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Design-led Strategy:
How to bring design thinking into the art of strategic management

Eric Knight

University of Sydney Business School

The University of Sydney

Jarryd Daymond

University of Sydney Business School

The University of Sydney

Sotirios Paroutis

Warwick Business School

University of Warwick

Contact author: Eric Knight, University of Sydney Business School, University of Sydney.
Email: eric.knight@sydney.edu.au

ABSTRACT

Design thinking has emerged as an important way for designers to draw on rich customer insights to enhance their products and services. However, design thinking is now beginning to influence how corporate managers go about strategic management and, in particular, how they bring customer data into their day-to-day planning. We call this integration of design thinking into the practice of strategic management 'Design-led Strategy' and show how it complements but extends current design thinking perspectives. Adopting a strategy-as-practice perspective, we identify four archetypal practices that managers can use to strategize with design thinking content. Based on an ethnography of product and strategy managers working within a digital-only bank, we show how these strategy practices vary based on two considerations: the nature of the materials in use (dynamic or static), and the nature of the engagement context (collective or individual). Our findings provide insight into the practices associated with strategy work and to situating design thinking within organizational practice.

Design, it seems, is now everywhere—it is no longer only the purview of just the designers. The non-design world has come a long way since the work of Professor John E. Arnold over 60 years ago to bring the disciplines of mechanical engineering and business administration more closely together around the ideas of design thinking. Examples now abound of corporate managers and engineers making design thinking central to their business operations, from conservative organizations hiring chief design officers to "suits" talking about personas and point-of-view statements. However, hiring design studies graduates, sending employees to design thinking courses, and setting up cross-functional teams is not enough for an organization to become "designerly". To make a difference to the kinds of products and services that get routinely implemented in market, design thinking needs to be integrated into the organization's strategy. This is the only way that design can move from thinking to action, from lab formulation to strategic implementation across marketing, sales, and operations. We call the integration of design thinking into organizational strategy 'Design-led Strategy'.

Design thinking needs to be integrated with strategy because firms wrestle with the problem of product-market fit. This problem relates to how organizations construct products that are relevant to their customers. As Liedtka and Kaplan note "[u]nderstanding the job customers are trying to do and the problem they have doing it" is a strategic issue.[1] It is crucial for competitive advantage as it mobilizes the organization's strategy toward products that offer greater value than existing alternatives.

Product-market fit is particularly acute in innovation contexts, where organizations must either re-imagine existing product and services or create new offerings. Dougherty has argued that the creative linkages needed here between market and technology are challenging because there is a lack of knowledge spanning both contexts.[2] Metaphors, drawings, and gestures play a crucial role in transforming tacit into articulable knowledge so that shared understanding emerges between what customers want "out there" and what managers can do "in here".[3] Design thinking offers a way to constitute such knowledge processes, majoring not only on the discursive aspects of knowledge translation, but also the visual, sensory, and material means through which market-oriented concepts are rendered interpretable.

In order to bridge this link between design thinking and the art of strategic management, we conceptualize strategy *as a practice.*[4] A practice perspective is particularly appropriate for approaching the context of design thinking as it is actively engaged in how visual, discursive, and material interactions make strategy meanings.[5] Building on the work of Reckwitz[6] and others, practices are defined as "a routinized type of behavior" that managers adopt through the interconnected use of "bodily activities, forms of mental activities, 'things' and their use, [and] a background knowledge in the form of understanding." A strategy-as-practice perspective examines an organization's strategy through what managers and other stakeholders *actually do,* in a day-to-day sense, to bring the company's strategies into being.[7] The strategy-as-practice literature has begun to grow rapidly over the last decade, prompting studies that not only go beyond discourse by examining visuality and materiality in strategizing, but it is also beginning to concern itself with how actors external to the firm (such as consultants or customers) influence strategy making, thereby going beyond what is already known about top and middle manager interactions.

In this paper, we focus our attention on managers working with 'design thinking'-led content collected from customers, and understanding how they integrated externalized understandings of the market into their strategy making by way of mundane, routinized activities or practices. Our insights are based on ethnographic data collected from product and strategy managers working together in a digital-only bank to formulate a new savings product for its customers through their use of customer data. Next, we frame the literature, which grounds our research question and methodology, report our findings, and extrapolate the implications for theory and managerial practice.

From design thinking to design-led strategy

Design thinking has emerged over the last 60 years as a method for collecting and analyzing market and customer-level data, using tools that are visually instantiated, such as personas and sketching, and physically instantiated, such as prototypes and customer observation.[8] Design thinking originated in engineering as a way for engineering construction to become

more embedded within its physical environment,[9] and has evolved into being part of design studies as a discipline in its own right. However, it is being increasingly embraced by business managers as an empathetic way to understand the market environment and advance strategic management.[10] Liedtka and Kaplan suggest that design practices improve strategy development in several ways by enabling businesses to see opportunities differently and learn through prototyping. [11] This enables a portfolio approach to innovation by exploring a range of "bets" and accommodating greater emotional engagement in strategy making.

