored by design researchers. Common themes of military and management studies are (a) the need to carefully consider power dynamics (e.g. internal and external opponents and pressures; alliances and coalitions as a source of strengths and instability) as a factor that potentially leads to confusion, vacillation and inconsistency in strategy and (b) to the role of information, narrative and cultural aspects to frame and control phases of strategy formulation and implementation, also through active use of persuasion and deception. These aspects could provide interesting material to analyze design projects, especially those projects that see the interplay of multiple stakeholders or that operate in complex contexts of intervention. It is in these contexts that the semiotic dimension of design as a meaning-brokering, unsettling, and disclosing activity more fully emerges.

To more closely look into these aspects, scholarly work in design might benefit from the adoption of a more fine-grained definition of strategy that goes beyond the allocation and coordination of design resources and activities to accomplish a firm’s objectives. Expanding on definitions originating from military studies (Freedman 2013; Echevarria 2017), strategy can be characterized as about *finding a balance between ends, means and ways as to achieve the impact needed to address a challenge and while keeping an eye on risks*. This definition posits that strategy is about taking in consideration the resources and capabilities (‘means’) in hand (or that can be achieved and developed) and defining goals and objectives (‘ends’) that can be realistically met by mobilizing resources and capabilities in specific manners (‘ways’). Risks involved in the operations of mobilizing and balancing all these elements should also be considered

as to put in place countermeasures that increase the chances that design actions reach the impact needed to address the targeted challenge. When characterized as finding and maintaining a balance between different – at times, seemingly incompatible - components, strategy becomes more of a process or a practice (Whittington 2007) that needs a continuous adjustment rather than a plan that can be initially fully-fledged and then linearly executed.

Another aspect emerged from the review, particularly concerning the third category of the concept-centric framework, is that business, military and management studies have long explored somewhat antagonistic ways to find and maintain a balance between ends, ways and means in strategy, ranging from how to fight and prevail against competitors through wars of exhaustion or annihilation (Clausewitz [1832] 1984), all the way up to how to use deterrence in a game of projections to mitigate aggressive action from the opponents (Freedman 2013; Echevarria 2017). Competition, campaigns, attacks and maneuvers are seen by many as key aspects of strategy (Freedman 2013) and yet they seem underexplored in design research.

In conclusion, the question is what design research can learn from these diverse characterizations of strategy and how key learning points from other fields can be adapted in the context of design processes and projects, where strategies might not necessarily aim at overcoming competition but also at facilitating multistakeholder participation and cooperation. As a departing point, design scholars can build on existing research on strategic design processes, which – as shown in this paper - already embraces the multiple vantage points offered by past and current military, business and management studies and ventures across different characterizations of strategy. However, design researchers could also more fully and deliberately re-modulate, hybridize and readapt the theoretical constructs offered by other fields like military,

business and management studies and apply them to a design context. This is an operation that some of the authors above cited are already carrying out, such in the case of the strategic vocabulary proposed by Hill (2012) to look at urban design interventions in terms of ‘platforms’, ‘installations’, ‘codes’, ‘adaptive layers’.

Adopting a more granular characterization of strategy can also benefit design practitioners. Thinking of their projects in terms of available and needed resources and capabilities, leverage points, alliances and power plays and taking stock of environmental and organizational circumstances (the ‘dark matter’) would allow designers to acquire a more fine-grained view. Adding a strategic layer to their thinking might help designers in proposing design projects that can be viable, feasible and potentially have a broader impact.

It is precisely to further current understandings of strategic design processes that this paper offered this short introductory review. Surely, relevant and significant points have been missed, and the author looks forward to receiving integrations and critique that can broaden the horizon and lead to the production of further studies.

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References:

- Andrews, Kenneth. 1971. *The Concept of Corporate Strategy*. Homewood, IL: R.D. Irwin.
- Ansoff, Igor. 1965. *Corporate Strategy*. London: McGraw-Hill.
- Bayazit, Nigan. 2004. “Investigating Design: A Review of Forty Years of Design Research.” *Design Issues* 20 (1): 16–29.

