Inside-Out and Outside-In Mental Models: A Top Executive Perspective

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STRUCTURED ABSTRACT:

Purpose: The purpose of this study is to identify and characterise executives' inside-out (firm-oriented) and outside-in (market-oriented) mental models. Since these two orientations are vital for strategic decision making, yet potentially contradictory, it is important to understand the role of inside-out and outside-in thinking in executives' agendas.
Design/methodology/approach: Qualitative, semi-structured interviews of fifteen senior executives were employed to capture insights into executives' mental models. Data analysis was conducted following the principles of abstraction, theory emerging from data, and constant comparison.
Findings: Four archetypes of executive mental models are identified and characterised along two dimensions (inside-out or outside-in orientation; focus on rational or emotional aspects).
Practical implications: The study introduces a tentative framework for practitioners to identify and deploy the potential of the mental models that guide executive decision making.
Originality/value: The study extends prior research on mental models by combining this approach with inside-out and outside-in orientations and customer value propositions. In addition, it introduces four archetypes that illustrate the distinct potential of different mental models.

Keywords: strategy, executive, mental model, customer value, customer value proposition

Introduction

The main responsibility of an executive is to identify and build sustainable competitive advantages and guide the organisation towards achieving them (Oliver, 1997). These advantages lie at the intersection of three domains, areas that: (1) reflect customer needs and (2) are out of reach of competitors' capabilities, but (3) are within the scope of the firm's capabilities (Collis & Rukstad, 2008). Moving the organisation towards a competitive advantage requires the executive to consider both firm- and market-related factors. While all these domains are crucial for success, the focus of executives should be placed on attuning their organisations to be more in-sync with the first domain, customers' needs.

In this effort, executives' internal representations, such as their mental models, are vitally important. These representations determine the ways in which executives make choices, policies and investments (Adner & Helfat, 2004; Birshan et al., 2014; Day & Nedungadi, 1994; Narayanan et al., 2011; Strandvik et al., 2014) and consequently, define the ways they advance customer value propositions (CVPs) within their organisations. For instance, mental models can influence executive priorities, such as whether to pursue customer satisfaction and retention or cost reduction (Rust et al., 2016).

Senior executives shape an organisation's business model – its strategy, culture and ways of thinking – as well as organisational tools and performance metrics. While the mental models of all members of an organisation influence how it behaves, senior executives make large-scale, long-term strategic decisions that affect the whole company, as opposed to the typical tactical decisions made at other levels of the organisation. This makes the perspectives of senior executives a fruitful and relevant topic for research, as they exercise a critical role in defining the firm's raison d'être. In this endeavour, identifying and specifying CVPs (Johnson et al., 2008), and translating them effectively into the firm's key resources and capabilities, can drive a company's success. The CVPs outline who the firm's customers are, which benefits (value propositions) are offered to them and how these benefits are created (Webster, 1994). Overall, CVPs are a central executive tool to convert organisational resources and competencies into competitive success. To develop effective CVPs, executives must consider both internal, firm-related and external, market-related factors, which is why their mental models become critical drivers in designing successful CVPs.

Despite their relevance in defining firm success in general and executive decision making in particular, mental models have remained a largely unexplored area in business research. Recent studies emphasise how such cognitive frameworks filter and guide decision makers' attention and how they influence corporate strategy, from a theoretical perspective. However, the more practical ways that mental models may influence CVP identification and development has remained unexplored. This is the case even though CVPs have a critical role in defining how the firm is positioned in the marketplace, how it can compete against other firms and, most importantly, what kind of value it will provide to customers. Generating insight into the interplay between senior executives' mental models and CVPs is therefore an important avenue for contemporary business research.

In keeping with the discussion above, this study answers the call for more research into the mental models of senior executives (Choi & Thoeni, 2016; Strandvik et al., 2014), especially concerning how they make sense of such strategic issues as customer value creation (Holmlund et al., 2017). The purpose of this study is to identify executives' mental models and characterise them according to their inside-out (firm-oriented) or outside-in (market-oriented) orientation. The rest of the paper is organised as follows: it begins by briefly reviewing the literature on mental models, inside-out vs. outside-in orientations and CVPs. Then the study methodology is described and the results presented. After discussing the interpretation of these results, the paper concludes by noting its limitations, along with avenues for future research on executive mental models.

Theoretical background

Mental models

Mental models, like other internal representations and frameworks, filter decision makers' attention and guide their decisions (Birshan et al., 2014; Day & Nedungadi, 1994; Narayanan et al., 2011; Strandvik et al., 2014). Mental models include beliefs and assumptions held by decision makers, which is why they are important concepts for research into organisational strategy (Chi, 2008; Strandvik et al., 2014). Mental models capture how executives understand concepts relating to the external business environment (e.g., their customers) and interpret interrelated systems of these concepts (e.g. how customers respond to the organisation's actions), thereby affecting how executives intend that their firms compete in the marketplace (Chi, 2008; Day & Nedungadi, 1994; Karp, 2005; Tollin, 2008). Executives' mental models thus affect (1) which aspects of the situation are considered relevant for decision making, (2) what outcomes are seen

as preferable or valuable and (3) what relationships are believed to exist between various aspects and potential outcomes.

On a general level, mental models are part of an individual's cognitive framework (Klimoski & Mohammed, 1994; Rouse & Morris, 1986); indeed, the concept arose initially from cognitive psychology (Johnson-Laird, 1983; Johnson-Laird & Byrne, 1991; Klimoski & Mohammed, 1994). The identification of mental models has shed light on how individuals make sense of their surroundings (Klimoski & Mohammed, 1994; Johnson-Laird, 1983; Rouse & Morris, 1986). A mental model's structure and content capture what is common to the different ways a possible event can occur (Goldvarg & Johnson-Laird, 2001). In this context, 'content' refers to the elements that are understood, while 'structure' refers to how they are understood: what relationships are posited among these different components (Lim & Klein, 2006; Webber et al., 2000). In addition to the content and structure of knowledge, mental models also incorporate processes in which knowledge can be used, such as how to manipulate, classify or modify it (Merrill, 2000). In other words, mental models involve both how the individual perceives reality and how to use such knowledge (Johnson-Laird et al., 1999; Lim & Klein, 2006; Merrill, 2000); they therefore affect executives' strategic problem definition and decision-making processes (Klimoski & Mohammed, 1994).

Mental models can be examined at the level of the individual or of a group (team or organisation). At the group level, the focus is on shared (or non-shared) beliefs (Strandvik et al., 2014; Holmlund et al., 2017), such as whether members understand each other's tasks and abilities, agree on the current situation and strategy and are able to communicate openly with each other (Cannon-Bowers et al., 1990; Klimoski & Mohammed, 1994; Lim & Klein, 2006; Marks et al., 2000; Mohammed & Dumville, 2001). Given the purpose of this study, an individual-level mental model approach is employed, because individual executives ultimately decide the strategic imperatives of their organisations. Top executives also develop the resources and capabilities that allow value creation for customers and the organisation, though they typically operate through a management team when it comes to the implementation of these strategies.

While newer studies equate mental models with beliefs or belief systems (e.g., Holmlund et al., 2017; Rust et al., 2016; Rydén et al., 2015; Strandvik et al., 2014), a number of competing definitions have been put forth in the literature. To highlight the diverse approaches to the nature (e.g. structure, content, mechanism) and effects (e.g. observations, expectations, decision

making) of mental models, selected definitions are presented in Table 1. From these definitions, several characteristics of mental models will be derived.

Table 1. Selected mental model definitions.