This intersection between design thinking and strategic management has gained attention in recent times. Several of the world's leading strategy consulting firms now integrate design into their strategy offering. Boston Consulting Group now has a design function, called BCG Digital Ventures. McKinsey & Company operates McKinsey Design to complement its strategic services and bought Lunar, a top design firm known for its work with clients like HP, Apple and SanDisk, as well Stockholm-based design firm Veryday.[12] ADAPT@Bain® is Bain & Company's advanced digital and product team, which combines design thinking approaches, such as human-centered design and prototyping, with software engineering, digital marketing and advanced analytics.[13] And Booz Allen Hamilton draws on design thinking by "building a rich understanding of their experiences to identify strategic opportunities for innovation and build solutions that matter to people, but also fit with the business and are technically feasible."[14] The proliferation of design roles at a C-suite level is further evidence that design thinking is gaining attention at a more strategic vantage point in organizations. Covering a range of industries, Chief Design Officers (CDO) are employed in a diverse range of companies including 3M, ANZ Bank, Apple, Electrolux, Hyundai, Johnson & Johnson, Lloyds Banking Group, PepsiCo and Philips. At Lloyds Banking Group, the CDO appointment was cited as a "strategy for transforming for success in a digital world"[15] at Lloyds Banking Group, and as building capability around 'strategic design' at ANZ Bank, one of Australia's "big four" banks.[16]

The integration of design thinking and strategic management is not entirely unexpected. Research by McKinsey & Company found among 300 listed companies, over a five-year period that those with the best design practices achieved 32 percent higher revenues and 56 percent

higher returns to shareholders.[17] Further, as design thinking enables firms to address questions of product-market fit, it may reveal new opportunities for market creation and platform development. Modern smart phones, for example, have evolved in response to customers' desire to not only use the device as a phone, but as a platform to access cameras, media storage, digital communications, and computing capabilities. In this respect, design thinking offers a way for firms to acquire new knowledge about customers that not only enables efficiencies within their existing business but also transform their entire business model[18].

Why strategy needs more than just design thinking

Despite the importance of greater integration between design and strategic management, the fit is not straight forward. To start with, the challenges of bringing new ways of thinking into organizations are substantial and not ones that the discipline of design studies has really engaged with. For managers, these challenges arise from the way in which knowledge is created and translated with organizations and into day-to-day strategy making. Cohen and Levinthal, for example, argue that much of the knowledge managers gain about their market emerges from observation and know-how (i.e. tacit knowledge) rather than codified forms of expertise that might be delivered through standard training or workshops.[19] This places a premium on the ability of executives to change their cognitive mindset, empathize with their customers, and observe the unexpected. This is a difficult attribute to develop for two reasons. First, senior executives in charge of the firm's strategy may live a very different life to their customers, thereby making their connection with customers in the "outside" world, and the frontline of practice, difficult.[20] The founder of Facebook Mark Zuckerberg, for example, is allegedly himself not a customer of Facebook, instead deferring his day-to-day interactions with the product he created to staff in his office.[21] Very few senior leaders at the helm of universities continue to teach students or write research papers as their responsibilities for the institution's strategy grows.[22] Although it is good practice for senior executives to consume the products and services they sell, when this does not take place, executives need to find other ways to understand what it is like to walk in the shoes of their customers.

Second, even as senior executives make use of design thinking methodologies to bridge the gap between their own and customers' experiences, the sheer variety and difference of data this introduces can increase cognitive load and make strategic decision-making difficult.[23] Design thinking goes beyond verbal data (for example, through customer interviews), to introduce visual data (for example, through contextual observations of how customers use products of services), and material data (such as the development of prototypes). Nike, for example, overlaid data on shopping experiences with emotional journey mapping to help design the integrated digital app-based and physical shopping experience of their recently opened Nike Live concept in Melrose, Los Angeles.[24] This visual and material data is immensely valuable in enriching a manager's understanding of how products and services are used by customers in real-life. But it can also be overwhelming for inexperienced senior executives. Moreover, as strategists, senior executives need to go beyond just making sense of this new kind of visual and material data. They need to triangulate it, and then interpret it in relation to traditional strategy tools that provide guidance over when and how to balance tensions versus make trade-off choices.[25] This means that integrating design thinking into strategy involves a multimodal approach, which goes beyond what design studies offer, but also requires managers to transform their approach to strategy by integrating multiple and more varied types of data that can advance an organization's strategic ends.

Given the importance but also the challenges of integrating design thinking and strategic management, strategy scholars have sought to tackle the synergies between the two fields by examining different aspects of the strategy function. Each aspect brings a different strategy focus to the fore. We now briefly summarize three approaches to date before adding a fourth approach developed in this paper.