- Beinhocker, Eric D. 1997. "Strategy at the Edge of Chaos." *McKinsey Quarterly*, no. Winter 1997: 25–39.
- Best, Kathryn. 2006. *Design Management: Managing Design Strategy, Process and Implementation*. Lausanne: AVA Publishing.
- Bijl-Brouwer, Mieke van der, and Kees Dorst. 2017. "Advancing the Strategic Impact of Human-Centred Design." *Design Studies* 53 (November): 1–23.
<https://doi.org/10.1016/j.destud.2017.06.003>.
- Boeijen, Annemiek van, Jaap Daalhuizen, Roos van der Schoor, and Jelle Zijlstra. 2014. *Delft Design Guide: Design Strategies and Methods*. Amsterdam: BIS Publishers.
- Boland, Richard J., and Fred Collopy, eds. 2004. *Managing as Designing*. Stanford, Ca.: Stanford University Press.
- Borja de Mozota, Brigitte. 1990. "Design as a Strategic Management Tool." In *Design Management: Handbook of Issues and Methods*, edited by Mark Oakley, Brigitte Borja de Mozota, and Colin Clipson, 73–84. Oxford: Basil Blackwell.
- . 1998. "Structuring Strategic Design Management: Michael Porter's Value Chain." *Design Management Journal* 9 (2): 26–31.
<https://doi.org/10.1111/j.1948-7169.1998.tb00201.x>.
- . 2002. "Design and Competitive Edge: A Model for Design Management Excellence in European SMEs." *Design Management Journal Academic Review* 2: 88–103.
- . 2006. "The Four Powers of Design: A Value Model in Design Management." *Design Management Review* 17 (2): 44–53.
- Boyer, Bryan, Justin W. Cook, and Marco Steinberg. 2011. *Recipes for Systemic Change*. Helsinki (Finland): Sitra / Helsinki Design Lab.
- Boztepe, Suzan. 2016. "Design Expanding into Strategy: Evidence from Design Consulting Firms." In *Proceedings of Design Research Society Conference*. Brighton, Uk.
- . 2018. "The View from Within: Design's Voyage to Get a Seat at the Strategy Table." In *Proceedings of Design Research Society Conference*. Limerick, Ireland.
- Brown, Travis J. 2019. "Strategic Design or Design Strategy? Effectively Positioning Designers as Strategists." *Design Management Review* 30 (1): 38–45.
<https://doi.org/10.1111/drev.12160>.

- Buchanan, Richard. 1992. "Wicked Problems in Design Thinking." *Design Issues* 8 (2): 5–21.
- Calabretta, Giulia, Gerda Gemser, and Ingo Karpen, eds. 2016. *Strategic Design: 8 Essential Practices Every Strategic Designer Must Master*. Amsterdam: BIS Publishers.
- Chandler, Alfred D. (1962) 1990. *Strategy and Structure*. Cambridge Mass.: MIT Press.
- Chereau, Philippe, and Pierre-Xavier Meschi. 2018. *Strategic Consulting: Tools and Methods for Successful Strategy Missions*. New York, NY: Palgrave Macmillan.
- Chesbrough, Henry, and Melissa M. Appleyard. 2007. "Open Innovation and Strategy." *California Management Review* 50 (1): 57–76.
- Chia, Robert C. H., and Robin Holt. 2009. *Strategy without Design: The Silent Efficacy of Indirect Action*. Cambridge, UK; New York: Cambridge University Press.
- Chung, Kyung-Won, and Yu-jin Kim. 2011. "Changes in the Role of Designers in Strategy." In *The Handbook of Design Management*, edited by Rachel Cooper, Sabine Junginger, and Thomas Lockwood, 260–75. Oxford and New York: Bloomsbury Academic.
- Clausewitz, Carl von. (1832) 1984. *On War*. Princeton, N.J.: Princeton University Press.
- Clemons, Eric K., and Jason A. Santamaria. 2002. "Maneuver Warfare: Can Modern Military Strategy Lead You to Victory?" *Harvard Business Review* 80: 56-65.
- Cooper, Rachel, and Sabine Junginger. 2011. "General Introduction: Design Management - A Reflection." In *The Handbook of Design Management*, edited by Rachel Cooper, Sabine Junginger, and Thomas Lockwood, 1–32. Oxford and New York: Bloomsbury Academic.
- Cross, Nigel. 2008. *Engineering Design Methods: Strategies for Product Design*. 4th ed. Chichester: Wiley.
- Dell’Era, Claudio, and Roberto Verganti. 2010. "Collaborative Strategies in Design-Intensive Industries: Knowledge Diversity and Innovation." *Long Range Planning* 43 (1): 123–41. <https://doi.org/10.1016/j.lrp.2009.10.006>.
- Dul, Jan, and W. Patrick Neumann. 2009. "Ergonomics Contributions to Company Strategies." *Applied Ergonomics* 40 (4): 745–52. <https://doi.org/10.1016/j.apergo.2008.07.001>.
- Echevarria, Antulio J. 2017. *Military Strategy: A Very Short Introduction*. Oxford; New York: Oxford University Press.

