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REGULATING TOP MANAGERS' EMOTIONS DURING STRATEGY MAKING: NOKIA'S SOCIALLY DISTRIBUTED APPROACH ENABLING RADICAL CHANGE FROM MOBILE PHONES TO NETWORKS IN 2007-2013

ABSTRACT

Strategy making can be emotional for decision-makers, especially when facing a major threat or a disruptive change. Yet, we know little whether and how strategic decision-makers' emotions are regulated and how such regulation influences strategy making. Based on a longitudinal study of Nokia from 2007 to 2013, we develop a process model of socially distributed emotion regulation. This model shows how various organizational groups help regulate top managers' emotions. Top managers contain their initial emotional reactions to strategic options thanks to activities performed by groups with power over top managers. This enables top managers to form data-informed reappraisals of strategic options, contributing to gradual changes in their emotions. The reappraisal process is aided by diverse groups performing distinct roles. Top managers' revised emotions, in turn, enable them to form new, iterative data-informed reappraisals and ultimately enable radical strategic change. Our study contributes to research on emotions and strategy making by showing how socially distributed emotion regulation operates during strategy making and influences its outcomes. We contribute to the cognitive perspective on strategy by showing how cognition and emotion interact over time during strategy making.

Keywords: behavioral micro-foundations, emotion regulation, strategy process, top management teams

Strategy making in large organizations often involves recognizing and analyzing several options over many weeks or months to make major resource allocation choices. During this process, various managers seek to champion their perspectives, and multiple organizational groups perform different roles (Denis, Lamothe, & Langley, 2001; Kaplan, 2008; Ocasio, Laamanen, & Vaara, 2018). This process can arouse strong emotions among decision-makers and employees (Balogun, Bartunek, & Do, 2015; Huy, 2011), especially when the firm is facing a crisis, a major threat, or a disruptive change (Huy, 2002; Vuori & Huy, 2016). Because emotions influence human cognition, communication, and behaviors (Izard, 2009; Niedenthal & Brauer, 2012), they can influence the strategy making process (Fan & Zietsma, 2017; Hodgkinson & Healey, 2011; Liu & Maitlis, 2014).

As emotions could influence strategy making, scholars have suggested top managers should regulate their emotions (Ashkanasy, Humphrey, & Huy, 2017; Healey & Hodgkinson, 2017; Raffaelli, Glynn, & Tushman, 2019). Emotion regulation refers to attempts to change one's own or others' emotions toward desired emotions (Gross, 1998). Most emotion regulation research has focused on the individual-level (McRae & Gross, 2020). In addition, in contexts other than strategy making, organizational field research suggests that inter-personal emotion regulation can smoothen interactions and generate other benefits (Grodal, Nelson, & Siino, 2015; Heaphy, 2017; Huy & Zott, 2019). Conceptual work has hypothesized that interpersonal emotion regulation can overcome strategic inertia (Raffaelli et al., 2019) and build commitment to new opportunities (Healey & Hodgkinson, 2017).

However, recent psychological research suggests that any particular emotion regulation techniques "are not adaptive or maladaptive per se rather, their utility is dependent upon context" (Brockman, Ciarrochi, Parker, & Kashdan, 2017: 93). Hence, emotion regulation mechanisms that have been identified in non-strategic contexts or small entrepreneurial firms may not transfer to strategy making in large and complex organizations where multiple groups strategize over extended periods to consider uncertain strategic options (Cyert & March, 1963/1992; Denis et al., 2001). The presence of multiple groups increases the heterogeneity of cognitions and emotions (Fan & Zietsma, 2017; Jarzabkowski, Kaplan, Seidl, & Whittington, 2016) and the indeterminate capacity for collective emotion regulation. Moreover, even emotionally capable managers may find it challenging to regulate their emotions due to uncertainty. They cannot know ex-ante whether and which strategic options will enhance value for their firm (Huff, Milliken, Hodgkinson, Galavan, & Sund, 2016), in contrast with more straightforward situations where actions are clearly "good" or "bad."

We therefore ask the following research questions: *(a) Whether and how are strategic* *decision-makers' emotions regulated during strategy making in large organizations? (b) How does this regulation influence the strategy making process?* To address these questions, we conducted a longitudinal study of Nokia between 2007 and 2013. We focused on two periods when the company was facing a significant threat and in need of a new strategy. During both periods, top managers experienced a variety of emotions and their interactions with various organizational groups further influenced their emotions and shaped strategy making. By analyzing these influences, we identify novel mechanisms through which diverse groups regulated top managers' emotions.

We develop a process model of socially distributed emotion regulation during strategy making. Accordingly, various organizational groups help regulate top managers' emotional reactions toward the focal strategic situation and options. Groups with power over top managers help the latter temporally contain their emotions, which enables them to consider options more widely and deeply. As top managers consider the options, they form data-informed reappraisals, which generates gradual changes in their emotions. Organizational groups that provide affectively neutral cognitive capacity support top managers in the reappraisal process that leads to changes in emotions. Groups that increase the mental vividness of the options further contribute to the changes in top managers' emotions. The emotional changes then encourage further search, data-informed reappraisals, and emotional changes. Ultimately, this recursive process enables top managers to initiate radical strategic changes that they initially disdained. Our model assumes that while top managers often experience emotions during strategy making, those emotions are particularly intense and impactful when the firm is facing a crisis, major threat, or a disruptive change.

Our research makes three important contributions to theory. First, we enrich emerging work on emotion regulation and strategy making (e.g., Healey & Hodgkinson, 2017) by showing how various groups regulate top managers' emotions in distinct ways. This socially distributed approach is enabled by organizational structures and transcends individual-level limitations in emotion regulation. Second, we enrich the emerging literature on emotions and strategy making by showing how emotion regulation occurs over time. In contrast, most studies (e.g., Vuori & Huy, 2016) and theorizing (e.g., Raffaelli et al., 2019) have assumed either that top managers' emotions remain relatively stable during strategy making or that regulation is a one-off event rather than a cumulative process. Third, we enrich the cognitive-processual perspective on strategy making (e.g., Kaplan, 2008; Ocasio et al., 2018) by showing how emotion regulation shapes the framing of strategic issues.

THEORETICAL BACKGROUND

Strategy making refers to "the process of setting the overall business direction of the firm" (Garg & Eisenhardt, 2017: 1830). It "requires managers to match strategic choices to their understanding of the external environment" (Kaplan, 2008: 729). Strategic choices refer to significant resource allocation decisions that typically seek to improve the focal firm's long-term performance (Bower, 1970).

Cognitive-Processual Perspective on Strategy Making

Cognitive-processual perspectives on strategy making explain that managers' perceptions regarding their firm's relations to the environment influence their strategic choices (Child, 1972). Because they are boundedly rational (March & Simon, 1958), top managers form simplified mental models (Martignoni, Menon, & Siggelkow, 2015), frames (Kaplan, 2008), and other cognitive and social constructions (Porac, Thomas, & Baden-Fuller, 1989). Such simplifications generally refer to a "mental template that individuals impose on an environment to give it form" (Walsh, 1995: 281). If cognitive simplifications fail to reflect actual complexities, strategic choices might be suboptimal (Danneels, 2011; Tripsas & Gavetti, 2000).