Design and the cognitive aspects of strategic management

One stream of work in the strategic management literature has taken a cognitive perspective, focusing on the *thinking* side of design and how this influences the decision making of strategists.[26] Within this stream of work, Martin has argued that having managers

who apply design thinking by blending analytical thinking and intuitive thinking is a means for firms to gain competitive advantage.[27] Liedtka similarly focuses on the cognitive elements, showing how strategic *thinking* can enable more synthetic, dialectical, and adductive strategies to emerge compared to traditional, hierarchical decision making.[28]

Other work emphasizing the cognitive elements of design thinking focus on tools themselves and how these guide particular ways of knowing[29] and solving problems.[30] Dong, Garbuio and Lovallo show how these tools can inform behavioral characteristics.[31] They argue that managers can develop a set of "generative sensing capabilities" that allow them to generate hypotheses about observed events, through doing so, make decisions that improve a firm's dynamic capabilities.[32]

Design and the structural aspects of strategic management

A second stream has focused on how design thinking influences strategy from a structural perspective. This work is concerned with where design thinking should be located within the organizational structure[33] and also considers how design can be elevated to a strategic level in organizations.[34] For example, in 53 interviews across 12 companies, Micheli, Perks and Beverland identify the following six practices which elevate the structural positioning of design in organizations: **top management support, leadership of the design function, generating awareness of design's role and contribution, interfunctional coordination, evaluation of design, and formalization of product and service development processes.** [35] They suggest that strategic design is more effective when designers operate cross-functionally because it enables designers to better balance the role of design champions alongside commercial considerations.

The structural perspective on design and statement management also considers the effects on firm performance and strategic decision-making when designers reside outside the organization.[36] For example, Calabretta *et al* examined seven cases involving design consultancies influencing their clients' strategies by contributing to their innovation agendas.[37] Finally, the structural stream is also interested in how design thinking is "managed" within the firm. Perks, Cooper and Jones, for example, found that design had different effects on firm

performance when it was organized top-down as a functional specialism, or as part of new product development, compared to when it operated cross-functionally as a way to integrate multi-functional teams.[38]

Design and the organizational culture aspects of strategic management

A third stream of work has focused on how design thinking shapes organizational culture,[39] giving more attention to the process elements of strategy.[40] This work is less focused on structural design choices and more attuned to how design thinking shapes the flow of activities over longer periods of time. For example, John Body, in a study of the Australian Tax Office, found that the use of design thinking tools instigated new routines that allowed teams to collaborate that had previously not worked together.[41] This allowed for "shared understanding" to emerge across interdisciplinary teams, thereby opening up new forms of working.[42] Similarly, Vetterli and colleagues, found that design thinking helped to challenge ways of working in the IT division at Deutsche Bank.[43] In their case, design thinking served as a powerful legitimating approach that allowed managers to challenge and discuss underlying assumptions about "the right way to work".[44]

Beyond design thinking influencing ways of knowing and working in organizations, design can also play an integrative role between functional areas at odds with each other[45] by contributing practices which complement existing organizational approaches.[46] Rather than focusing merely on the cognitive aspects of design thinking, this stream gives attention to process of "designerly"[47] ways of thinking influencing the rest of the organization. The enculturation of design helps overcome factors which prevent design from achieving strategic relevance in organizations, such transcending different mental models[48] and managers lack of design appreciation.[49]

These three streams of work reflect different ways of conceptualizing strategy – as cognition, as structure, and as process – and give emphasis to different kinds of aims and contributions related to how design thinking and strategic management are related. These are summarized in Table 1.

[Insert Table 1 here]

Design and the practice theory aspects of strategic management

Building on the importance of the above three streams, this paper adds a fourth stream through which this integration can be conceptualized – namely how design thinking is integrated into strategy *as a practice*. Whilst process and practice perspectives have much in common,[50] a practice approach seeks to go "inside" the process[51] to investigate what is actually going on in the moment.[52] In particular, this has allowed strategy-as-practice scholars to delve more deeply into the multimodal dynamics at play when managers move beyond conversation to refer to different types of materials (e.g. prototypes, or customer data) alongside the conversations. For example, studying consulting-manager interactions, Knight, Paroutis and Heracleous showed how multiple versions of PowerPoint slides were manipulated alongside evolving conversations and strategies in order to progress strategic understanding.[53] Other studies in this tradition have explored other kinds of materials as well, such as Lego objects,[54] cardboard cubes,[55] and flipcharts,[56] albeit without any focus on customer or design thinking-led materials. Research on material artifacts has, therefore, revealed benefits of engaging multimodally in strategy work.