- Evans, Bill. 1985. "Japanese-Style Management, Product Design and Corporate Strategy." *Design Studies* 6 (1): 25–33. [https://doi.org/10.1016/0142-694X\(85\)90038-9](https://doi.org/10.1016/0142-694X(85)90038-9).
- Floré, Fredie. 2017. "Serving a Double Diplomatic Mission: Strategic Alliances between Belgian and American Furniture Companies in the Postwar Era." *Design and Culture* 9 (2): 167–85. <https://doi.org/10.1080/17547075.2017.1325625>.
- Franzato, Carlo, and Filipe Campelo. 2017. "Presentation to the Special Issue: Strategic Design Research Journal Tenth Volume." *Strategic Design Research Journal* 10 (2).
- Freedman, Lawrence. 2013. *Strategy: A History*. Oxford; New York: Oxford University Press.
- Friend, John, and Allen Hickling. 2012. *Planning Under Pressure*. 3rd edition. Abingdon, Oxon: Routledge.
- Fuller, R. Buckminster. 1969. *Operating Manual for Spaceship Earth*. New York: Simon and Schuster.
- Gaddis, John Lewis. 2018. *On Grand Strategy*. New York: Penguin Press.
- Gemser, Gerda, Cees de Bont, Paul Hekkert, and Ken Friedman. 2012. "Quality Perceptions of Design Journals: The Design Scholars' Perspective." *Design Studies* 33 (1): 4–23. <https://doi.org/10.1016/j.destud.2011.09.001>.
- Ghemawat, Pankaj. 2002. "Competition and Business Strategy in Historical Perspective." *The Business History Review* 76 (1): 37–74.
- Gray, Colin S. 2016. *Strategy and Politics*. London and New York: Routledge.
- Grundy, Tony. 2006. "Rethinking and Reinventing Michael Porter's Five Forces Model." *Strategic Change* 15 (5): 213–29. <https://doi.org/10.1002/jsc.764>.
- Harris, Jared, and Michael Lenox. 2013. *The Strategist's Toolkit*. Charlottesville, VA: Darden Business Publishing.
- Hatch, Mary Jo. 2006. *Organization Theory: Modern, Symbolic, and Postmodern Perspectives*. 2nd ed. Oxford: Oxford University Press.
- Hax, Arnoldo C., and Nicolas S. Majluf. 1988. "The Concept of Strategy and the Strategy Formation Process." *Interfaces* 18 (3): 99–109. <https://doi.org/10.1287/inte.18.3.99>.
- Hernández, Ricardo J., Rachel Cooper, Bruce Tether, and Emma Murphy. 2018. "Design, the Language of Innovation: A Review of the Design Studies