The process of strategy making influences which kinds of cognitive understandings top managers form. This happens because organizational practices, structures, and processes influence which information they attend to (Ocasio, 1997). The information they see is more likely to influence their cognition than the information they do not see. Crucially, various groups shape one another's and top managers' perceptions of the strategic situation and options (Balogun et al., 2015; Kaplan, 2008). For example, boards of directors (e.g., Hoppmann, Naegele, & Girod, 2019) and external advisors (e.g., Gilbert, 2005) could draw top managers' attention to issues and shape their cognitive understanding of their firm's strategic situation.

Despite valuable insights, cognitive-processual research has only partially explained why cognitive understandings often remain stagnant. Simply advising managers to avoid cognitive bias and share information cannot overcome the cognitive challenges of strategy making (Hodgkinson & Wright, 2002). Psychology research has shown that emotions are intertwined with cognition (Damasio, 1994; Izard, 2009), and management scholars have hypothesized that emotional influences might cause cognitive failures in strategy making (Hodgkinson & Healey, 2011; Raffaelli et al., 2019).

Emerging Emotional Perspective on Strategy Making

Emotions refer to a process which "begins with a focal individual who is exposed to an eliciting stimulus, registers the stimulus for its meaning, and experiences a feeling state and physiological changes, with downstream consequences for attitudes, behaviors, and cognitions, as well as facial expressions and other emotionally expressive cues" (Elfenbein, 2007: 315).

The emotional perspective on strategy making complements rather than supersedes the cognitive-processual perspective (e.g., Vuori & Huy, 2016). It explains that managers form emotional reactions to stimuli. The emotions influence their subsequent attention, cognition, and behaviors, especially under uncertainty. A cognitive perspective would predict that after perceiving information, managers select from cognitively available options the one that best satisfies the decision criteria (Hambrick & Mason, 1984; Martignoni et al., 2015). The emotional perspective further predicts that the information and related cues trigger an emotional response, which shapes the managers' decision (Huang & Pearce, 2015; Raffaelli et al., 2019). For example, one study showed that when strategic issues evoked negative emotions, top managers tended to ignore others' viewpoints and make inferior choices (Liu & Maitlis, 2014). Field research has also shown that emotions influence perspective taking (Fan & Zietsma, 2017), information sharing (Vuori & Huy, 2016), and strategic actions (Huy, Corley, & Kraatz, 2014; Vuori, Vuori, & Huy, 2018).

Strategy scholars have built on appraisal theories of emotion (Ellsworth & Scherer, 2003; Lazarus, 1991) to explain how and why managers develop emotional reactions. Accordingly, managers use the information available for them and evaluate whether an issue is harmful or beneficial for their firm and whether they can control or cope with the situation; these appraisals determine their emotions (Huy, 2011). The larger the perceived impact of the situation, the more intense the emotional reaction (Lazarus, 1991). Hence, top managers' emotional reactions during strategy making are likely stronger when their firm is facing a major change, threat, crisis, or other impactful situations (e.g., Huy, 2002).

Despite increasing research showing that emotions shape strategy making, we have limited understanding of whether and how top managers or other organizational groups regulate top managers' emotions. Organizations need not be helpless victims of top managers' emotions. Instead, they might take deliberate actions to influence top managers' emotions to not harm strategy making (Healey & Hodgkinson, 2017; Huy & Zott, 2019).

Emotion Regulation and Strategy Making

Emotion regulation refers to attempts to change one's own or other people's emotions to align with a desired emotion (Gross, 1998, 2015; Zaki & Williams, 2013). The desired emotion can be hedonic (to feel good now) or instrumental (help in task achievement) (Tamir, 2016; Zaki, 2020). Most emotion regulation research has focused on short-term individual and interpersonal dynamics related to relatively simple decisions where "right" and "wrong" are somewhat knowable (Brockman et al., 2017; McRae & Gross, 2020). For example, to control their impulses, dieters often intentionally associate negative emotions with unhealthy foods.

Emotion regulation can occur through antecedent-focused or response-focused mechanisms (Schutte, Manes, & Malouff, 2009). Antecedent-focused mechanisms seek to change the appraisal that leads to the emotion. For example, people might avoid information that could make them feel bad. Response-focused mechanisms seek to control or suppress one's emotion after it has occurred. For example, people could pretend to feel fine, even though they were actually angry.

Strategy scholars have started incorporating insights from individual-level emotion regulation research into the strategy context. In particular, Healey and Hodgkinson (2017) propose various techniques through which top managers could associate positive emotions with beneficial strategic choices and negative emotions with harmful choices. However, while these techniques might be effective in changing emotions, we must consider that groups with diverse cognitions and interests could respond to them differently and influence their use (Cyert & March, 1963/1992; Kaplan, 2008). Furthermore, the techniques assume the individual applying the technique knows a priori whether a strategic option will be beneficial or harmful, and thus whether the option should be associated with positive or negative emotions. Consequently, the techniques are less applicable in ambiguous organizational settings where it is difficult to know a priori the best option.

Field research in other organizational settings offers preliminary insights into how emotion regulation might occur during strategy making. Several studies concur that individuals can regulate others' emotions by withholding upsetting information (Beckman & Stanko, 2020; Huy & Zott, 2019; Sadeh & Zilber, 2019). However, such "masking techniques" might prevent managers from developing the rich and accurate overall understandings they need to make good strategic decisions.

Others have suggested techniques that do not require avoiding painful information. Petriglieri and colleagues (2019) showed how independent professionals created "holding environments." Such environments included routines and interactions that helped these individuals contain strong negative emotions such that they stimulated learning and creativity. Other studies have shown how emotionally skillful individuals can facilitate constructive interactions among other persons either by using "emotional engagement moves" (Grodal et al., 2015) or by helping individuals to understand a conflict from multiple perspectives (Heaphy, 2017). However, it remains unclear whether and how these proposed techniques could be enacted during strategy making.

In sum, research has shown that top managers interact with various groups and experience emotions that could influence their strategy making. In addition, research conducted in non-strategy contexts has shown that emotions can be regulated at the individual and interpersonal levels. However, these research streams have remained separate. We do not know whether and how top managers' emotions are regulated during strategy making—in a context that involves various groups with diverse cognitions and motivations interacting with one another to make strategic decisions under uncertainty.

METHOD

To deepen our understanding of emotion regulation during strategy making, we chose a theory-elaborating qualitative approach (Lee, Mitchell, & Sablynski, 1999). Nokia offered an ideal setting for examining how social-emotional interactions shape strategy making. From 2007 to 2013, Nokia managers faced severe strategic threats and experienced intense emotional conflicts regarding the need for major changes.[1] We focus on two periods because they reveal under-researched processes. In the first period (2007-2010), Nokia started as the unquestionable market leader but struggled to respond to the emerging threats posed by the launches of iPhone and Android. Despite negative signals, Nokia held onto its Symbian strategy. Its market valuation declined from about $48B on 1 January 2007 to $24B on 30 August 2010. The CEO was fired in September 2010, and Nokia launched a new strategy of making Windows phones. In the second period (2012-2013), Nokia's Windows phone strategy struggled. At the end of this period, Nokia sold the phone business to Microsoft for $7.2B and acquired full ownership of its joint-venture Nokia-Siemens Networks (NSN) for $2.2B. Nokia's market valuation grew from about $6B in June 2012 to $25B by December 2013.[2]