Authors	Definition
Chi, 2008, p. 67	'an organized collection of individual beliefs'
Day & Moorman, 2010, p.10	'simplifying frameworks that include prevailing assumptions, norms, and even the vocabulary used to talk about customers'
Holyoak, 1984, p. 193	a 'psychological representation of the environment and its expected behavior'
Johnson-Laird et al., 1999, p. 66	'a representation of a possibility that has a structure and content that captures what is common to the different ways in which the possibility might occur'
Klimoski & Mohammed, 1994, p. 405	'a general class of cognitive constructs [...] to explain how knowledge and information are represented in the mind'
Prahalad & Bettis, 2004, p. 76	a mental model helps 'to categorize an event, assess its consequences, and consider appropriate actions (including doing nothing), and to do so rapidly and efficiently'
Rouse & Morris, 1986, p. 360	a 'mechanism whereby humans generate descriptions of system purpose and form, explanations of system functioning and observed system states and predictions of future system states'

First, most definitions cited in Table 1 illustrate how mental models and other 'knowledge structures' (Klimoski & Mohammed, 1994) or 'knowledge frameworks' (Lim & Klein, 2006) aid individuals in their interpretive processes by screening out information and reducing uncertainty (Klimoski & Mohammed, 1994). They allow individuals to understand phenomena, to make inferences and to experience events by proxy (Johnson-Laird, 1983). Thus, executives use models to simplify and filter the decision-making landscape by imposing order and providing useful rules of thumb (Day & Moorman, 2010; Day & Nedungadi, 1994). They allow executives to form expectations, to envision changes and to describe, explain and predict both behaviour and outcomes (Chi, 2008; Holyoak, 1984; Lim & Klein, 2006; Norman, 1983; Rouse & Morris, 1986).

For instance, executives' mental models can consist of a picture of future customer needs or an understanding of the organisation's business model (Karp, 2005).

Second, while mental models contain cognitive structures and beliefs (e.g. the definitions by Chi, 2008 and Klimoski & Mohammed, 1994, presented in Table 1), they also feature other representations of meaning, such as attitudes, emotions and feelings, memories, goals and personal values (Day & Moorman, 2010; Christensen & Olson, 2002). Mental models thus also include processes (Merrill, 2000) and mechanisms (Rouse & Morris, 1986) for making sense of the environment. These interpretative mechanisms can be more cognitive and rational or more emotional and intuitive[1], and their rational and emotional components can complement or contradict one another (Calabretta et al., 2016; Beshears & Gino, 2015). For instance, rational decision making is slower and comes at a higher cognitive cost than instinctive responses. On the other hand, while emotional responses at their best enable decisions to be made 'rapidly and efficiently' (Prahalad & Bettis, 2004), it is more likely to lead to errors, such as underestimating or ignoring relevant information (Calabretta et al., 2016; Beshears & Gino, 2015). All effective mental models consist of both rational and emotional components (beliefs and feelings) in some combination (Christensen & Olson, 2002).

Third, while simplifying decision making, mental models may also impede or deceive it, as they vary in their coherence and their correspondence to the world they depict (Chi, 2008; Lim & Klein, 2006). For example, an individual can have an incomplete mental model or miss important elements of the situation entirely (Chi, 2008). Especially in turbulent markets, executives can no longer count on previously reliable mental models of customers, competitors and other market forces (Birshan et al., 2014). In such situations, they benefit from seeking and interpreting new information, refining their mental models of customers and of how to create value for them (Strandvik et al., 2014). More accurate and nuanced mental models allow for decision making that is more in line with what customers value (Senge, 1990; Strandvik et al., 2014; Woodruff, 1997). Another problem is that the mental models themselves may encourage individuals to ignore discrepant information, thus inhibiting creative problem solving (Day & Nedungadi, 1994; Klimoski & Mohammed, 1994). A third issue is that mental models, like other simplifications and untested ideas, are difficult for individuals to observe for themselves (Day & Moorman, 2010).

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[1]This distinction between automatic, instinctive and emotional mental processing (labelled 'System 1') and slow, logical and deliberate cognition ('System 2') has been popularised by Daniel Kahneman in the book *Thinking, Fast and Slow*.

To sum up the above discussion, because of their influence on decision making, mental models represent an important avenue for research in executive decision making and strategy (Rydén et al., 2015). In the context of this study, executives' mental models – consisting of both rational and emotional components – are considered to affect (1) what aspects are deemed relevant in decision making, (2) what is considered desirable or valuable and (3) what kinds of relationships between different aspects are believed to exist in the decision-making situation. Next, two orientations (inside-out and outside-in) that characterise mental models are discussed.

Inside-out and outside-in orientations

Since mental models include the structure and content of knowledge, as well as the processes involved in forming and using that knowledge, executive mental models can be characterised as either inside-out or outside-in, in orientation. These two orientations have been used in management literature to characterise whether strategy, marketing capabilities, branding and mental models begin from an internal (firm) or external (market) starting point (Day, 1994; Greenley et al., 2005; Hooley et al., 2001; Saeed et al., 2015). In the inside-out orientation, strategic discussions focus on the current resources, products, strengths and capabilities of the company. Executives start by identifying the firm's unique assets and capacities and then search for potential markets and strategies to leverage these unique resources (Hooley et al., 2001). They make decisions on which core business or product category to operate in, fuelled by an understanding of current organisational competencies (Payne et al., 2008). They focus on leveraging current assets, improving productivity and maximising market share. Inside-out decisions involve financial management, human resources, cost control and technology development (Day, 1994; Hooley et al., 2001; Greenley et al., 2005).

By contrast, an outside-in approach to corporate strategy takes the market as the starting point. In this situation, executives begin by interpreting how customer needs are changing, how competitors are behaving and how the firm's customers perceive its value propositions (Day & Moorman, 2013). With this information, the firm anticipates shifts in the marketplace and develops new capabilities and value propositions (Day & Moorman, 2010). Further, according to this orientation, valuable assets emerge from the firm's interactions with market actors (Day, 1994; Greenley et al., 2005; Hooley et al., 2001; Hult & Ketchen, 2001; Saeed et al., 2015). Market insights and customer and channel relationships, as well as brands, are therefore considered as

valuable assets to be developed, protected and leveraged by executives (Day & Moorman, 2010). A thorough understanding of customers and their expressed and implied needs, as well as their value-creating processes, are vital to the firm's success (Payne et al., 2008; Saeed et al., 2015). These market insights enable firms to probe far into market trends and exploit them (Day & Moorman, 2010). This approach involves listening carefully to customers, even challenging the boundaries between supplier and customer (Payne et al., 2008), and dismissing any 'silo' approaches within the organisation. Processes of innovation may even be opened to outside parties (Day, 2011).

Both orientations have inherent risks. The inside-out orientation has the risk of alienating the firm from its markets (Day & Moorman, 2010), in three ways. First, the firm may overemphasise efficiency and internal processes, relying on cost-cutting actions that yield results in the short term, but lose sight of long-term market trends and vulnerabilities. Second, investing heavily in core competencies can lead the firm to become rigid, possibly unable to adapt to market changes or alienating customers by reliance on internal standards of effectiveness as opposed to customer perceptions of quality. Third, an inside-out orientation indicates that customers are far from the firm's decision-making processes, meaning that decisions are likely to serve internal stakeholders and internal competition for budgets rather than creating value for customers. All of these potential weaknesses signify that an inside-out orientation is vulnerable to complacency and turning inward to focus on cost cutting, or over-emphasising short-term goals (Day & Moorman, 2010). On the other hand, the outside-in orientation is likely to be inefficient, if too much effort is spent gathering market intelligence and trying to serve a wide range of outside stakeholders. It might also lead the organisation to neglect its unique resources and capabilities, ultimately endangering its competitive advantages. Finally, the vulnerabilities of both orientations are difficult to detect, because they are embedded in executives' mental models that shape their decision making (Day & Moorman, 2010). In the next section, it is argued that executives' mental models influence the development of the organisation's customer value propositions.