- Literature.” *She Ji: The Journal of Design, Economics, and Innovation* 4 (3): 249–74. <https://doi.org/10.1016/j.sheji.2018.06.001>.
- Hertenstein, Julie H., and Marjorie B. Platt. 1997. “Developing a Strategic Design Culture.” *Design Management Review* 8 (2): 10–19.
- Heskett, John. 2016. *A John Heskett Reader*. Edited by Clive Dilnot. London and New York: Bloomsbury.
- . 2017. *Design and the Creation of Value*. Edited by Clive Dilnot and Suzan Boztepe. New York: Bloomsbury.
- Heskett, John, and Clive Dilnot. 2015. “Design from the Standpoint of Economics/Economics from the Standpoint of Design.” *Design Issues* 31 (3): 88–104. https://doi.org/10.1162/DESI_a_00341.
- Hill, Dan. 2012. *Dark Matter and Trojan Horses. A Strategic Design Vocabulary*. Strelka Press.
- Ho, Joseph Kim-Keung. 2014. “Formulation of a Systemic PEST Analysis for Strategic Analysis.” *European Academic Research* 2 (5): 6478–6492.
- Holston, David. 2011. *The Strategic Designer*. Cincinnati: How Books.
- Holt, Knut. 1991. “The Impact of Technology Strategy on the Engineering Design Process.” *Design Studies* 12 (2): 90–95. [https://doi.org/10.1016/0142-694X\(91\)90050-7](https://doi.org/10.1016/0142-694X(91)90050-7).
- Hsu, Yen. 2009. “Exploring Design Innovation and Performance: The Roles of Issue Related to Design Strategy.” *Journal of Engineering Design* 20 (6): 555–69. <https://doi.org/10.1080/09544820802043609>.
- Hyysalo, Virve, and Sampsa Hyysalo. 2018. “The Mundane and Strategic Work in Collaborative Design.” *Design Issues* 34 (3): 42–58. https://doi.org/10.1162/desi_a_00496.
- Irwin, Terry, Gideon Kossoff, and Cameron Tonkinwise. 2015. “Transition Design Provocation.” *Design Philosophy Papers* 13 (1): 3–11. <https://doi.org/10.1080/14487136.2015.1085688>.
- Johansson-Sköldberg, Ulla, Jill Woodilla, and Mehves Çetinkaya. 2013. “Design Thinking: Past, Present and Possible Futures.” *Creativity and Innovation Management* 22 (2): 121–46. <https://doi.org/10.1111/caim.12023>.
- Jomini, Antoine-Henri. (1838) 2008. *The Art of War*. Radford VA: Wilder.

- Kempenaar, Annet, and Adri van den Brink. 2018. "Regional Designing: A Strategic Design Approach in Landscape Architecture." *Design Studies* 54: 80–95. <https://doi.org/10.1016/j.destud.2017.10.006>.
- Kenny, Graham. 2018. "Your Strategic Plans Probably Aren't Strategic, or Even Plans." *Harvard Business Review*, April. <https://hbr.org/2018/04/your-strategic-plans-probably-arent-strategic-or-even-plans>.
- Kotler, Philip, and Alexander G. Rath. 1984. "Design: A Powerful but Neglected Strategic Tool." *Journal of Business Strategy* 5 (2): 16–21. <https://doi.org/10.1108/eb039054>.
- Krippendorff, Klaus. 2006. *Semantic Turn: New Foundations for Design*. Boca Raton, FL: CRC Taylor and Francis.
- Kristensen, Tore. 2016. "Creating Value by Design: John Heskett's Contribution to the Business and Economics of Design." In *A John Heskett Reader*, by John Heskett, edited by Clive Dilnot. London and New York: Bloomsbury: 268-282.
- Kulick, Gwendolyn. 2017. "Adding plus Value to Development Aid Projects through Design Strategy: Experiences from Pakistan." *The Design Journal* 20 (sup1): S411–23. <https://doi.org/10.1080/14606925.2017.1352939>.
- Lafley, Alan G., and Roger Martin. 2013. *Playing to Win: How Strategy Really Works*. Cambridge Mass.: Harvard Business School Press.
- Liedtka, Jeanne. 2002. "In Defense of Strategy as Design." *California Management Review* 42 (3): 8–30.
- . 2015. "Perspective: Linking Design Thinking with Innovation Outcomes through Cognitive Bias Reduction: Design Thinking." *Journal of Product Innovation Management* 32 (6): 925–38. <https://doi.org/10.1111/jpim.12163>.
- Lockwood, Thomas. 2008. "Design Value: A Framework for Measurement." In *Building Design Strategy*, edited by Thomas Lockwood and Thomas Walton, 3–12. New York: Allworth Press.
- Lockwood, Thomas, and Thomas Walton, eds. 2008. *Building Design Strategy*. New York: Allworth Press.
- Lusch, Robert F., and Stephen L. Vargo. 2014. *Service Dominant Logic. Premises, Perspectives, Possibilities*. New York: Cambridge University Press.
- Machiavelli, Niccolò. (1532) 2005. *The Prince*. New York: Penguin.
- Manzini, Ezio. 2010. "Small, Local, Open and Connected: Design for Social Innovation and Sustainability." *The Journal of Design Strategies* 4 (1): 8–11.