Data Collection

Our data sources included real-time documents, public materials, 121 in-depth

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[1] Additional information is available in books (e.g., Cord, 2014; Doz & Wilson, 2018; Ollila & Saukkomaa, 2013) and articles (e.g., Laamanen, Lamberg & Vaara, 2016; Ramirez & Österman, 2013).
[2] Nokia's board had an independent chairman, and CEO was the only executive board member throughout our study period. A new chairman was appointed in 2012. We differentiate between them by referring to "chairman#1" and "chairman#2." The personalities and abilities of the two chairmen may well have influenced strategy making in other ways, but our informants highlighted their respective management of emotions as one of the most crucial differences. Hence, rather than distort our analysis of the mechanisms associated with emotion regulation, the change in leaders allowed us to compare different approaches to emotion regulation.

interviews[3], about 300 informal discussions, and 60 follow-up emails. We conducted the interviews between 2012 and 2018 (Table 1). On average, they lasted 68 minutes; 112 were audio-recorded and transcribed verbatim. We took detailed notes for the rest. The interviews included nine with board members, 20 with top managers, 21 with others who had substantial roles in strategy making, such as senior vice presidents in strategically relevant areas, and 71 with other knowledgeable informants.[4]

Insert Table 1 about here

We used an open-ended interview approach for studying cognition and emotion (Vuori, 2018). We asked broad, neutral questions about Nokia's evolution and strategy making, allowing informants to describe their experiences and actions without judgment. We requested concrete examples and asked follow-up questions on themes relevant to our research question. We also asked informants to contextualize other informants' statements. Finally, we sought feedback to refine and validate our emerging interpretations. Informants both challenged and corroborated our interpretations. Corroboration became more common as our study progressed.

We applied several practices to obtain honest accounts from informants who otherwise might not have felt comfortable sharing their perspectives honestly (see Huy, 2002; 2011): (1) rapport-building through repeated interviews and interactions over several years; (2) a guarantee

[3] With one exception, we also reported the interviews that were conducted before 2015 (N=77) in an earlier study that focused on how fear influenced the interaction between Nokia's top and middle managers in 2005-2010 (Vuori & Huy, 2016).

[4] These other informants included external advisors, (senior) vice presidents in various roles such as HR and specific business units, and software and other middle managers. They provided contextual information about Nokia's situation, such as their perceptions of the goodness of the company's offerings and how top management communicated the strategic situation. They also provided specific details related to the strategy making process to the extent that they had exposure to the process. Most importantly, our interviews with them helped us better understand the complexity of the situation faced by Nokia.

of anonymity; (3) putting the informant at ease by making validating comments and avoiding judgmental ones; (4) using reflective questioning to nudge the informant to share deeper thoughts (e.g., "Is it possible that you are withholding some critical views for some reason?"); and (5) inviting additional comments once audio-recording had been switched off for psychological safety.

We took several actions to reduce ex-post rationalization biases. First, we collected triangulating real-time evidence from public and private sources for the conceptual categories that emerged during our analyses. Second, we asked interviewees to describe concrete behaviors, events, and reactions open-endedly because they tend to be remembered more accurately than generic recollections (Fisher, Ross, & Cahill, 2010; Miller, Cardinal, & Glick, 1997). Third, we asked informants in diverse organizational roles to describe the same events, which allowed for cross-checking. Fourth, we reflected on the potential threat of retrospective bias of our interviews: retrospective accounts might simplify and overly linearize accounts of decision processes. However, our main finding is largely based on the complexity of the strategy making process, the ambiguities faced by managers, the many directions they explored but then rejected, and how they dealt with this complexity.

Data Analysis

To analyze the data, we applied established techniques (Charmaz, 2006; Miles & Huberman, 1994; Strauss & Corbin, 1998). We started with open coding of the interview transcripts and other data. We created fine-grained codes, such as "top manager feels hope" and "ambivalence toward Android", to see sufficient nuance in the data. As the coding was open-ended, the initial codes also included many that ultimately were unrelated to our emerging theoretical contribution. We generated over 3,000 first-order codes, but we combined several related codes during the coding to manage the complexity. Through this process, we reduced the number of relevant codes to about 200. We considered several theoretical themes, particularly strategy formulation, cognitive inertia, emotions, and interactions between top managers, board, consultants, customers, and middle managers. The coding continued iteratively: we compared data segments and the associated codes with other data segments and associated codes, reflected on the differences and similarities, and updated the coding.

When coding for emotions, we predominantly relied on informants' reports of their emotional states. We used appraisal theories of emotion (e.g., Lazarus, 1991) to validate that the self-reported emotions were plausible and to identify potential causes and changes of emotions (Huy, 2011). To code for emotion regulation, we relied on (1) informants' statements about their attempts to influence their own or others' emotions, (2) frameworks for coding emotion regulation (Huy & Zott, 2019; Kaplan, Cortina, Ruark, LaPort, & Nicolaides, 2014), and (3) theoretical understandings of how people experience emotions to interpret how some actions regulated emotions.

In particular, we sought to explain how various groups' actions influenced top managers' appraisal processes, which elicit emotions. To illustrate, we considered the five mechanisms of Gross's (1998) emotion regulation framework (situation selection, situation modification, attentional deployment, cognitive change, and response modulation). We coded if and how the actions of a particular group operated via these mechanisms (see also Huy & Zott, 2019: Appendix S1 and p. 36). For example, when the board required top managers to discuss a specific issue, we coded the board used the mechanism of attentional deployment. We made this interpretation as it seemed that the board required top managers to pay attention to the issue, and in this way, influenced which cues entered top managers' appraisal process (which, in turn, should elicit their emotions). Likewise, when the board required top managers to develop alternative solutions for an issue, we coded that the board leveraged the mechanism of cognitive change. We made this interpretation as the alternative solutions provided new coping options for the situation and, thus, likely changed top managers' secondary appraisals of coping potential (Lazarus, 1991) and, in this way, modified top managers' emotions. Overall, this coding was contextualized, as we needed to understand both top managers' perceptions of the situation and how the actions of others' influenced their perceptions and appraisals. In the initial coding stages, the overall list of first-order codes included different emotions and emotion regulation actions.

Comparing the codes and theoretical perspectives, we noticed that some of them reflected broader themes, such as board actions taken to influence top managers' emotions. We categorized the focal codes under the appropriate second-order category or a more abstract aggregate dimension, deriving the data structures in Figures 1a and 1b.

Insert Figures 1a and 1b about here

Although coding and categorization helped structure the data, we relied on informants' explicit statements of temporal and causal relationships, previous theories, and logical reasoning to see how and why things evolved and influenced one another; that is, how the emergent theoretical categories were related. We used various tables (30 tables), memoing (220 memos varying from a few lines to three pages long), and diagramming (160 diagrams) to explicate the causal logic of our argumentation (Miles & Huberman, 1994; Strauss & Corbin, 1998). In the tables, we organized the data in various ways to see patterns across groups, events, time, and mechanisms. In the memos, we recorded insights describing connections we saw in the data and potential theoretical explanations. In the diagrams, we explicated relationships between specific events and various concepts that emerged during our analysis. Through iteration between data, theory, and reviewers' inputs, we arrived at our findings.

FINDINGS

Our findings show how top managers' emotional reactions influenced their strategy making and how various groups regulated top managers' emotional reactions. During the first period, unregulated emotional reactions contributed to strategic inertia. During the second period, various groups regulated top managers' emotions so that they changed qualitatively. The emotional change enabled them to decide on a radical strategic change, an option they initially disfavored. We describe these dynamics below, and additional data is presented in Tables 2, 3, and 4.