Customer value propositions
Customer value propositions (CVPs) capture what kind of value the firm creates for its customers. CVPs are used both externally, to position the brand in the market, and internally to guide the organisation's efforts. First, CVPs define who the customer is (Day & Moorman, 2010; Johnson et al., 2008). Identifying a specific need – or "sweet spot" – that the organisation can address more effectively than its competition requires executives to think creatively about customer needs

and the firm's current and potential capabilities (Collis & Rukstad, 2008). Creating CVPs can also involve a reciprocal and interactive process with customers (Ballantyne et al., 2011). Second, CVPs aim to capture which dimensions of customer value are created (see Rintamäki, Kuusela & Mitronen, 2007; Saarijärvi et al., 2014). These are often expressed as benefits that are easily understood by customers (Anderson et al., 2006; Day & Moorman, 2010), which are delivered to customers, and therefore focus on the benefits that are most relevant to customers. Third, CVPs guide the way in which value is created, that is, the kind of business model and resource allocation choices the organisation delivers and the value it proposes. Therefore, through a shared understanding of the content and nature of its CVPs, the organisation can deploy its resources, capabilities and processes in the desired direction. Fourth, CVPs should point out the reason why customers should choose the firm's offerings as opposed to those of its competitors (Payne et al., 2017).

However, while previous studies emphasise the role and potential of well-designed CVPs in driving organisational success, any CVP holds the potential for risk and caveats that should be considered. For example, a one-sided focus on a company's 'superior' CVP may eventually hinder the company from seeing important changes in the external marketplace (Christensen, 2013). In that respect, CVP lies at the dynamic intersection of a company's internal and external environment.

Altogether, a CVP can be regarded as 'a competitive statement of the dimension of value offered to a specific group of customers, the ways in which the firm creates value, and reasons for customers to select the firms' offering' (Yrjölä, 2015, p. 30).

INSERT FIGURE 1 ABOUT HERE

Figure 1. Conceptual framework: Identifying and characterising the inside-out and outside-in orientation of senior executives' mental models influence CVPs.

Figure 1 presents the conceptual framework of this study, summarising the research approach taken regarding executive mental models and CVPs. As an executive tool, CVPs are easily influenced by executives' mental models, whether their orientation is inside-out or outside-in. In

the context of this study, CVPs provide an essential locus for reflection on executive mental models. The next section describes the methodology used in this study to identify and to characterise these mental models.

Methodology

Qualitative approaches excel in situations where the goal is generating a new theory about complex problems. What makes them powerful is their reception of novel ideas, ability to cope with complexity and use of nuanced contextual understanding to analyse hard-to-measure constructs (Eisenhardt et al., 2016). As such, a qualitative methodology was adopted to capture how executives think about and discuss their decisions as those responsible for defining their organisation's business model and their customer value propositions (Zott & Amit, 2010)—that is, to uncover their mental models. The research perspective undertaken herein was therefore exploratory in nature, and focus was placed on exploring phenomena rather than explaining them. Moreover, qualitative approaches are relevant when investigating senior executives' points of view (see Granot et al., 2012), since they generate faithful and authentic representations of how executives perceive their organizations and circumstances (Gioia, Corley & Hamilton, 2013). They consider the personas, complexity and context of both researchers and participants with an emphasis on participants' experience, intuition and common sense, as well as their interpretations of phenomena (Alvesson, 2003; Gummesson, 2006). Qualitative research thereby allows for an enriched understanding of top executives' mental models in relation to their work and does not obscure corporate contexts. In other words, qualitative research can generate contextualised and concrete findings, and all these aspects combined make qualitative research a compelling choice when studying executives' mental models.

Mental models have been previously studied using a large variety of research methods. For instance, Rust et al. (2016) employed a quantitative 'longitudinal multilevel study' to investigate individual and collective mental models; meanwhile, consumer research has employed visual methodologies (Christensen & Olson, 2002). Mental models are reflected in the way executives talk about their tasks, their organisations' CVPs, and the way they frame problems and justify strategic choices. In such cases, when a given research phenomenon is complex, episodic and infrequent, interviews are efficient and sometimes the only viable way of gathering rich empirical data. This is especially true for strategic phenomena, such as executives' strategic decision

making (Eisenhardt & Graebner, 2007). Furthermore, the study of individual executives' mental models requires interview data to lend informants distinct voices (Eisenhardt et al., 2016). Interviews capture senior executives' mental models because such dialogue 'enables the understanding of participants' thought processes, values, aspirations, and professional and life stories in context' (Granot et al., 2012, p. 548). During the interview, the interviewer typically listens rather than talks, letting participants share their perceptions and experiences generously with the researcher. The interviews for this study were semi-structured, meaning that they followed an interview guide that employed only broad themes rather than specific questions. Recent studies of executive mental models related to innovation, digitisation and social media have also used semi-structured interviews (Holmlund et al., 2017; Tollin, 2008; Rydén et al., 2015). This study complements previous work by studying the orientation (inside-out or outside-in; e.g. Day & Moorman, 2010, 2013) and focus (more rational vs. more emotional) of executive mental models as they relate to CVPs. Therefore, interviews were chosen as the primary data source as opposed to surveys, focus groups or written organizational documents.

Two processes characterized the research: an iterative data gathering process and an analytical process that progressed from lower-order empirical observations and preliminary codes into grounded higher-order themes (Eisenhardt et al. 2016; Eisenhardt & Graebner, 2007; Gummesson, 2006). In such an approach, it is crucial to account for the general principles used; this includes sampling criteria, changes in research direction and the logic of analysis. A detailed description of each phase might result in what Eisenhardt et al. (2016) call "rigor mortis": forcing data into specific analysis templates and focusing on coding small portions of text instead of looking for broader patterns. Moreover, systematic descriptions are often impossible because research processes are nonlinear and insights emerge either suddenly or through incremental development.

The principal goal was to generate data that fully and accurately addresses the focal research phenomenon and its relevant aspects (Eisenhardt et al., 2016). Theoretical sampling was employed, meaning that interviewees were selected because they themselves were particularly suitable for generating insights about their respective organizational contexts (Eisenhardt & Graebner, 2007; Eisenhardt et al., 2016). In this study, theoretical sampling criteria included personal and organizational factors; this resulted in interviews with fifteen senior executives from diverse industries. Personal factors include the executives' role(s) and position (e.g. CMO, CEO, and Chairman of Board) and experience (ranging from 4 to 35 years). Organizational factors

included the field of business, type of organization (B2B vs. B2C; products vs. services; complex vs. simple offerings; variety of customer relationships; complexity of business processes and relationships to business networks), organization size and international focus (national, international or global operations). The aim of this process was to reach executives who could reflect a myriad of mental models, thus providing an empirically interesting sample for studying inside-out and outside-in mental models. Because mental models reflect an organisation and are shaped by personal experiences and qualities, these criteria were deemed appropriate for identifying diverse types of mental models. As mentioned above, the data generation process was iterative: data collection was adjusted to fit an emerging understanding of executive mental models, as well as the opportunities sensed by the researchers (Suddaby, 2006). The interviews were conducted using open questions, to allow the frameworks that guide strategic thinking (i.e. mental models) to emerge from the participants' spontaneous replies. Information about the participants is summarised in Table 2.

Table 2. List of study participants.