- McCullagh, Kevin. 2008. "Strategy for the Real World." In *Building Design Strategy*, edited by Thomas Lockwood and Thomas Walton, 67–78. New York: Allworth Press.
- Meroni, Anna. 2008. "Strategic Design: Where Are We Now? Reflection around the Foundations of a Recent Discipline." *Strategic Design Research Journal* 1 (1): 31–38. <https://doi.org/10.4013/sdrj.20081.05>.
- Mintzberg, Henry. 1994a. "The Fall and Rise of Strategic Planning." *Harvard Business Review*, no. January-February 1994. <https://hbr.org/1994/01/the-fall-and-rise-of-strategic-planning>.
- . 1994b. *The Rise and Fall of Strategic Planning*. New York: Simon & Schuster.
- Moltke, Helmuth von. 1995. *Moltke on the Art of War: Selected Writings*. Edited by Daniel Hughes. New York: Presidio Press.
- Nixon, Natalie W., ed. 2016. *Strategic Design Thinking*. New York; London: Bloomsbury.
- Normann, Richard, and Rafael Ramirez. 1993. "From Value Chain to Value Constellation: Designing Interactive Strategy." *Harvard Business Review* 71 (July-August): 65–77.
- Owen, Charles. 2001. "Structured Planning in Design: Information-Age Tools for Product Development." *Design Issues* 17 (1): 27–43. <https://doi.org/10.1162/07479360152103813>.
- Papanek, Victor. 1972. *Design for the Real World*. New York: Pantheon.
- Paret, Peter, ed. 1986. *Makers or Modern Strategy*. Princeton, N.J.: Princeton University Press.
- Parris, Matthew. 2012. "What If the Turkeys Don't Vote for Christmas?" *The Times*, May 12, 2012. <https://www.thetimes.co.uk/article/what-if-the-turkeys-dont-vote-for-christmas-r7z93rk8nfp>.
- Pfeffer, Jeffrey. 1992. *Managing with Power: Politics and Influence in Organizations*. Cambridge Mass.: Harvard Business School Press.
- Porter, Michael. 1980. *Competitive Strategy: Techniques for Analyzing Industries and Competitors*. New York: Free Press.
- Poundstone, William. 1992. *Prisoner's Dilemma*. New York: Doubleday.
- Ravasi, Davide, and Ileana Stigliani. 2012. "Product Design: A Review and Research Agenda for Management Studies." *International Journal of Management Reviews* 14 (4): 464–88.