Period 1: Emotional Denial and Strategic Inertia

Top managers' initial emotional reactions and action tendencies. After Apple introduced the iPhone in 2007, and Google introduced the Android operating system in 2008, Nokia's Symbian phone sales started declining. Seeing this development, Nokia's top managers considered making radical changes to Nokia's R&D. However, they clung to the prevailing strategy because the prospect of laying off thousands of engineers and middle managers evoked sadness, guilt, and anxiety:

> [When Symbian was declining,] no one on an emotional level wanted to think about it right away, even though analytically [top managers] knew [that the prevailing strategy should be challenged]. The consequences were emotionally burdening. We didn't want to deal with them. (Top manager #1)

They also avoided considering the threats:

> [An influential top manager] hated Apple so much… [he so] resented their entry into the phone market that he tried to ban Apple products from Nokia. […] [Mac computers] weren't supported by the company for a very long time. […] I don't think I ever used an Apple phone. I never even saw one for the first year that—I mean, I saw [it] in a store, but I never had the experience of using it, because we didn't have them to use. We didn't get them to try them. (Senior design manager)

> [Board#1 members] who had the most ownership of some of the decisions of the past had the hardest emotional journey through this period. You can imagine there was definitely some stress around that. […] [The open discussion culture was] repressed and held back both by [an influential board member] who was holding on to the past, and by some leaders who were just being dogmatic in their own personal beliefs. (Top manager #2)

However, top managers felt excited about various opportunities for developing and acquiring services to support Nokia's Symbian strategy. For example, an executive vice president was interacting with a world-famous pop/rock-star to develop music services. Presentations to the board showed excitement:

> [In a presentation to the board in 2009, another executive vice president] recapped the recent acquisitions […] He emphasized that many of the senior people in the services organization had been recently hired and that they came from the best companies […] He talked about the achievements […] According to his presentation, business would be tracing the happy hockey stick pattern of exponential growth. (Siilasmaa, 2018: Kindle location 1065)

Nokia's major structural changes during 2007-2008 provided various exciting challenges for top managers. These included, in particular, the formation of the communication network venture--Nokia-Siemens Networks (NSN)--in 2007; the acquisition of mapping business Navteq for $8B in 2007; and a massive reorganization in 2008. An upper-level middle manager described the CEO's agenda:

> Nokia was not a mere smartphone business; it included basic phones and networks. The CEO also managed the merger between Nokia's and Siemens's network businesses in 2007, before the time-consuming clutter about specific legal issues. Nokia had a difficult relationship with the American mobile operators, and the company's sales had been low for several years, which the CEO promised to solve. He even had a New York office in addition to his primary office in Finland HQ, where he spent a lot of time. (VP close to the CEO)

While top managers focused their attention on various exciting tasks, it was a welcome distraction from the painful issue of Symbian's weaknesses.

Maintaining emotional impulses. Top managers' emotional reactions and associated action tendencies were maintained during the strategy making process. The board of directors particularly maintained avoidance reactions:

> The culture within Nokia at the time was one with incredible blinders. [Top managers and other Nokia members] only saw their own view, they only saw what they believed in. […]. [The new CEO in 2010] asked people, "How many people here are using an iPhone?" […] Very few hands went up. […] [Some of the most influential board members] at Nokia had told Nokia people, "Do not touch an iPhone, do not use that word in the building. Don't even talk about it." (Top manager #2)

> A lot of the board[#1] members felt that they weren't always encouraged to speak freely […] [a leading board member] had a very authoritarian style […] even to the point where he had a gavel in the boardroom and used it to [control the discussion]. It was just a symbol of tradition or formality that was intimidating. (Top manager #7)

Thus the board maintained denial of the severity of the situation and dissuaded top managers from considering alternatives to the prevailing strategy:

> We didn't really have a long deep dive in strategy [before mid-2012]. [Top managers'] strategy presentations [to the board] at Nokia were always very razzle-dazzle and not enough facts, figures, and hard decisions. It was always kind of a show. [...] It was not what I would call a proper [discussion]... The way we shared with [board#1] was always a little too high-level. (Top manager #9)

> [With respect to Board#1] meetings, I never sat through [the whole meetings], but I certainly presented in these meetings. They were formal, there were very controlled times for speaking. I always used to feel that the questions I got weren't as open as I thought they should have been. [It was more like a series of formal] presentations, board members asked a couple of questions, then next topic. (Top manager #7)

When the board failed to require top managers to challenge the prevailing strategy and generate new options, top managers were unlikely to reappraise the situation in ways that would have changed their preferences or helped them overcome their initially defensive denials.

Limited reappraisals of strategic options. Top managers' emotional reactions drove them to avoid confronting the external threats, and the board amplified those tendencies. Consequently, top managers failed to analyze strategic options extensively although such analyses could have changed their appraisals and emotions. In particular, they could have employed analytical teams to scrutinize various strategic options rather than refine the prevailing strategy, but this did not happen:

> We [Nokia's internal strategy team] tried to solve the problems related to the business but it didn't really come up so that we would have actually questioned the strategy and forced the management to think about other options. (Individual with senior position in strategy)

On rare occasions, consultants warned about the iPhone threat, but top managers were defensive:

> First [top managers] requested a study [related to the iPhone's implications for Nokia from consultants around 2007-2009], and then they shot the [consultants'] ideas down. [The consultants] were completely confused, wondering […] why [Nokia top managers] asked [consultants about this issue and then acted like] a**h***s the whole time. […] [There was a] discussion among [Nokia's] strategy head and others [with the consultants] … It wasn't even a conversation. (Knowledgeable informant)

While top managers avoided using analytical resources to deepen understandings of the threat and their options, they maintained their initial appraisals and emotions, which continued to feed avoidance and denial.

Emotional avoidance feeds strategic inertia. Inside and outside observers saw that Nokia's denial and avoidance were leading to strategic inertia. In 2009-2010, an international consulting company surveyed about 200 of the highest managers to assess company culture regarding, for example, middle managers' trust in top managers and strategic direction. The survey yielded the lowest scores they had ever measured. After the iPhone arrived, WelkersWikinomics (5/2007) published an article titled "Is Nokia in denial?" Relatedly, Forbes (2/2007) described how Nokia CEO delivered an emotionally charged reaction to the iPhone, welcoming the U.S. technology company to the fray "possibly through gritted teeth," conceding that Apple would enhance the industry by stimulating the market. Meanwhile, top managers maintained collective denial, fearing that they would demotivate the organization if they admitted that the threat was dire:

> Even if you personally thought that 'Damn it, this won't work,' you couldn't shout that to anyone. Not until there's an option. You need to have a [viable] option before you can change course. […] The only thing you can say is 'Let's try, let's try [implementing the prevailing strategy effectively]. Because you can't say 'Goddamn, this is going nowhere.' The general, when he's going into battle, won't say that 'We've practically lost this battle.' That's something he can't do. Instead, he has to cheer his troops forward. (Top manager #8)

Nokia's performance declined as iPhone and Android phones started winning market share. Market capitalization dropped from $55B in January 2007 to $23.1B in August 2010. Nokia's flagship touchscreen phone, the N8, was delayed multiple times and ultimately shipped over 12 months late. The decline in performance eventually led the board to replace the CEO in September 2010.