Participant	Position or title, and work experience	Field of business/ organisation	International or global operations[1]	Revenue in million euros	No. of Employees
A	CEO, 20 years	Public-private healthcare organisation	National	100	800
B	Director, 25 years	Real estate and leasing services	International	170	250
C	CEO, 32 years	Food industry	Global	260	1 350
D	CEO, 35 years	Healthcare	National	12	80
E	CEO, 10 years	Staff leasing	National	30	450
F	CEO and Chairman of Board, 22 years	Retailing and various industries	Global	11 000	37 800
G	CEO, 28 years	Electric power	International	3 600	8 100
H	Vice President, 15 years	Forestry industry	Global	5 000	11 500
I	Executive Vice President, 17 years	Paper and pulp industry	Global	10 140	19 600
J	CEO, 32 years	Media	International	290	2 500

K[2]	CEO, 12 years	Staff leasing	Global	80	2 000
L[2]	CMO, 8 years	Staff leasing	Global	80	2 000
M	Chairman of Board, 24 years	Postal and logistics services	International	470	20 600
N	CCO (Chief Customer Officer), 4 years	Insurance	National	4 300	540
O	CEO, 21 years	Investment firm	International	150	1 200

Note 1: The 'international' label encompasses import/export activities, while 'global' includes permanent operations (e.g. manufacturing) that are organised outside of the company's home country.
Note 2: Participants K and L are from the same company and were interviewed together.

The interviews were broadly structured around three themes, as follows:

(1) 'Which aspects do you consider relevant to your business and decision making when developing and managing CVPs in your organisation?'

(2) 'What kinds of initiatives or systems are relevant in this pursuit?' and

(3) 'What kinds of goals and metrics are relevant in developing CVPs?'

For each theme, follow-up questions were based on what the participant brought up during the interview. For example, issues raised by participants were often subject to further reflection in relation to their organisation's CVPs. Also, executives were asked about their customers and customer orientation to enrich the discussion. Although participants did not address mental models explicitly, differences in their thinking, problem definition, and argumentation emerged from the data thus offering a rich window to explore and characterise the types of mental models that drive executive decision making. The interviews were open-ended, as participants were encouraged to speak about the themes from their perspective and in their own language (Carson et al., 2001). Further, the participants' answers were not restricted in any way; for instance, no academic definitions were provided. The interview itself was thus reflective in nature, resulting in rich data and interpretation (Gummesson, 2006). The interviews took place between November 2015 and August 2017; each lasted approximately one hour. They were recorded and transcribed, resulting in approximately 104 pages of transcripts for analysis.

Second, data analysis involved all researchers independently familiarizing themselves with the data by reading transcribed interviews, research memos and notes made during the interviews; this way, all members of the research team could establish their initial interpretations. During this

phase, the authors discussed at length the various ways in which senior executives' responses reflected inside-out and outside-in orientations. The goal here was to attain a shared understanding and interpretation of the data. Then, raw data was coded into first-order codes while discussing emerging differences in the preliminary coding. This interaction helped foster agreement about how different themes were represented in the data and resolved some differences in interpretation (see Alvesson & Sandberg, 2011). Next, the codes were combined and raised to a more abstract level following the general principles of analysing qualitative data: categorizing and abstracting (Spiggle, 1994). Here, the researchers engaged in constant comparisons between emerging theoretical themes and data. Some themes were combined under a more extensive umbrella term while potentially contradictory themes were divided into distinct sub-themes. For example, proactively developing customer relationships and managing customer heterogeneity were distinguished as two separate sub-themes relating to different orientations. Themes were sharpened and adjusted by actively engaging with previous literature, and following this process, the authors reached a consensus concerning the most important themes characterising different mental models.

The data were divided into two theory-based categories through a process of constant comparison, depending on whether it demonstrated an inside-out or outside-in orientation. This categorisation followed the definitions outlined in Figure 1 (see also Day and Moorman, 2010). Overall, categorising each interview as inside-out or outside-in was straightforward and followed logical principles, although some cases were more challenging. For example, during the interview, the CEO of a large media company emphasised strategic flexibility, which was relatively difficult to categorise either as an inside-out or an outside-in principle. This topic was thus broken down into sub-themes related to preparing the organisation for change (inside-out) and market experimentation (outside-in).

During this phase, another dimension emerged from the data: mental models could be characterised as emphasising either rational or emotional aspects. This dimension was identified by comparing the way various executives emphasised and discussed issues when explaining their decision-making process. For instance, those whose frameworks anchored on emotion argued the importance of organisational culture and treating customers as individuals, while those demonstrating a rational focus talked more about organisational capabilities and market opportunities. Compared to inside-out versus outside-in categorisation, characterising mental model elements as having either a rational focus or an emotional focus was found to be more

difficult. However, the authors reached a conclusive consensus for each categorisation through reflective discussion. Finally, by using these two dimensions—inside-out or outside-in orientations and rational or emotional emphases—four archetypal mental models were eventually identified and characterised. In writing and presenting these findings, considerable effort was made to intertwine the identified themes with their respective empirical evidence. These findings are presented in the next section.

Results

> *At the end of the day, the firm's success is decided on the customer front. Competitive advantage can be reduced to how well you do that. Competitive advantage arises from the management of customer relationships, understanding them and working on the relationships.* – CEO and Chairman of the Board, retailing and various industries

The participants varied greatly in how much they emphasised external or internal factors. As the above quotation exemplifies, some executives placed high priority on customers (in this case, developing customer relationships). However, others emphasised the role of internal factors such as technologies, corporate culture and cross-functional cooperation in achieving organisational success. As a result of this analysis, four archetypical mental models are presented here, based on two dimensions: (1) whether they show an inside-out or outside-in orientation and (2) whether they are focused on more rational or more emotional factors. These mental models are labelled as 'The Engineer' (inside-out, rational focus), 'The Community-builder' (inside-out, emotional focus), 'The Visionary' (outside-in, rational focus) and 'The Artist' (outside-in, emotional focus). These mental models and their typical characteristics are shown in Table 3.

Table 3. Mental models of senior executives.

Orientation

	Inside-out	Outside-in
Rational	**The Engineer** **Company-owned resources as the basis for value propositions** (e.g. core competencies)	**The Visionary** **Market-level intelligence as the basis for value propositions** (collecting, generating and analysing market data to predict trends,

focus	**Tendency to use inside-out performance metrics** (e.g. occupancy rates and other efficiency metrics) **Creating structured and standardised processes** (e.g. quality assurance systems, checklists, systematising customer encounters)	evaluate market potential and focus efforts) **Tendency to use customer-oriented metrics** (e.g. corporate image, word-of-mouth, customer satisfaction) **Mapping customer behaviour in real-time** (e.g. monitoring behaviour rather than intentions, establishing brand presence throughout the customer journey, coordinating customer touchpoints) **Market experimentation** (e.g. decentralising decision making close to customers and continuous experimentation at the customer interface)
Emotional focus	**The Community-builder** **Organisational culture as the basis for value propositions** (e.g. management setting an example, driving cultural change through hiring practices and engaging employees in developing new services and CVPs) **Talent recognition and management** (e.g. evaluating and cultivating employee potential and skills) **Community-building practices** (e.g. building trust and ensuring that employees are committed to company values) **Cross-functional emphasis** (e.g. sharing experiences and resources across functions)	**The Artist** **Customer insight as the basis for value propositions** (e.g. thinking in terms of customer goals, emotions and perceptions, understanding the multidimensionality of customer value) **Managing customer heterogeneity** (e.g. treating customers as individuals, understanding customer contexts and managing uncertainty) **Proactively developing customer relationships and experience** (e.g. learning about customers, proactively suggesting new improvements and maintaining an ongoing dialog with customers)

These mental models reflect archetypes; no senior executive is a 'pure Engineer', for example. Rather than strict dichotomies, each dimension should be regarded as a continuous scale. Thus, executives are likely to display characteristics of more than one mental model. The four archetypes presented here illustrate the extremes on each scale, from more emotional to more rational and from more inside-out to more outside-in. In the next section, these mental models are presented and discussed in detail.