For these reasons, a practice perspective complements and enhances the aforementioned approaches by providing greater insight on the micro-dynamics of how strategists can integrate design thinking into strategizing in the moment. This gives more specificity to the nature of how knowledge gets created between the market and managers, and how technologies get constructed to bridge these gaps. Moreover, since these studies have predominantly focused on traditional topics within strategic planning with very little attention to what design thinking might add, such a study has the opportunity to extend our understanding of strategy-as-practice in terms of how strategy gets opened up to new voices, such as those of customers.[57] Given this particular focus, we therefore frame our research questions as follows: how do strategists integrate design thinking into their management practice to advance strategic outcomes?

Methodology

To address this question, we conducted a qualitative case study of DigitalBank, a digital-only bank. Our interest was spurred by the fact that DigitalBank's product managers, who were deeply imbued with design thinking methodologies, had significant influence over the Bank's strategy functions as well. Prompted by the opportunity to observe how these product and strategy managers worked together to enact this integration in practice, we attended 36 meetings over 57 hours; meetings comprised of strategy workshops, operational meetings, and design sprint meetings. Alongside our observations, we conducted 19 semi-structured interviews with senior managers, middle managers, designers and external consultants. The interviews ranged from 28 minutes to 71 minutes, at an average of 44 minutes. In addition to the semi-structured interviews, there were 46 informal discussions with employees and consultants that we documented. These often occurred prior to or after meetings, or whilst spending time in the DigitalBank offices. We kept brief notes on these encounters to further probe in interviews or serve as a reminder of issues that re-emerged as significant at a later stage in the study. We also collected 236 pages of field notes, including artefacts from workshops and photographs of key materials such as personas, prototypes, planning boards, and corporate posters. Our data is summarized in Table 2.

[Insert Table 2 here]

To analyze our data, we first composed timelines of each of the strategy workshops in our study, outlining the major issues discussed in the workshops and the tensions they surfaced. These issues were delineated by working between transcripts of the strategy workshops and video data showing how these conversations were conducted.

In the second stage, we analysed for issues that involved the use of customer data and design thinking to inform how major issues were addressed. Even though the workshops covered multiple issues, we found that managers engaged in four distinct practices of integrating design thinking data into their practice. Working inductively between the transcripts and the video data, we started to notice patterns in how managers interacted with customer data and design

artefacts. We took screenshots of exemplar moments and discussed these as a team. This led us to identify and code for four distinct practices: reviewing, simulating, conversing, and collaborating.

In the third stage, we analyzed these four practices in terms of (a) how participants interacted with design materials, and (b) how participants interacted with each other. This led us to delineate two dimensions in our data – dynamism of materials, and engagement context – which informed our theoretical figure. To further validate our findings, we shared our figure with respondents within DigitalBank as well as 32 strategy practitioners actively involved in integrating design thinking into strategy. This process led us to re-label some of our practices whilst simultaneously adding to our confidence that our four practices captured the key ways in which design thinking was being integrated into strategy practice. We now report on our findings.

The four practices of integration in design-led strategy

Design thinking brings rich customer-centric data about an organization's position in the market inside the organization. However, these data need to be taken further by managers in order to yield insights into how they influence the organization's strategizing. [58] In order to realize a strategic benefit from design thinking, we observed four different ways in which managers in the workshops we observed interacted with 'design thinking' data and then used it in their interactions with each other to advance a new product-market insight for the organization's strategy. We label the four distinct practices we observed: Reviewing, Simulating, Conversing, and Collaborating (see Figure 1). We surface their differences now to highlight how they can sensitize strategic managers to different parts of a strategy, thereby allowing them to advance different kinds of strategic issues.

[Insert Figure 1 here]

We observed how the use of design thinking influences strategy making through the manipulation of two dimensions. One dimension we call the 'dynamism of materials'. Design thinking generates a range of different materials – from personas to Point-of-View problem

statements through to raw customer data – needing to be interpreted in the context of strategic issues facing DigitalBank.[59] We find that managers use these materials in one of two ways: either statically, by treating the content independently of other visuals at hand; or dynamically, by collating and (re)combining the materials at hand and even generating new materials so that insights could emerge at their intersection. These two alternate practices create different kinds of openness in terms of how managers engage with design thinking content.

The second dimension we observed we call the 'engagement context'. We find that managers either engage with the design thinking data individually – by reflecting on the data themselves – or collectively, by discussing their interpretation of the design thinking data with others, thereby unleashing a third interpretive path. In this respect, we find that design-led strategy from a practice perspective prompted different degrees of engagement in terms of who was involved in the strategy process. These dimensions of engagement context and dynamism of materials are reflected on the axes of Figure 1. We now illustrate the four practices represented by each of these dimensions, and how they influenced strategy practice in particular ways.