Insert Table 2 about here

During his first six months, the new CEO created a new strategy with the management team and extensive help from consultants. Nokia announced an exclusive alliance with Microsoft in February 2011. They expected that Nokia's Windows phones would provide an alternative to iPhone and Android phones and put Nokia back on a winning path. Although the strategy seemed promising and delivered some quick wins, the situation reverted to the earlier pattern. That is, Nokia made major investments, but the strategy underperformed expectations.

Period 2: Emotion Regulation and Radical Strategic Change

Top managers' initial emotional reactions and action tendencies. In 2012, when Nokia's Windows phone sales fell short of targets, top managers occasionally brushed aside their unpleasant doubts about the chosen strategy. Instead, they focused on areas where they saw possible progress:

> We got the 10+% market share in countries like France and Germany [with Windows phone] […]. We were making some progress, but not breaking through. […] Emotionally it's really hard to deal with that reality and you go through the first cycles: "Okay, how can we fix it? What else can we do?" (Top manager #2)

> We drove the [Windows] strategy like dogs […] without any Plan B in our minds […] whenever there was a bump in the road, we set about solving it as if we had no other options. […] Emotionally, it was commitment, we were committed to it. (Top manager #1)

Akin to the first period, top managers had various opportunities to attend to more pleasant initiatives. For example, Nokia was looking for a buyer for its share of NSN and continued developing its mapping business, renamed HERE in 2012. Top managers also focused on expanding the application ecosystem for the Windows operating system:

> We started paying attention to having more applications and shoved money at all sorts of small developers. Then the Microsoft Store [which was the "AppStore" for Nokia phones] was filled with completely irrelevant small bits and pieces. And maybe the most important ones were missing. So, we had quantity, but we didn't have quality. […] We rationalized it to ourselves that well, such-and-such many thousand applications have now arrived again. (Top manager #3)

As in the past, top managers saw information that made them doubt the viability of the prevailing strategy, but the unpleasant emotions triggered avoidance. Meanwhile, other strategic issues and initiatives elicited pleasant emotions and thus attracted more attention.

Shared appreciation of emotion regulation. Although the beginning of the second period seemed similar to the first, Nokia's board and management were more prepared to deal with emotional dynamics, partly because they had learned from their experiences in period 1. Several Nokia top managers and board members realized that emotional dynamics had contributed to their past failure and that the company needed emotion regulation. In particular, the new chairman appointed in 2012, after serving as a board member since 2009, focused on improving the emotional climate:

> [When I started as the chairman in 2012, I started working on several things.] The first one was breeding a new culture, in the board and between the board and the management team. Because things clearly didn't work. […] if the board is a place where the management comes with shaky knees [i.e. feeling fear] with a solution in mind that they need to sell to the board. That's complete disaster [because] you de-emphasize or ignore any facts that the board would need to know, that are against what you're trying to sell. […] When people are uncertain of themselves, they don't want to come to the board which has in the past punished them. Given them verbal abuse or something like that. (Chairman #2)

Top managers and leaders of analytical teams indicated they had learned through experience that emotional dynamics have powerful effects, so they were open to discussing and regulating emotions:

> It's good and important to understand the background, which has left deep scars on the work of the board. [In the past, around 2007-2011] there had been difficult decisions made by a small circle of people under time pressure and [the board] had listened to their own people too much, so maybe then they wanted to do things a bit differently [in 2012-2013]. (Strategy specialist #3)

In addition, newer top managers appreciated emotion regulation. The new CEO, who came from Canada, recognized that a more open-discussion culture would be beneficial. A top manager (#3) lauded the new leadership: "He was very participative, with all his heart." Other informants confirmed that he focused on improving Nokia's emotional climate.

Containing initial emotional reaction and action tendency. Rather than yielding to their emotional impulse to focus on implementing the prevailing Windows strategy and avoid questioning the strategy, Nokia's top managers contained their emotional impulse. This was made possible by several groups who regulated top managers' emotions in complementary ways.

The board leveraged its formal power over top managers and required them to face a situation that they were avoiding for emotional reasons:

> At some point, I spoke up and said to [the CEO], "We have to put the cat on the table" [Finnish way of saying "the elephant in the room"]. And the CEO said that in Canada the expression is "a moose on the table." And I of course answered that given the size of the problem, it's at least a moose. It's not a cat after all [chuckles]. (Board member #1)

> So, we had the moose up in the middle of the conference room table when the board or the management group had a meeting. Little by little, we talked about even the most difficult issues and the very worst possible outcomes, and then in 2012, 2013 the worst possible outcome was really bad. (Board member #2)

Board members and top managers felt the discussions were beneficial, but admitted it was often unpleasant to contain their preferences and emotional impulses:

> But one shouldn't think it was a lot of fun… We had blood pressures rising during those meetings, both for the management and for us board members. (Board member #1)

> The egos tend to be pretty large at that level. […] There are power- and emotion-related dynamics between the chairman and CEO, which is why a board's heavy involvement in strategy formulation is not always easy. […] The process requires all participants to be very task-focused. (Top manager #3)

Increasing impulse control via formal practices. Facing threatening information could trigger defensive emotional reactions among top managers (e.g., Hodgkinson & Wright, 2002). During period two, this tendency was contained because the board had formulated practices that increased top managers' capacity for controlling their emotional impulses. First, the board released mental capacity for top managers by reducing perceptions of personal threats. Second, the board established practices that helped top managers contain those negative emotions they still experienced.

The board used various actions for reducing top managers' perceptions of personal threats. It showed public support to the CEO (e.g., Kauppalehti, 5/2012) and created interaction norms emphasizing trust, respect, and open discussion. For example, the norms stated that "Be prepared for a passionate debate, but do it in an informed and respectful way […]" and "Assume the best of intentions in the actions of others" (Siilasmaa, 2015). These norms helped top managers discuss emotionally difficult topics:

> With [board #2] we are not afraid, we don't have to think about what we say so much. It's pretty easy to discuss things with [chairman #2] and throw in ideas and think out loud. With [board #1], this wouldn't even have crossed my mind. (Top manager #5)

The new norms required top managers and board members to contain their emotional impulses. The chairman took actions to make sure that such emotional containing would happen:

> When somebody [behaved aggressively, I would] have a chat with them—offline or outside the meeting one-on-one—and say, "I understand that the pressure is high; I understand that you have lots of emotions at stake. But do you remember what we agreed? How we will work together as a team? And what you said or did is not according to what we agreed." (Chairman #2)

> [A top manager] was upset [because of my aggressive comment in the previous meeting] […] Well [chairman#2] told me, and I said, "Fine, no problem." And in the next board meeting I said to [the top manager], "I apologize," with everybody present. That it wasn't my intention to hurt him. (Board member)

In addition to requiring non-hostile behaviors, which is a general type of emotion regulation practice, the board instituted practices that are more specific to the strategy making context. A central practice was a structured process, which helped top managers engage with the strategy content in a mindfully disciplined manner, despite potential emotional reactions that might divert their attention:

> [During the second period, the board] had a very clear process that was open. Everybody understood that now we had this kind of a decision-making process and now we would just do things. We were not thinking about choices yet, we were at a stage where we were analyzing the market and we were just open-minded and pondering… [Chairman#2] had a leadership style that got people to participate and [simultaneously perform] an engineering-like process, which brought a certain kind of security and understanding to us all about how things should proceed [in terms of process steps] and when this or that thing would happen. (Top manager #3)