- Raynor, Michael E. 2007. *The Strategy Paradox: Why Committing to Success Leads to Failure*. New York: Doubleday.
- Reeves, Martin, Knut Haanaes, and Janmejaya Sinha. 2015. *Your Strategy Needs a Strategy: How to Choose and Execute the Right Approach*. Boston, Massachusetts: Harvard Business Review Press.
- Rittel, Horst W.J., and Melvin M. Webber. 1973. "Dilemmas in a General Theory of Planning." *Policy Sciences* 4 (2): 155–169.
- Ronda-Pupo, Guillermo Armando, and Luis Ángel Guerras-Martin. 2012. "Dynamics of the Evolution of the Strategy Concept 1962-2008: A Co-Word Analysis." *Strategic Management Journal* 33 (2): 162–88. <https://doi.org/10.1002/smj.948>.
- Rumelt, Richard. 2011. *Good Strategy, Bad Strategy*. New York: Crown Business.
- Scales, Robert H. 2004. "Culture-Centric Warfare." Proceedings. The Naval Institute.
- Schön, Donald A. 1987. *Educating the Reflective Practitioner*. San Francisco, CA: Jossey-Bass.
- Simeone, Luca. 2019. "An Introductory Review of Methods for the Articulation of Strategy in Design." In *Proceedings of the 22nd International Conference on Engineering Design*. Delft, the Netherlands.
- Simon, Herbert. (1969) 1982. *The Science of Artificial*. Cambridge Mass.: The MIT Press.
- Song, Min Jeong, Ki-Young Nam, and Kyung-won Chung. 2010. "The Chief Executive's Influence on Corporate Design Management Activities: Chief Executive's Influence on Design Management." *Design Management Journal* 5 (1): 61–71. <https://doi.org/10.1111/j.1948-7177.2010.00014.x>.
- Stevens, John. 2011. "Design as a strategic resource: Design's contributions to competitive advantage aligned with strategy models" [PhD Thesis]. Cambridge University.
- Stevens, John, and James Moultrie. 2011. "Aligning Strategy and Design Perspectives: A Framework of Design's Strategic Contributions." *The Design Journal* 14 (4): 475–500. <https://doi.org/10.2752/175630611X13091688930525>.
- Sun Tzu. 1964. *The Art of War*. Oxford: Clarendon Press.
- Svengren Holm, Lisbeth. 2011. "Design Management as Integrative Strategy." In *The Handbook of Design Management*, edited by Rachel Cooper, Sabine Junginger, and Thomas Lockwood, 294–315. Oxford and New York: Berg.

- Teixeira, Carlos. 2017. "Transforming Design Matters." *She Ji: The Journal of Design, Economics, and Innovation* 3 (1): 1–2.
<https://doi.org/10.1016/j.sheji.2017.09.001>.
- Thackara, John. 2005. *In the Bubble: Designing in a Complex World*. Cambridge Mass.: MIT Press.
- Trubowitz, Peter. 2011. *Politics and Strategy: Partisan Ambition and American Statecraft*. Princeton and Oxford: Princeton University Press.
- Visser, Willemien. 2006. *The Cognitive Artifacts of Designing*. Mahwah, New Jersey: CRC Press.
- Vossoughi, Sohrab. 2008. "The Best Strategy Is the Right Strategy." In *Building Design Strategy*, edited by Thomas Lockwood and Thomas Walton, 97–107. New York: Allworth Press.
- Webster, Jane, and Richard T. Watson. 2002. "Analyzing the Past to Prepare for the Future: Writing a Literature Review." *MIS Quarterly* 26 (2), xiii–xxiii.
- Whittington, Richard. 2007. "Strategy Practice and Strategy Process: Family Differences and the Sociological Eye." *Organization Studies* 28 (10): 1575–86.
<https://doi.org/10.1177/0170840607081557>.
- Wrigley, Cara. 2016. "Design Innovation Catalysts: Education and Impact." *She Ji: The Journal of Design, Economics, and Innovation* 2 (2): 148–65.
<https://doi.org/10.1016/j.sheji.2016.10.001>.
- Zurlo, Francesco, and Cabirio Cautela. 2014. "Design Strategies in Different Narrative Frames." *Design Issues* 30 (1): 19–35. https://doi.org/10.1162/DESI_a_00246.