The Engineer mental model

The first archetypal mental model, oriented inside-out and focused on more rational aspects, was labelled "the Engineer". The implicit assumption of this mental model is that customer value is created through two dynamics: increasing internal efficiency, thereby enabling lower prices, and increasing the rational benefits offered to customers, improving the quality and features of the product and thus enabling higher prices. In either case, the starting point is a focus on company-owned resources, such as production competencies of one kind or another. Attention is directed at identifying, evaluating, developing and leveraging the core assets of the firm. This approach implies fewer efforts to explore new opportunities and business models. As one participant put it, *'We can't run after every new thing – we have to take care of our core business. We never compromise that'* (CEO, food industry).

Another characteristic that stood out for the Engineer mental model is the *tendency to use inside-out performance metrics* – that is, metrics that favour internal standards, such as efficiency, as opposed to external criteria, such as customer outcomes. In the view of one participant, the focus on internal standards leads to the organisation being too 'product-centric', which hinders the development of more service-based offerings (CEO, food industry). For the real estate business, emphasising internal standards means aiming for a high occupancy rate (comparing results to internal capacity) instead, for example, of such metrics as share-of-expenditures or market share (i.e. comparing results to external capacity) (Director, real estate and leasing services).

Furthermore, *creating structured and standardised processes* was considered significant for the Engineer mental model. This meant, for instance, aiming for the highest possible quality by not tolerating any defects and establishing quality assurance systems and checklists (CEO, healthcare) as well as developing tools and metrics for service processes (CEO, public-private healthcare organisation).

> *We have zero tolerance for surgery quality defects. We have checklists and everything in the operating rooms. As I said, I sometimes wonder when people talk about personal, individual care of patients in public healthcare. For us, nothing is individual in that sense. Healthcare processes don't have that. They always follow a certain pattern.*
> – CEO, healthcare

In the above quotation, the participant highlighted how customer encounters in the healthcare industry can be managed in a firm-centred or process-centred way. The same was true for the public-private healthcare organisation's CEO, who said: '*We need to measure how systematically our operations are being carried out.*' The participant went further to describe their 'harmonisation and systematisation' attempts regarding the tens of thousands of daily customer encounters:

> *The way we're dealing with this is to create an ideal picture of how these encounters should take place. [Employees] are given the message that every encounter should convey to the customers and the types of answers they should give to different questions. And overall, how the encounter should take place so that there would be only one way of doing it.* – CEO, public-private healthcare organisation

In summary, the Engineer mental model makes company-owned resources the basis for the CVP. This mental model is characterised by a tendency to use inside-out performance metrics and create structured and standardised processes. The Engineer is also characterised as being cautious and critical of new opportunities and business models. This is particularly the case if these new initiatives do not fit with the organisation's 'core purpose or DNA' (CEO, media) and do not represent 'a natural extension to the existing business' (CEO, staff leasing).

The Community-builder mental model

The second mental model, characterised by an inside-out orientation and an emotional focus, was labelled 'the Community-builder'. It focuses on issues concerning leadership and organisational culture. These participants saw the role of management as instilling a culture that acts as the foundation for an effective customer value proposition. For instance, the CEO of a staff leasing organisation said:

> *The one thing I've noticed close hand is that in order to enhance a customer focus in a company, it isn't enough that one or two people are interested in it. And in that sense, the management and key personnel need to see the importance of this. If they're interested in customers, the rest will follow.* – CEO, staff leasing

Thus, the Community-builder recognises the importance of the culture, perceptions and attitudes of employees (a more emotional focus). Reflecting on culture as a source of advantage, these participants placed a priority on steering the culture of the organisation by questioning industry

practices, distancing the organisation from its past activities, empowering and engaging employees to develop new services and CVPs (Chairman of Board, postal and logistics services) and hiring people that are new to the industry (CEO, investment firm).

This mental model also pays attention to talent recognition and management, believing that management's role is to identify the potential and abilities of employees, recruit talented employees, build trust with them and ensure that they are passionate about their jobs and meeting their customers' needs. These participants placed more emphasis on such traits as creativity, courage, coping with uncertainty and curiosity, rather than on formal training (CEO, media; CEO, staff leasing). Building employee relationships, trust, respect, culture and passion for one's work are seen to be vital means to manage talent (Executive Vice President, paper and pulp industry). As one participant observed, '*Our employees are passionate about their jobs. I think that's a big part of the whole picture and our service.*' (CEO, staff leasing).

Furthermore, a mental model of the Community-builder includes engaging explicitly in community-building practices. Organisational values are also related to the concept of community: '*One challenge we face with our workforce is values. I ask every potential recruit whether they can commit to our value that everybody does everything*' (CEO, healthcare). Overall, community-building involves organising the work in teams, understanding the tasks of other team members, facilitating cooperation and ensuring both formal and informal interaction among employees:

> *Well, my goal is that each employee's goals are visible to everyone; they're public. I mean that when we document these goals at the beginning of every year, we go through each one. This way everyone is aware of each other's goals, and we can act as a team; we can all pull together.* – Director, real estate and leasing services

Related to this quotation, the Community-builder can also be characterised by *a cross-functional emphasis*. Participants talked about the role of cross-functional communication and the need to share experiences across the organisation (CMO, staff leasing). This also involved the use of matrix decision-making models, sharing resources across functions and mentally preparing employees for new ways of working (CEO, media). As one participant described it:

> *Everything related to development and services are managed in a matrix form. For an expert organisation such as ours, we need capabilities from many lines. […] This requires*

leadership and very open interaction between functions. The ability to manage resources across functions in crucial for us. For example, our development investments aren't controlled by any one function. There's my services director, IT architects, developers, service designers, information security experts, lawyers that all have a say in it. And this requires a lot of coordination and the executives' role is to set shared goals, shared objectives and incentives. – CCO, insurance

The Community-builder mental model thus emphasises the importance of organisational culture and leadership as the basis for CVP creation. This mental model is characterised by a tendency to focus on employee skills, trust and interaction.

The Visionary mental model

While inside-out mental models put emphasis on internal matters, such as competencies or culture, outside-in mental models focus on markets and customers. In the case of the more rational outside-in mental model, the focus is on market intelligence as the basis for value creation. This involves collecting and generating information on customer behaviour and using that intelligence to predict market trends, evaluate market potential, build new offerings and target marketing efforts. Further topics on which to seek market intelligence include: how networks, partnerships and supply chains are likely to evolve; what are competitors' value propositions, visibility, offerings, service portfolios and behaviour; are there signs of new types of competition; which stakeholders are likely to be relevant in the future; which industries are likely to grow or decline; what kind of revenue models customer organisations will have in the future and what the impact of advanced technologies will be; and how will legislation likely change in the future (CCO, insurance). For instance, in some industries, corporate social responsibility is seen as a strategic theme (Vice president, forestry industry).