> I give credit to the board which, in this kind of situation, could have put even more pressure on the executive management and thus make it hard for us to have open conversations. It didn't happen here. The board was mature enough […] to direct the conversation in the right way, so that we had a real conversation rather than just, "Now, results or [you're] out." (Top manager #5)

The structured process included micro elements that helped top managers contain their fears and reduced associated avoidance tendencies:

> [In the beginning of period 2,] executives would try to present their matters in the most attractive and compelling way to the board […] It took some time to make the executives comfortable about sharing bad news and worries as well […] Board presentations started to include a presentation slide called "What keeps me up at night". This was a useful way for the CEO to summarize his current main concerns to the board. (Board member #3)

Engaging in wider and deeper search. In addition to nudging top managers to face the threats they were impulsively avoiding, the board required them to generate various strategic options. Beyond influencing the quality of thinking and decision-making (e.g., Eisenhardt, 1989), this practice helped regulate top managers' emotions:

> Identifying options decreases fear that is related to difficult situations. When [a powerful group member] names the most unpleasant options [then other members realize that] it's okay to talk about it. They think, "I also know one unpleasant option, now I can say it out loud." […] you are liberating yourself from the fear that there are some things that you can't talk about, and actually when you talk about the unpleasant things they become less scary, because you often start coming up with some action items related to them right away. (Board member #2)

> We had terrifying scenarios that we were afraid to speak out loud, because we worried that if we [expressed] them, they might come true. Like, if you said in the boardroom,

> "What if we fail?" That's a pretty bad thing to say; you don't want anyone to sort of grow that sort of negative thinking. But at the same time, you must think about what happens if we fail. (Board member #1)

In addition, discussions about potential strategic options helped reduce emotional commitment to the prevailing strategy:

> We did a huge amount of work in order to analyze those options, which helped to reduce emotional attachment to the current strategy. (Board member #2)

Nokia examined diverse strategic options. One was to boost the Windows strategy by improving collaboration with Microsoft, an emotionally comfortable option as it required no radical strategic change or admissions that the prevailing strategy was failing. However, as top managers examined this option (i.e., discussed with analytical teams that had analyzed the option comprehensively) and met with Microsoft's representatives, they recognized that the solution held no benefits for Microsoft:

> It was easy to visualize - if we go and ask for everything [from Microsoft] that we need to turn the ship around. Would Microsoft be willing to foot the bill? Then quite quickly, we are faced with the realization that there isn't any [clear benefit for Microsoft], so if I were sitting across the table, I would be asking if our request makes any sense. (Top manager #5)

Rather than taking a denial posture, developing threat rigidity (Staw, Sandelands, & Dutton, 1981), and increasing investments, Nokia's top managers continued exploring implications. The board regulated top managers' emotions by requiring them to focus on the uncomfortable situation:

> The worst possible outcome was really bad [Nokia's bankruptcy]. When even that was something that could be talked about, then it actually removes the fear from it, from the possible outcomes, and then we can plan and prepare ourselves. (Board member #2)

Deep engagement and attentiveness to the situation allowed top managers and the board to recognize potential threats to Nokia's core business:

> We came to realize that this could end up the other way around, such that [Microsoft might offer to buy Nokia's phone business], which [ultimately] did happen. (Top manager #5)

Rather than diverting attention from the unpleasant scenario, Nokia's board required top managers to keep investigating related sub-scenarios and options:

> [The transformation went from] where the board was first presented with this option and it reacted like "Oh my God, no way!", to [Chairman #2] managing the process by saying "Okay, we are going to explore all avenues and then we are going to come back to the board and we are going to present all of the different options." (Top manager #7)

The board required top managers to investigate various options actively and systematically, and in this way, dampened top managers' emotional impulse to focus on a narrow set of options:

> The workload was so huge that if the board wasn't constantly asking for more scenario analysis, there was a risk that the management would just say, 'We're so f***ing tired. Isn't it obvious that these two are the main alternatives? Why are we dragging these other three along?' That's where the board played an important role… to say, 'No, we want to look at all of them. We want to see them all the time. Let's go back to the drawing board.' (Top manager #4)

The process enabled Nokia's top managers to investigate strategic options they initially perceived to be unfavorable. For example, their initial impulse was against buying back full ownership of Nokia-Siemens Networks, but top managers started exploring this option:

> NSN [acquisition] was something people did not want to jump to. [laughs] On the devices team, they felt like the networks business is [an unattractive business]. And people weren't really willing to start believing in that option. (Top manager #3)

> [The CFO] was the first person to say out loud, "What if we bought back NSN?" […] it was the least appealing option because NSN was doing so badly. […] It wasn't so clear right away [that this was an attractive option]. It was related to our way of working, that we are now looking for options, and once an option is brought up, we start analyzing that option. (Board member #2)

Adding emotionally neutral cognitive capacity. Analyzing a wide range of strategic options is challenging because top managers' initial emotions might cause them to favor some options over others and because considering numerous options increases the workload and strains cognitive capacity. Nokia overcame both challenges partly by using external consultants and internal analytical teams to add emotionally neutral cognitive capacity:

> We had teams analyzing each option, and sometimes we even had two teams [from two different prestigious consulting companies] analyze the same option. (Board member #2)

> [Nokia's internal strategy team] started doing an alternative group strategy, i.e. what could Nokia be in the future, since the mobile business didn't seem to be taking off with the current path. Then we… took a pretty far-reaching scope and started to contemplate what Nokia could be, what could be alternative future stories for Nokia. (Strategy specialist #3)

Analytical teams helped top managers incorporate unpleasant information into their thinking:

> A consultant-facilitated process reduced some of this emotional stakeholder bias. Because even though this bias was there, it could not dominate because there was an outsider present who would check it at some point. […] People couldn't drive their own agendas, their own emotional state of mind, because the consultants were keeping the process in check. (Top manager #1)

> You can bias things with human emotions, but I think there were enough checks and balances [in 2012-2013]. We had an extraordinary team from [a global investment bank]—and I rarely say that about bankers—who were really very savvy about commercial realities as well as the numbers. (Top manager #7)

Data-informed reappraisals. Gradually, analyses revealed that top managers' initial appraisals conflicted with the data. Weekly interactions with analytical teams caused top managers to change their appraisals and emotions gradually. As their emotions changed, they could process new information that challenged original assumptions and emotional reactions. Initially, they had hoped to find an option that would enable Nokia to continue in the smartphone business, but the data suggested otherwise:

> The options were calculated thoroughly and there was an honest attempt to understand what would happen if we were to sell the network business [Nokia had a 50% share in NSN] and HERE [Nokia's mapping service] and spent all our money on making the Android plan come true. We thought through this option but [its success] seemed so impossible. […] Through this analysis, little by little, the truth kind of stared you in the face. (Strategy specialist #3)

At the same time, the analyses informed appraisals regarding the value of the current smartphone and networks businesses:

> My moment of realization was when [a global investment bank] had presented to myself and [the CFO], and we realized that the handset business was just not making money—in fact, it was losing money, and there was no way to stop it losing money, and actually, it had a negative value. Here we were, thinking this was the crown jewels, but actually, when you looked at the smartphone business, it was actually a giant burden to Nokia. (Top manager #7)