Reviewing

Design thinking puts much emphasis on the quality of data collected from customers, with data capturing customer's emotional responses to prototypes[60] and prototype use in context,[61] an important principle for data collection. In the words of prominent design thinking practitioner Gianfranco Zaccai, "You have to know your customers not as statistics but as human beings."[62] However, from a strategy-as-practice perspective, the customer data is not as important as how internal managers go on to engage with the data for enhanced understanding. In our case study, we found that it was imperative that managers had time during strategy workshops to "sit with" the design-led data. Often, this involved surfacing a single material – such as a strategy document, or a piece of customer data – and reviewing its significance in the context of a strategy conversation. We labelled this practice 'reviewing' and coded it as an individual practice involving static materials.

An example of 'reviewing' occurred in one of the workshops we observed. Managers had been having a wide-ranging discussion about what customers expect from their banks "as partners" based on raw customer data. This led to a number of insights about the kinds of reminders that customers expect from their banks to help them save money or make investment decisions. As this conversation came to an end, the meeting chair shared a one-page document that summarized the discussion to date, noting the customer value propositions of a product that the bank was considering developing. This prompted participants to review the materials and evaluate them in light of prior discussions about the customer. Did the proposed document prima-facie respond to customer concerns covered in the immediate prior discussion? Were there other issues that needed attention but were not discussed?

In this example, participants were seated on one side of table giving individual attention to a printed piece of paper summarizing key issues. At the same time, managers responsible for designing the paper prototype were seated on the other side of the table and reviewed the body language of the participants. In this particular moment, the materials were static – there was no shifting between different versions of the prototypes or triangulating across diverse sources of data. Also, the strategy practice was individualized – there was no conversation: each actor reflected on the materials for themselves and how it related to their own understanding of the market.

Effect of the practice: What is the consequence of enacting a 'reviewing' practice? We found that 'reviewing' opened up the richness of the ensuing strategy discussion by shifting the conversational focus. When each of the participants had had a chance to review the same material, each were able to compare the others' points proactively. Schön has argued that reflection-in-action is a key attribute of how professional knowledge comes into being.[63] Unlike technical rationality, "learning from experience" arises from reflecting on actions in the moment in order to surface differences and work through diverse understandings.[64] Our findings show that using static materials is a useful way to deliberately trigger such reflection. 'Reviewing' materials in the context of discussions about customer needs forced participants

to actively reflect on those customer needs. Building on the finding that user research produces insights which help clarify a design problem,[65] we show *how* 'reviewing' practices prompt reflective strategy conversations by giving direct attention to strategy materials and artefacts from the customer's perspective.

In an interview, a Design Lead explained that he regularly used single page summaries of key design concepts in order to trigger reflections, which prompted colleagues to "come back with better summaries" once they understood the main design elements. In this way, reviewing the summaries enabled managers to understand the savings concept of the digital app—overall savings requirements which take into account personal savings goals as well as a buffer for unplanned spending—and enable better contribution to subsequent discussions and design iterations. On the other hand, in meeting segments where participants did not review materials (such as the moments before a review practice was enacted) we found that the strategy discussions took on a different character. Participants often contributed their own perspectives to the discussion without reflecting on a shared theme or common reference point. This finding shows how design-led strategy from a practice perspective can sensitize the focus of strategy making to reflective, learning activities.

Simulating

A second important observation we made was that managers sought to empathetically simulate their end user's experience of their product or service in real time. We label this re-creation of user's experience a 'simulating' practice, which was an individual practice with dynamic materials. It was individual in the sense that managers wanted to reproduce the customer's experience of a product or service *for themselves.* At the same time, it was dynamic because it was a multimodal experience, bringing together different types of visual, verbal, and sensory data over time to re-create a real-life activity undertaken by a customer rather than a summary of the strategy discussion (as in the 'reviewing' practice). In our observation, the physical set up of design workshops was very much organized to enable this kind of dynamic with multiple materials or types of data.

An example of this is when managers met in a design studio to project the app on a computer screen and "walk through" the different aspects of the product under development. One group of managers, acting as customers, were sitting in front of a screen while another manager pressed different buttons on a connected device to move the image forward and backward between screen projections based on the managers' desired product journey. This re-created the experience of a user using a smart phone. We describe this lay-out of materials as dynamic since there are multiple screens on display, and participants are able to interact with the materials by moving back and forth in an immersive way.

Effect of the practice: 'Simulating' opens up strategy practice because it provokes managers to form an empathetic engagement with the customer experience, thereby making the market context immediately appraisable.[66] Design-led strategy from a practice perspective therefore moves from being a *rational* activity to also being an *emotional* one so far as empathy is recognized as a legitimate means of changing the strategy.[67] In the above example, this immersive experience enabled one of the participants to realize that the error messaging on the app was too small to read for some customers. This resulted in a change request to the design team to adjust the app.