Our second large policy and investment is that we're generating information for customers about their purchase behaviour. This is something our customers clearly need, and as an added benefit, we also learn a lot about our customers. This means we're able to predict and manage certain trends in this complex market. It's crucial that we know the market and learn to manage it better. We have the tools for it, but we need to invest in our ability to analyse the information we generate from our customers. – CEO, public-private healthcare organisation

In addition, one participant saw that *'being able to analyse the information we get from customers'* was important and would help in efforts *'to improve our customer relationships and improve the customers' operations'* (CEO, staff leasing). Another remarked that intelligence was used to spot new business opportunities; for instance: *'In relation to new business opportunities, we see very lucrative business opportunities in the trends of responsibility thinking and sustainable development'* (Executive Vice President, paper and pulp industry), while a third emphasised being able to sense and respond to threats of extra-industry competition (CEO, media). Market intelligence was perceived as essential for customer relationship management and offering development purposes (CEO, public-private healthcare organisation) as well as for setting customer-specific goals (CEO, food industry). Thus, leveraging market intelligence (including customer data) was seen to be strategically important, since it enables the organisation to *'better meet customer service needs and [stay] ahead of change'* (CEO, public-private healthcare organisation).

The systematisation of customer encounters was regarded as important in this mental model, because every interaction with customers will influence the corporate image or brand: *'We should understand that the interface is a part of our corporate image and brand. And if it's awkward or doesn't work, it will daily create thousands of bad impressions of us for the customers.'* (CEO, public-private healthcare organisation). Another remarked, *'We're in a word-of-mouth business; through service, we must convince our customers to recommend us to their friends.'* (CEO, healthcare). Ultimately, participants believed that a good reputation or word-of-mouth recommendations were important goals for their organisations. Nonetheless, participants also stressed the importance of appropriate metrics depending on the industry and market context (CCO, insurance; CEO, staff leasing). On a more tactical level, customer feedback, recommendation intentions (Net Promoter Score) and customer satisfaction were used to evaluate and manage organisational processes.

> *We also monitor customer satisfaction. According to our quality system, customer feedback and customer satisfaction scores by clinic are discussed in management reviews. We measure customer satisfaction throughout the whole customer process, from the first appointment to the last control visit.* – CEO, healthcare

The Visionary mental model is also characterised by efforts to *map customer behaviour in real-time* and, as a related phenomenon, *market experimentation*. Participants described monitoring

customers' behaviour rather than intentions, establishing their brand presence throughout the customer's shopping processes (or "customer journeys") and the need to coordinate various physical and digital customer touchpoints (CEO, media; CEO, Public-private healthcare organisation). For example:

> If we think about our case, the media industry, we've traditionally conducted surveys on values and attitudes. We tried to extrapolate how these things potentially influence behaviour and consumption. But nowadays we track actual behaviour to generate insights. Every nanosecond, customers leave digital footprints of their service use, and we analyse and refine this data to create an understanding of the customer – either on a segment or individual level, depending on the business. We monitor this behaviour and change our service offerings accordingly. […] For example, we pay attention to usage frequencies, product and service engagement, how many and which products are used, etc. – CEO, media

Coupled with the real-time monitoring of customer behaviour was an emphasis on market experimentation. In the above quotation, the participant described making instantaneous adjustments to services and products based on observed customer behaviour. Market experimentation involves continuous experimentation at the customer interface (e.g. communications, pricing, service contents) and decentralising decision making close to customers (CCO, insurance; CEO, media).

The Visionary mental model therefore relies on market intelligence as the basis for successful value creation. Market intelligence is thought to help improve business operations, customer relationships, product development and business opportunity identification. This mental model tends to use customer-oriented metrics, such as customer satisfaction, word of mouth and brand image, to evaluate and manage customer value creation.

The Artist mental model

Participants exhibiting the emotionally-focused outside-in mental model, the Artist, recognised the importance of generating customer insight: *'I start my thinking with the customer'* (Director, real estate and leasing services), and *'Consumer insight is a core aspect of this business; we need to have it and convert it to products and services'* (CEO, food industry). The importance placed on customer insight could mean emphasising the need to think in terms of the customers' goals and

perceptions, or alternatively an attempt to understand and influence their emotions (CEO, food industry):

> *The thing I'm most sharply promoting internally is that we have to get into the customers' minds, the way the customers think. The whole organisation. How to get the whole organisation to put on the shoes of the customer? To think in terms of what the customer is trying to accomplish and how can they contribute to that. We get stuck thinking about the product, about the price and about the assortment, when in fact, we should be able to resonate with the customer's emotions.* – CEO, food industry

Customer insight is more than customer data. It is a thorough understanding of customers, including their particular contexts, situations and goals. While the above quotation highlights the goals and emotions of the customer, another participant gave an example of employees not just stopping at the customer's front door:

> *I want us to go as far as the living room or the boiler room to see how the customer's building works. […] It's important that our staff understands how the customer's business works. To see what's important in that customer context, so that we talk about the right things.* – CEO, staff leasing

Participants also stressed the importance of understanding the multidimensionality of customer value, in other words, the full spectrum of customer reactions and anticipations from the perception of convenience to sensory experiences, fantasies and consumption as a form of personal expression. For instance, one participant talked about understanding 'deeper meanings' and consumption 'tribes' (CEO, investment firm), while another remarked:

> *We should evaluate which kind of customer [perceived] value we should aim to create. What is relevant in this business? And NPS (Net Promoter Score) or customer satisfaction type metrics don't tell you that. That's why I focus on customer value, because it's multidimensional.* – CCO, insurance

Further, according to this mental model aspects of customer-perception should be measured to improve organisational processes. For instance, one participant reported that the results of customer satisfaction surveys, and all quality defects, were discussed with the management

board (CEO, healthcare), while another reported working on improving customer-perceived weaknesses: 'We currently measure the things that our customer satisfaction surveys reveal to be our weak points – for instance, if the experts are perceived as hard-to-reach' (CEO, public-private healthcare organisation). Participants also stressed the importance of disseminating these insights across their organisations: 'We have many people interacting with the same customer, so we must internally discuss and combine our understanding of the customer' (Director, real estate and leasing services).

These participants also emphasised the need to *manage customer heterogeneity* by understanding and responding to individual customer contexts and situations, or, as one participant put it (CEO, food industry): to *'work in different ways with different customers, create customer-specific ways of doing things'.* This meant treating customers as individuals and not labelling or categorising them (CEO, staff leasing), understanding the customer's daily routines and being part of their daily processes (Director, real estate and leasing services), an overall 'competence in human interaction' and tolerating the uncertainty inherent in human interactions (CEO, staff leasing) as well as focusing on creating experiences rather than on selling products (CEO, food industry).

> *We have to go for an authentic and fruitful encounter with the customer. It shouldn't matter whether you meet the client in the marketplace or in a bank if we end up working together. My job is to get our staff to tolerate this kind of uncertainty. Whatever the setup is, you have to be ready to meet the client.* – CEO, staff leasing

This also involves an emphasis on managing customer perceptions. For instance, one participant remarked, 'In the past few years, we've been able to get our people thinking about the overall impression that customers receive, how the customers perceive us' (Director, real estate and leasing services). Another said, 'It's my job to get the physician to realise that for you it's just another Tuesday when you go into that operating room, but for the customer it is a unique event in their lives, so you need to be present in the moment' (CEO, healthcare).