> When [the CFO] presented that alternative [buying back NSN] for the first time [laughs], people weren't really enthusiastic about it […] The Nokia board [#1 and #2] had been trying to get rid of the networks business for seven years […] But after a few discussions [and supporting work performed by analytical teams], it looked reasonable, specifically in terms of the financial metrics. (Top manager #4)

Informants described how they gradually reached emotional acceptance after a long process of considering various data and options:

> It was of course the entire path […] All that time we had gone through [the options] with a fine-toothed comb […] Since we had left no stone unturned, there was no longer anywhere to hide; you couldn't say, 'No, we still have to take time out and think about this or that.' […] There wasn't any uncertainty about what options are left, and so we reached acceptance also on the emotional side. (Top manager #5)

> It was indisputable. There was no option where you could argue that "If we just keep going six more months and we double our sales [in smartphones], we'll be all right." There was no [viable] scenario for that. (Top manager #7)

Increasing the mental vividness of options. People tend to hold on to their initial fast-rising emotions despite contradicting evidence because concrete, vivid mental images are stronger than abstract data for activating emotions (e.g., Bechara & Damasio, 2005). In Nokia's case, close interactions with potential alliance partners complemented the emotional effects of evidence-based analysis:

> It was very active. It wasn't just traditional strategy work in the sense that we think about what we'd like to do, and what is the vision and how to get there. Instead, we actively had conversations with different kinds of [potential partners] and what sorts of options are out there, and we tried different kinds of things and took them further. (Top manager #5)

Negotiations with partners included concrete work such as prototype building:

> The conversations with [major software company] led us to start making [specific types of] mobile phones at that point. […] We were in the process of making phones with [major retailer] we had discussed with for instance [major phone company], and [another major phone company], and all sorts of companies about different kinds of structural options. […] [And we realized that] all we're going to do is swap one bad partner arrangement [with Microsoft] for potentially another bad one. (Top manager #7)

Working with potential partners allowed Nokia top managers to gather more information about a specific strategic option and to visualize it more vividly. This likely increased the emotional salience of the option. The negotiation partners' reactions and the initial work conducted were illustrative:

> We looked through all of them [potential strategic partners]. […] [Company A], for instance, was all about their idea of making their own cell phone. It wouldn't have really brought us anything new. [Company B] wasn't much better […] it was at that stage where they were all open [as options] [pause 8 s]. But the conclusion was that they were simply all bad options. And that was the painful part, accepting that there were no good options at all. (Top manager #3)

The negotiations with Microsoft continued even more extensively:

> I can recall many times when [Microsoft CEO] got, quite understandably, frustrated: "Oh hell, not another option!" People were working day in, day out, working every weekend and after all there are not all that many people you can connect to something like this […] 10 people, or perhaps 20. […] working in this case was extremely burdening. (Knowledgeable informant)

During the negotiations, Nokia board members and top managers learned extensive details about Microsoft's potential reactions:

> We sought to reverse-engineer the other side's master Excel worksheet that they were using to calculate TCF [total cash flow] generated by our business. The closer we got to their Excel model, the better we were able to [conduct thought experiments] about how they would react to our proposals. And small things like these could make a big difference in the end. (Board member #2)

As Nokia's key members gradually learned about Microsoft's plans, they were emotionally relieved to see that the phone business could continue operating after the acquisition. In contrast, if Nokia had kept it, they would have been forced to lay off workers and close factories:

> [Nokia's phone business] was at that point in such a poor state, as I was in the inner circle watching the business, that it felt like "this [selling it to Microsoft] is the best option for this business". […] [Microsoft] would have the resources […] to invest in it enough to make it take off. […] [Selling the phone business to Microsoft] gives that work a better chance of continuing. […] We had these R&D centers in Tampere and in Salo [small cities in Finland]. (Strategy specialist #1)

> [The CFO] and I had sat down and looked at [each other]. If this deal didn't go through, we would be laying off tens of thousands of people, and that was [right] ahead of us. [And] for me, knowing that, the [prospect of giving the phone business] a chance [as part of Microsoft] despite the obvious polarizing viewpoints [inside Nokia] was worth [engaging] my heart and soul [to try to make the deal] happen. (Top manager #7)

Experiencing gradually revised emotions. In contrast to the emotional avoidance and strategic inertia during the first period, top managers overcame their initial emotional impulses during the second period. They attended to data eliciting unpleasant emotions and scrutinized various options for Nokia's future. As detailed in Table 4, the process evolved through various rounds of emotional reactions, analytical work, and gradual emotional changes that enabled further analytical work:

> It wasn't a linear thing where you [recognize options] and then you make a choice. Instead, the thinking evolved along the way. And then it started looking like, actually, the network business isn't an impossible option […] a perfectly possible future for us. […] We created an enticing other option [becoming a network company], like this [pointing to a drawing of a loop between emotions toward options and work to analyze options] […] It helped in thinking about the facts. But for those involved, it was a process. We travelled [a long] way. (Strategy specialist #3)

> I tended to think like "Goddamn, is this what this looks like now? What does this mean for myself?" But then when you get over that, like "Okay, you do your best and then we see what happens", and somehow you believe that the world isn't going to end, then it's quite liberating and you're able to be as objective as possible, instead of [being overly subjective]. The fear probably otherwise causes a pretty subjective perspective, like, what if we still tried harder [to turn the situation into success against the odds]. (Top manager #5)

Ultimately, top managers and board members agreed to sell the phone business to Microsoft and acquire NSN from Siemens. Although they initially felt negative about both moves, their outlooks eventually turned positive:

> [I was initially against the idea of selling the phone business.] It was very emotional, as the phone business was our identity, and we were proud of it […] [A few months later,] I remember, [the CEO] going on stage [to announce the sale]; I remember actually crying. I remember saying to myself, "If we f*** up this deal [selling the phone business to Microsoft], these people [Nokia's phone engineers] will be out of a job, [because Nokia could not afford to maintain the development]." […] I remember that emotional reaction very vividly. But it was because by June I had seen the numbers [generated during the strategy work]; I had seen that our smartphones were in dire straits. (Top manager #7)

> I was initially undecided and doubtful [of the idea of divesting the phone business, but] when we were making the decision about this Microsoft deal, I was sure it was the correct decision. And this certainty was not based on being psyched about it, it was based on the fact that we spent so much time analyzing the other options. (Board member #2)

Insert Tables 3 and 4 about here

A MODEL OF SOCIALLY DISTRIBUTED EMOTION REGULATION DURING STRATEGY MAKING

As summarized in Figure 2, our findings suggest a model of socially distributed emotion regulation underpinning strategy making in large organizations. The model shows how top managers' emotional reactions to a strategic situation gradually change due to a distributed regulation process performed by groups representing various organizational structures.

Insert Figure 2 about here

Starting from the left-most element of the model in the center of the figure, the strategic situation faced by the company triggers emotional reactions among top managers. The model assumes that top managers typically react with some emotion to strategic situations and that these emotions are particularly intense and impactful when the firm is facing a crisis, a major threat, or a disruptive change. This is because the intensity of top managers' emotions reflects their appraisals of the focal situation: the higher the perceived impact of the situation on top managers' or their firm's well-fare, the more intense the emotions (Huy, 2002; Lazarus, 1991). These initial emotions activate action tendencies that may lead to myopic, rigid, and biased behaviors (e.g., Hodgkinson & Healey, 2011). One potential emotion regulating action involves top managers initially containing their emotional reactions and associated action tendencies (see also, Petriglieri et al., 2019). This temporary emotional containing enables them to engage in deeper and wider search by considering various options. When they evaluate various options, they learn new information about the situation and options. This learning feeds data-informed reappraisals that contribute to experiencing gradually changing emotions.