In an interview, a Digital Product Owner explained the effectiveness of the simulating practice: "The prototypes are really effective at conveying [to Executives how] user feedback is shaping the product." A key attribute of a 'simulating' practice, then, is not only the more interactive nature of the practice but also the extent to which it allows managers to experience what the strategy *feels like* "on the front line". This enacts a narrowing of the product-market gap. This allows managers to have a more multi-faceted connection with their market and alter their strategy directions through the different ideas, values, assumptions, and emotions this elicits about customers' problems. The ability of senior managers to deliberately construct these sensemaking contexts becomes crucial in design-led strategy. This builds on Knight and Paroutis' insight within a media company where senior managers shaped the interpretative context experienced by lower level managers, thereby helping them to deal with contradictory demands.[68] Simulating, therefore, builds on this in a design thinking context and supports

more balanced a strategy-making process by ensuring "bottom-up" user perspectives moderate "top-down" managerial concerns.

Conversing

Design thinking has a focus on materials. However, there are times when materials are not a feature of the discussion. Instead, strategists discuss their conceptions of the strategic challenges in a free-flowing manner. We label these 'conversing', which is a collective practice in the context of static materials. These moments are significant as they allow the managers to move away from "the data" and discuss the practical realities of the challenges they face at an inter-personal level based on their unit, organizational, and/or occupational backgrounds.

Although instances of conversing arose throughout workshops, they were particularly prevalent at the start when managers provided background updates, contextualized the purpose for the workshop, and discussed challenging priorities that needed to be taken into account beyond the data. For example, when a manager reconvened a workshop between the strategists and designers over a month hiatus, he grouped everyone together in a meeting and prompted a dialogue around what each person was doing and what needed to be addressed in the meeting. In this respect, the materials were static, but the practice was collective in the sense that each managers' response informed the others. For example, as the group settled on what needed to be implemented, each actor contributed different qualifying statements to test their understanding.

Effect of the practice: We observed that 'conversing' was particularly important in enabling collective reflection and getting agreement between participants with diverse understandings of the strategy. In order words, this aspect of design-led strategizing amplified managers' attention to the real "fit" within product-market fit. As a Design Lead commented, "we got [other managers] involved and [they] were able to give an unbiased opinion across what we were doing. Which is important because we don't want to get to a point where we're just going to support each other's great ideas. You've gotta run it by other people who are disconnected from the team in some way." Collective rather than individual reflection exposes "prejudices

and blind spots" and provides "a platform for articulating ideas and aspiration."[69] Through vocalizing different views, participants are able to negotiate alternative understandings of a problem that leads to a more consensual solution. Often design thinking is about the customer data, but frequently implementing new products and services based on the customer data depends on negotiating complex political realities within the organizational strategy. This builds on Stigliani and Ravasi's work who found that the ability of individuals to notice and classify material issues enriched the interactive talk at the group level, thereby enhancing strategic influence. [70] Our findings further substantiate this finding in the context of how design thinking can influence strategy making. Here, we found that conversing was more inclusive as a result of the design artefacts because it opened up discussions to more diverse and fully articulated opinions. For this reason, conversing frequently followed long technical discussions when design-led scenarios were developed but their link back into the organization was unclear.

Collaborating

Finally, we observed a fourth practice in relation to design-led strategy that we labelled 'collaborating'. This was a collective practice, but one that also entailed dynamic materials. Participants not only engaged in collective dialogue about the customer data but also (re)organized and created new materials to surface collective understanding of design and strategy problems. We found these moments usually took place around a white board, using text, Post-It notes, or other materials; or around a computer where the comment functions on programs were used to add additional insights around a central design material.

For example, in one of the early stages of the design project, product managers and strategy managers sat down on a couch to detail all the research tasks that needed to be completed in order to conduct appropriate customer interviews, marketing validation, budget appraisals, and other activities to consider a new product and service. Different members of the team made proposals whilst a manager wrote these up verbatim on Post-it notes and stuck them on the whiteboard against a timeline. As these Post-It notes were stuck up, managers commented on

their location on the timeline, leading to several of the Post-It notes being moved around. This was an iterative activity as managers moved between a conversation about the design project (collective practice), emergent materials capturing action points (dynamic materials), and amendments to the design project plan. This approach is similar to a design-thinking exercise called the Gallery Walk, in which the seemingly most important data collected is 'galleried' on walls for managers to review individually before collectively interrogating.[71]