The Artist mental model is further characterised by a tendency to proactively develop customer relationships. For participants, this involved learning about the customers (CEO, staff leasing), developing add-on services for key customers (CEO, public-private healthcare organisation) and proactively suggesting improvements for customers: 'My job is to understand our customers'

goals and outlooks for the future so that our organisation could position our goals in relation to our customers. I mean, what can we offer to the customers to help them progress towards their goals?' (Director, real estate and leasing services). Some participants even talked about actively challenging customer practices (CEO, staff leasing) and creating incentives for customers to adopt new ones (CEO, media). One participant stressed that close relationships with customers enable the organisation to prevent itself from losing clients by identifying early indicators or root causes for dissatisfaction:

> *We have to maintain closer relationships with our current customer base. That will enable us to identify all kinds of weak signals and get indicators on whether there's room for improvement in our current services. These things are valuable because they can prevent us from losing customers. The signals in our business field are weak, and it requires that we're actively seeking them and asking for things that might be negative for us. We can uncover root causes for customer dissatisfaction. We need to do this to maintain our customer base.* – CEO, public-private healthcare organisation

Proactively developing customer relationships also means to be 'involved in the customer's daily processes, understand them and be able to offer something that will improve them', while also thinking about the optimal customer portfolio: 'I think about our customer portfolio, the kinds of customers we want. Not everything goes' (Director, real estate and leasing services). Some participants also mentioned including customers and network partners in innovation processes, for example in advisory boards (CEO, investment firm; CCO, insurance). A key part of managing customer relationships is maintaining an ongoing dialog with customers. Communication with customers is important in building relationships, obtaining feedback and creating a better understanding of the customer. As one participant put it, 'One key competence in interacting with the customers is simply the capability to communicate: to say enough and listen enough with the customer' (CEO, food industry). The participants saw that it was important to increase the number of customer encounters (CEO, staff leasing), maintain a daily connection with customers and build trust with them (Director, real estate and leasing services) as well as receive direct feedback from customers (CEO, food industry): 'The number of customer encounters is important for us. [...] It's about continuing the dialog with the customer organisation, and it's preferably taking place between several people' (CEO, staff leasing).

In summary, the mental model of the Artist situates customer insight – that is, a deep understanding of customer preferences, emotions and perceptions – as the basis for value creation. This mental model focuses on recognising and managing customer heterogeneity as well as proactively developing customer relationships and customer experiences.

Discussion

Top executives' mental models, the ways in which executives make choices, policies and investments (Birshan et al., 2014; Day & Nedungadi, 1994; Narayanan et al., 2011; Strandvik et al., 2014), characterise how businesses are managed. To answer the call for more research into executives' mental models of strategic issues (Choi & Thoeni, 2016; Holmlund et al., 2017; Strandvik et al., 2014), this study aimed at identifying executives' mental models and characterising them according to their inside-out (firm-oriented) or outside-in (market-oriented) orientations. As a result, the study extends prior research into mental models by identifying and discussing four archetypes along two dimensions: (1) whether they show an inside-out or outside-in orientation and (2) whether they are more focused on rational or emotional factors. These mental models are labelled as 'The Engineer' (inside-out, rational focus), 'The Community-builder' (inside-out, emotional focus), 'The Visionary' (outside-in, rational focus) and 'The Artist' (outside-in, emotional focus). A further exploration of these models unveils four main implications.

First, this paper broadens the scholarly discussion of mental models by arguing that in efforts to develop CVPs, mental models can be characterised as having either an inside-out or an outside-in orientation and as being focused either on rational or emotional aspects. While the distinction between inside-out and outside-in orientations is established in literature about strategy and marketing, this study is the first to combine mental models conceptually with inside-out and outside-in orientations and CVPs. Furthermore, the characterisation of models into rational and emotional emphases sheds a novel light on their diversity. Existing conceptualisations of executive decision-making skills typically emphasise rational decision making with an inside-out orientation (Beck & Wiersema, 2013; Day & Moorman, 2010), but there is growing demand to better understand the role of emotions in strategy work (Healey & Hodgkinson, 2017). This study suggests the importance of emotionally-focused mental models alongside rationally-focused ones. By analysing executives' mental models along the dimensions of orientation and focus, a more thorough understanding can be gained about the practices, processes and principles employed in executive decision making.

Examining the four archetypal mental models through metaphorical labels (the engineer, the community-builder, the visionary and the artist) assists in uncovering and communicating their differences and distinctive characteristics. Using these metaphorical labels is a powerful way to facilitate novel thinking and new perspectives (MacInnis, 2011). Future research is encouraged to adopt, adjust or expand these metaphors into other domains of strategic decision-making research. Managerially, such metaphors are also a powerful tool for leaders (Conger, 1991); for instance, executives can encourage their organizations to think like engineers or like visionaries, depending on the situation.

INSERT FIGURE 2 ABOUT HERE

Figure 2. Tentative framework for evolving executive mental models.

Second, executives should be aware of the mental models they are predisposed to, along with their respective characteristics and potential. Most importantly, they should acknowledge that their own mental models might be incomplete (see Chi, 2008). Given the critical role of mental models in determining firms' approaches to strategic problem definition and decision making (Klimoski & Mohammed, 1994), executives should be ready to shift between different mental models (see Figure 2). Executives, as well as corporate boards, should identify and understand which mental model is being employed in decision making and, most importantly, which aspects the particular mental model emphasises and neglects. Moreover, when the company is facing major strategic transformation, it is essential to view it from the perspective of these models and archetypes. A new business model might, for example, require new types of mental models to be employed in executive decision making. Otherwise, the company may face the risk of being alienated from its markets (Day & Moorman, 2010). Rapidly increasing competition or digital disruption may exert pressure, not only on the firm's strategy, but also on the executive mental model driving decision making.

Figure 2, which resulted from reflecting on data in relation to theoretical discussions about inside-out and outside-in orientations, can assist executives in first identifying their respective mental models and then mapping ways of moving from one to another. While this may require practices that put the executive out of his or her comfort zone, doing so can assist the organisation in solidifying its place in the market. As the relevance of individual mental models for strategic

decision making is well-established (Narayanan et al., 2011), executives can begin by reflecting on their decision-making processes. For instance, a tendency to emphasise internal considerations over market information relates to an inside-out mental model, while an emphasis on quantifiable metrics can signal a focus on rationality. Both the identified archetypes and the schema presented in Figure 2 aim to facilitate these efforts. Such proposed initiatives as building interactions and practices for the organisation to sense and learn from the market, or harnessing the potential of the organisation to convert insight into action – should not be seen as mutually exclusive but more as examples of managerial emphases that could encourage shifts between mental models. As suggested by Chi (2008) and Lim and Klein (2006), mental models at their best reflect the organisation's environment in a coherent and accurate manner. The framework in Figure 2, including the archetypes and initiatives for changing them, can provide support for executives to adapt their own mental models.

Third, the proposed archetypes of executive mental models should not be considered in opposition but rather as complementary, where each mental model has its own distinct potential, capability and role in corporate management. Thus, the purpose of the study is not to argue in favour of a particular mental model; as discussed by Day & Moorman (2010) and Day & Nedungadi (1994), mental models help executives make sense of their external landscapes, which is why the proposed mental model archetypes should be employed circumstantially. Being critical allows executives to not only acknowledge and understand the mental model(s) that drive their decisions but also employ complementary mental models in various strategic situations. Additionally, the convergence of organizational members' mental models should be sought to a limited extent (Rust et al., 2016) because excess uniformity in thinking can lead to biases such as 'groupthink'.

Finally, strategic decision making can benefit from employing different mental models at different stages of strategic initiatives, industry maturity or an organization's lifecycle, as well as under different circumstances (e.g. problem framing, identification of alternatives or strategy formulation). For example, top executives can evaluate how to frame a certain strategic decision through the four archetypes (engineer, community-builder, visionary, or artist). These archetypes enrich decisions by evoking multiple perspectives, and executives can improve their own decision-making skills through these mental exercises. Being aware of the different archetypes and their characteristics is of critical importance not only for executives but also for boards who are eventually responsible for selecting CEOs. A company may need the strengths represented

by different archetypes in different situations. When a company is in the middle of a rapid industry disruption it may need a Visionary, while a company enjoying runaway growth may require an Engineer to take control. Finally, the board could assist executives in implementing suitable practices to help them adopt new and alternative mental models. For instance, to enhance an emotional and outside-in mental model throughout the organisation, the board and executives could establish and communicate an organisational focus embracing the customer perspective as a strategic priority (Figure 2).