Effect of the practice. We found that this practice was especially useful when teams were dealing with complex issues that could easily be forgotten or lost in conversational dialogue. Rather than trying to empathetically understand each manager's perspective (as in the conversing practice) the focus in collaborative translation was on generating a shared solution to a complex problem (e.g. how to prioritize the tasks in a project plan) by making connections between various ideas from disparate areas.[72] Knight, Paroutis and Heracleous have shown that visual materials (e.g. within a PowerPoint slide) operate as part of a visual semiotic process and helps tackle politically contentious issues.[73] However, what this work misses is the valuation process wherein managers come to more highly regard each other's perspective as a result of close-quarter interactions.[74] Our findings extend this research by showing how managers visualize their responses in-the-moment through Post-It notes to build collective buy-in to the design and strategy problems. For example, after visualizing a "gamified" customer journey on a whiteboard using Post-It notes, a product manager commented that "the penny dropped on how we can use gamification as a [broader] strategy in [changing] savings behaviors." The collaborating practice we observed, therefore, represented a values-enriched way to shape the strategy practice compared to the study of post-event PowerPoint revisions.[75] For example, we observed that as a manger updated Post-It notes on the whiteboard, another manager felt the need to visually clarify interpretation of the ideas and actions by sketching alongside the Post-It notes – thereby acknowledging the prior work but going beyond it. Thus, the manager was able to initiate concrete changes to the strategic plan that he felt had been misunderstood through the conversation alone. This builds on recent work that has suggested that organizational values can be seen through a practice lens,

focusing not on the values *per se*, but by the process of *valuation* through which managers come to regard some issues are strategically important.[76] Although that work has attended to this issue in terms of balancing contradictory organizational values of innovation and preservation, this finding suggests similar processes are at play in design-led strategy to shape strategic decision-making.

Contribution and implications for managers

In this paper we ask: how do strategists integrate design thinking into their management practice to advance strategic outcomes? Based on our ethnographic observations, we find that the multimodal use of materials, and the shift between individual and collectively enacted practices, are crucial in making design thinking go beyond a discrete design process focused on understanding customers to an approach that shapes the strategic outcomes within organizations. We illustrated this by surfacing four distinctive ways in which design-led strategy can be enacted through practice: Reviewing, Simulating, Conversing and Collaborating. These entail different static (dynamic) uses of materials and individual (collective) engagement contexts through which to interpret these materials. These design-led strategy practices are significant because they allow managers to construct knowledge of their market environments through observation and engagement that goes beyond what is possible within the boardroom. That is, they acquire insights from outside the firm that can get incorporated into how they evaluate and change the organization's strategy.

These findings extend research within the individual disciplines of design studies and strategic management and contribute to an emerging academic body of literature at their intersection. In this gap, prior work has elaborated the link between design and strategic cognition, structures, and processes.[77] However, a practice perspective offers a novel addition to this work and goes deeper into the modes of interaction and how these modes shape the richness of how design-led data gets incorporated into day-to-day actions. Further, we show that the diverse modes of integrating data rely crucially on the multimodal use of materials to enable managers to move beyond overly simple strategies.[78] This builds on prior work that

suggests that strategy work is improved by weaving together and making use of different kinds of knowledge between participants, rather than relying on a single participant or echelon within the organization.[79]

This finding is also important to design scholarship, by showing *how* materials get deployed influences the ways in which they get integrated into and impact strategy practice, particularly in relation to product-market fit. Materials provide a means of surfacing tensions in conversation, but managers can change their behaviors toward them (e.g. reviewing, conversing, collaborating, simulating) which challenge their own and others' assumptions more or less directly. At the same time, we offer a more granular picture of how design issues develop compared to prior process-oriented studies.[80] Indeed, a key implication of our analysis is that organizations do not decide on a single design thinking approach. Rather, managers instigate their own design-led strategizing in the moment by shifting between distinct practices. Thus, strategy is constantly renegotiated as managers work through different situated encounters and engage with the different kinds of openness to customer insights they afford.

Our findings also extend existing research within the strategy-as-practice tradition by offering design thinking as a more central theme for this work. Strategy-as-practice research has tended to focus on intra-organizational dynamics, in particular focusing on the practices enacted between top, middle, and frontline managers.[81] However, these practices rarely incorporate the views of external stakeholders, such as customers, even though more open approaches to strategizing are increasingly common. This study therefore contributes to recent calls for studies of open strategizing by showing how design-led practices integrate external, customer-focused data into strategy practice.[82] These practices allow greater empathy and emotional engagement with end-users of products and services, and enable more diverse forms of participation.

Our study also has consequences for managers: using design-thinking tools to collect data from customers and users is not enough by itself for organization to innovate and change their

strategies. The data also needs to be successfully integrated into strategic management as a practice in order to open up new insights between diverse materials and engagement contexts in order to have an impact. This insight appears to be consistent with where strategy as a profession is also heading. Indeed, one of the world's leading strategic consulting firms, Boston Consulting Group, is reorienting how it works by incorporating design more centrally into its strategy practice. In 2014 BCG purchased S&C, an Australian strategic-design firm, in 2014, and MAYA Design, an American design firm in 2017.[83] S&C was integrated into BCG Digital Ventures and MAYA was brought into BCG's digital offerings, representing a move to link traditional strategy consulting with design consulting. We now elaborate on three key implications for managers who are thinking about design-led strategy based on our findings.

Implication 1: To have greater impact in new idea generation, managers should consider the dynamic deployment of design thinking materials.

Design thinking approaches place considerable emphasis on the different types of design thinking tools that can be deployed to capture customer data.[84] For example, design content arising from customer interactions in market can be written down in long form, captured succinctly on Post-it notes, documented numerically, visually depicted in rough sketches or more sophisticated visualizations, physically modelled or storyboarded, and so on. However, we note that it is the use of these materials *in dynamic combination* that is particularly important in enabling new idea generation through the practices of 'simulating' and 'collaborating'.[85] When design thinking materials are used dynamically and multimodally in this way, they allow for open discovery and fresh ideas that emerge from new and interesting linkages between the data and materials, thereby fostering product-market fit.

This suggests that setting up rooms with customer insights, personas, and other physically instantiated materials is important as it can allow managers to continuously reference back to design content surfaced throughout a project. McKinsey Digital Labs, for example, advocate using the four walls of a project room to track a specific focus such as customer experience, technology, team planning, and operations and process. This allows cross-functional teams to

quickly and easily access information from each other's domains and support new idea generation.[86]

Implication 2: Managers should use static design materials when they wish to harness deeper engagement with strategy concepts.

Even though we found that the dynamic use of materials was an essential aspect of design-led strategy, the less exciting use of static materials also played a distinctive role through 'reviewing' and 'conversing' practices. Indeed, we suggest that design-led strategizing that does not engage with materials statically may miss important insights. Indeed, we observed that static materials enabled immersive engagement with a particular aspect of the design content (e.g. a prototype, or a type of customer feedback). This helped anchor the subsequent discussion and open up participants to new ways of engaging with design materials such as empathy and emotion.[87] This means that when managers find that design strategy conversations are superficial or too wide-ranging, it may be necessary to focus in on a key design material and draw attention to it. This will allow greater focus amongst the team members and avoid the risk of superficial engagement with the content.

Implication 3: Individual practices enhance knowledge of either the product or market, whereas collective practices support discussions of "fit" between both areas.

Finally, we found that managers moved quickly between each of the four practices, moving in particular between the individually-focused practices (e.g. reviewing) and the collectively-focused practices (e.g. collaborating). Both of these practices are important but they help managers address different aspects of the product-market fit tension.

Prior research on design thinking has emphasized the individual aspects. This focuses on the empathy of the designer themselves and their cognitive ability to relate to their end-user.[88] However, our findings suggest that this is really only part of the picture. From a strategic management perspective, it is useful to enabling members to understand their product or market better, but it does not assist with the organizational challenges of integration.

Collective practices, on the other hand, are crucially important in managing issues of "fit". They allow managers to work between their newly created knowledge of the product or market with what is possible (or will "fit") in the organization's strategy. Yet these processes of fit are only valuable *alongside* intense, individual reflection. For example, to improve their vacation booking process, Carnival Cruise Line engaged employees in a game in which they had to progress through checkpoints representative of the customer booking process.[89] A group debrief of the game then unearthed rich insights about how the current experience needed to change. In reporting on the activity, Henkel and Grant argued that it was because managers had gone through an *individual* experience of the process that they were then able to work through changes to the organization's process *collectively.* In other words, it was the movement from the individual practice that made the collective practice more meaningful.[90]

For this reason, senior managers need to consciously and deliberately move between individual and collective practices in order to enhance product-market fit strategizing. The tension between these two practices is generative. Indeed, we observed several instances in which strategy managers *pushed back* against product managers based on what they thought was feasible within the remit of DigitalBank's strategy. This allowed for a more effective integration or fit between the customer-led market concepts and the organization-led product solutions.

Future Research and Conclusion

It is almost two decades since Jeanne Liedtka highlighted the parallels between design and strategy and its potential to enable a "more widely participative [and] more dialogue-based"[91] approach to strategy. We further this conversation using recent advances from the strategy-as-practice perspective to conduct a practice-based study and develop an approach we term 'design-led strategy'. Our analysis of interactions between design thinking data and strategy practice suggests that managers who seek to leverage design thinking in their organizations will need to do so through multimodal engagement with materials as well as applying diverse ways to interact with colleagues. Specifically, our findings suggest that managers, individually

and collectively, need to engage with static and dynamic materials to enrich strategy conversations and actions. By appreciating how materials and engagement contexts encourage different modes of engagement with design thinking data, managers can better integrate design thinking into strategy practice and open up strategies to new voices, ideas, and ways of seeing the market. Our hope is that a design-led perspective on strategy will spur future research examining different strategic actions made possible by the insights and increasingly rich customer data afforded by design processes.

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