The trustworthiness of this study's findings can be evaluated through the concepts of credibility and coherence. Credibility refers to how trustworthy, authentic and believable the findings are (Corbin & Strauss, 2008), while coherence refers to the plausibility of the links proposed between data and interpretation (Fossey et al., 2002). The trustworthiness of this research has been enhanced through a systematic and transparent research process, including theoretical sampling (Eisenhardt et al., 2016) as well as following the general principles of analysing qualitative data: categorizing and abstracting (Spiggle, 1994). Thus, the processes for data generation and analysis have been described and discussed in detail, and data extracts relating to perspectives are presented and discussed along with the study's findings (Corbin & Strauss, 2008; Fossey et al., 2002).

As in any research programme, this study has some limitations that should be considered. First, this study employs an inductive data-driven approach, so the subjective interpretations of the authors are apparent in the resulting analysis. To enhance their trustworthiness, data generation and analysis processes have been described in a transparent way. Further, the analysis is based on agreement among all authors, who began by reading the interview transcripts independently. Second, interview data may become biased because of interviewees' active impression management and retrospective sensemaking. Eisenhardt and Graebner (2007, 28) recommend "using numerous and highly knowledgeable informants who view the focal phenomena from diverse perspectives" to mitigate this challenge. In this study, theoretical sampling was employed to select and interview executives who are likely to hold conflicting perspectives (e.g. differing experiences, roles and positions) and represent diverse industries and organizations). Third, although the interviewed executives hold differing perspectives, the interviewees shared the same nationality (Finnish). Cultural similarities may influence the archetypes identified, which is why the interviewed executives' experiences in managing national, international and global operations was considered. Globalisation has been argued to homogenise such aspects of organisations as

the culture, values and processes exhibited in companies across the globe (e.g. Carr, 2005; Stefanovska & Tanushevski, 2016). Fourth, despite the number of different industries represented (including B2B and B2C as well as private and public sectors), increasing the number of business environments would presumably enrich the results. To achieve that goal, future research could focus on empirically verifying these findings in different industrial settings (e.g. software, agriculture and entertainment; or a focus on small and medium-sized enterprises) as well as extending the use of mental models from executives to other layers of these organisations. Fifth, as the aim of qualitative analysis is a complete, detailed description of the phenomenon, future studies could make an additional contribution by producing a quantitative examination of the mental models identified and characterised in this research.

As this study focused on executive mental models, future research could analyse the mental models of employees at other levels of the organisation since they also inevitably influence how the organisation behaves. For instance, the mental models of customer-facing employees are likely to have a large effect on interactions with customers and therefore ultimately on customer satisfaction. An effective approach could be employing a quantitative study of mental models at multiple organizational levels or contrasting individual to collective models (see Rust et al., 2016). Also, research should focus on identifying the strengths and limitations of particular mental models in different business phases. What kind of mental models should be favoured, for example, in growing or stable circumstances? These observations would contribute to a deeper understanding of the complementary roles of various mental models, as well as underscoring their role as an important unit of analysis in strategy research.

Conclusion

A key challenge for any organisation is deciding how to evolve in line with the changes in the market. In adapting to change, executive mental models are essential, as they filter decision-makers' attention, guide their decisions and engage their beliefs and assumptions. All mental models carry inherent biases, and there is always the danger that executive mental models do not evolve with changes in the market. A mental model can be either an asset or a hindrance to this process of adaptation. Therefore, identifying and understanding the critical role and potential of mental models in managing companies is an important, though unexplored, area of business research (e.g. Holmlund et al., 2017).

Addressing the study purpose of identifying and characterising executives' inside-out (firm-oriented) and outside-in (market-oriented) mental models, this study has extended contemporary research about mental models by identifying and characterising four archetypal executive mental models: the engineer, community-builder, visionary, and artist. These findings should spark new research on this critically important phenomenon by underscoring mental models as a critical unit of analysis within business and strategy research and as a central antecedent of successful executive decision making.

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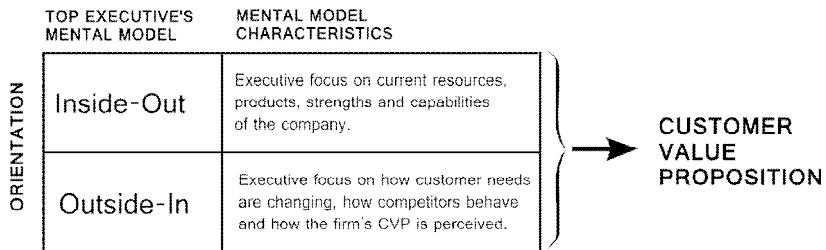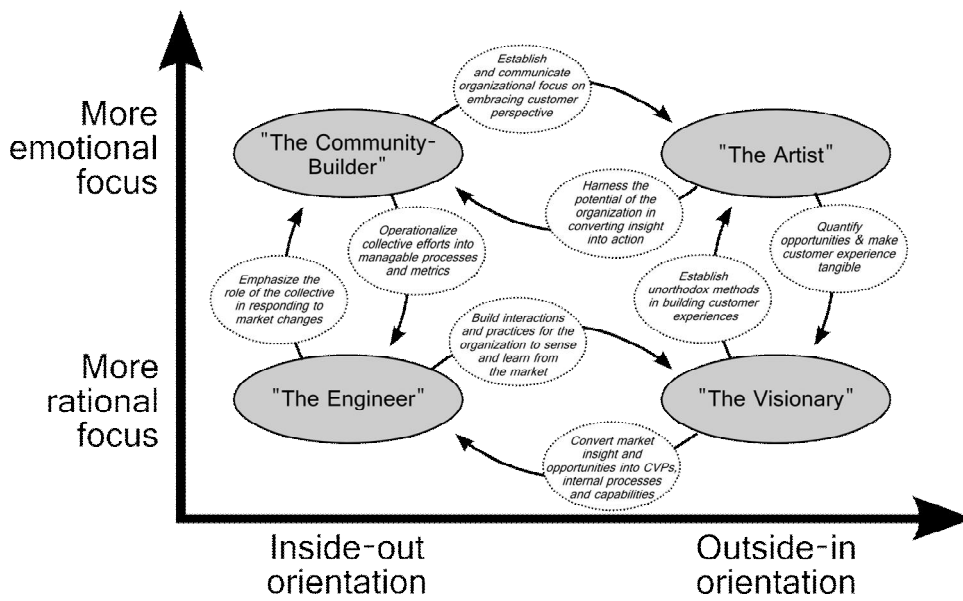
Figure 1.

TOP EXECUTIVE'S MENTAL MODEL	MENTAL MODEL CHARACTERISTICS
Inside-Out	Executive focus on current resources, products, strengths and capabilities of the company.
Outside-In	Executive focus on how customer needs are changing, how competitors behave and how the firm's CVP is perceived.

ORIENTATION

→ CUSTOMER VALUE PROPOSITION

Figure 1.

Figure 2.

More emotional focus

More rational focus

"The Community-Builder"

"The Artist"

"The Engineer"

"The Visionary"

Establish and communicate organizational focus on embracing customer perspective

Harness the potential of the organization in converting insight into action

Quantify opportunities & make customer experience tangible

Operationalize collective efforts into managable processes and metrics

Emphasize the role of the collective in responding to market changes

Establish unorthodox methods in building customer experiences

Build interactions and practices for the organization to sense and learn from the market

Convert market insight and opportunities into CVPs, internal processes and capabilities

Inside-out orientation

Outside-in orientation

Figure 2.