The gradually changing emotions enable top managers to engage in still deeper and wider search, as shown by the feedback loop in the figure. Radical changes in top managers' emotions are likely to result only after various recursive cycles as emotions are often deeply rooted, partly based on long-standing mental associations (e.g., Healey, Vuori, & Hodgkinson, 2015). Although top managers' initial emotions impose short-term constraints, gradual changes in their appraisals change the emotions and allow them to consider more radical options.

The upmost part of the model shows that shared appreciation of emotion regulation acts as a critical enabler for emotion regulation during strategy making. It is needed because people are often unaware of how their emotions might influence their judgments and behaviors (e.g., Izard, 2009). They might view attempts to regulate their emotions as unnecessary. In Nokia's case, many of the top managers had witnessed the harmful effects of unregulated emotional reactions during period one and were therefore open to emotion regulation. Hence, they reacted constructively to the regulation performed by other groups, as indicated by the three asterixis in the figure. In other contexts, executive education or personal reflection might make managers more open toward emotion regulation.

The lower half of the figure shows how various structures contribute to top managers' emotion regulation. We abstracted three types of structures from our case study to increase the transferability of our findings. Governance structures are abstracted from the board of directors, advisory structures are abstracted from analytical teams, and boundary spanning structures are abstracted from potential partner firms. These structures generate structural affordances for emotion regulation. The regulation happens via three mechanisms—increasing impulse control, adding emotionally neutral cognitive capacity, and increasing the mental vividness of options.

Governance structures define who has power over whom, such as the board of directors over top managers. The structural affordance for emotion regulation generated by governance structures is the power to dictate norms and behaviors. Using this power, a board (or some other powerful group) could increase top managers' impulse control capacity. Impulse control capacity refers to the ability to use will power to control one's emotional impulses; such a capacity is limited in all humans (Ilkowska & Engle, 2010). It can be increased by reducing factors that threaten top managers' psychological safety (Edmondson, 1999; Veltrop et al., 2020) and by creating structures that reduce the amount of self-regulation efforts top managers require for containing their emotions--for example, by providing presentation-templates that nudge top managers to attend to one issue at a time (Thaler & Sunstein, 2009; Lian, Yam, Ferris & Brown, 2017). In Nokia's case, the board established interaction norms that reduced top managers' self-related fears and created a structured process that helped top managers face facts and consider viable options in digestible pieces. The board had formal power over top managers and could thus require top managers to follow these practices. In contrast, groups with low power would be less likely to succeed in making a more powerful group attend to information and ideas that elicit unpleasant emotions. For example, Hodgkinson and Wright's (2002) study shows how a CEO's defensive emotional reactions to scenarios presented by an outsider facilitator led to the failure of a workshop facilitated by the outsider who wielded little power over the CEO.

Advisory structures refer to groups that provide suggestions and insight to strategic decision makers without having a significant stake in the decision being made. These groups are impartial in the decision making in that the decision will have little direct consequences for them or their work. These limited personal stakes are likely to lead to appraisals of low goal relevance and hence limited emotional reactions. The structural affordance for emotion regulation generated by advisory structures is the capacity to devote impartial and specialized attention to the focal strategic analyses. Using this capacity, these groups could help top managers overcome limitations related to bounded rationality (March & Simon, 1958) and emotional biases (e.g., Baer & Brown, 2012) in understanding data related to the strategic situation. In particular, these groups can abandon "default framings" and "established patterns of thinking" so that managers can "see issues in a new light" and "identify more meaningful patterns" (Joseph & Wilson, 2018: 1787). Hence, the emotionally neutral cognitive capacity supplied by these groups facilitates top managers' data-informed reappraisals.

Boundary spanning structures refer to relationships between an organization and its potential partners. Such structures shape and are shaped by relationships between top managers and potential external partners, often manifesting in negotiations and other interactions. Boundary spanning structures give those groups with whom top managers interact a channel for attracting top managers' attention. In particular, such structures enable some groups to embody strategic options, such as a technology provider might embody the option of building new products with a particular technology. The affordance for emotion regulation created by boundary spanning structures is the capacity to increase the salience of issues and options. This capacity enables them to regulate top managers' emotions by increasing the mental vividness of the (focal) strategic option(s). As mental vividness leads to stronger emotional reactions (e.g., Bechara & Damasio, 2005), such vividness is likely to amplify top managers' emotional reactions toward the options. They are likely to feel worse about those options that become associated with unpleasant vivid content and better about those that become associated with pleasant vivid content.

While our model seeks to explicate the mechanisms through which various groups regulate top managers' emotions, top managers' actions and reactions also shape their interactions with these groups. As shown by the arrow from top managers' emotional reactions to governance structures, powerful groups are more likely to regulate top managers' emotions if top managers bring emotion-triggering matters to the governance structures. As shown by the arrow from wider and deeper search to advisory structures, advisory bodies can help top managers perform data-informed reappraisals only if top managers request their help. And, as shown by the arrow from wider and deeper search to boundary spanning structures, potential partner firms influence top managers' emotions more significantly if top managers interact with them on substantive matters.

In depicting various groups' contributions to the regulation of top managers' emotions, our model does not assume that all the groups are fully aware of the complexity of the strategic situation or the range of options being considered. Rather, in a socially distributed process, each group can perform a sub-task with "compartmentalized" information such that the overall emotion regulating effect emerges from the groups' joint efforts. For example, consultants analyzing the prospects of a potential acquisition need not know what other strategic options top managers are considering. Hence, the process can be socially distributed while only a very select group of people have full access to sensitive and confidential information related to the strategy.

In sum, our model of socially distributed emotion regulation during strategy making shows how various groups help top managers contain and gradually change their emotional reactions to a strategic situation and diverse strategic options. Eventually, top managers are able to seek new information, scrutinize a larger variety of options, and accept strategic choices they originally disdain.

DISCUSSION

Socially Distributed Emotion Regulation in Strategy Making

The socially distributed nature of emotion regulation constitutes a key contribution of our paper. Our study shows how the regulation of top managers' emotions results from the complementary activities of various organizational groups. In contrast, prior research has treated emotion regulation mainly as an individual-level ability (Gross, 2015; Healey & Hodginson, 2017; Huy & Zott, 2019). This is an important contribution for two reasons we elaborate on below.

Relationship between formal structure and emotion regulation. The socially distributed nature of emotion regulation suggests that structures shape emotional dynamics among various organizational groups. As structures shape relationships and communication between groups, they create opportunities for inter-group emotion regulation. Structures also give each group affordances such as power and tangible resources that enable emotion regulation. Furthermore, structures influence which emotions each group is more likely to feel because structures influence groups' identification with various entities, such as particular products or market segments.

As research on emotion regulation during strategy making has under-investigated how structures influence emotion regulation, our findings and theorizing constitute a significant contribution. Our study suggests future research should more explicitly incorporate the overall organizational structure and the structural position of both the emotion regulator and the regulated. In particular, the structure-related mechanisms of emotion regulation could enrich research on strategic decision making in top management teams. Prior research has shown that top managers' psychological traits (e.g., Liu, Fisher, & Chen, 2018) and social-psychological dynamics within the top management team (e.g., Heavey & Simsek, 2017; Liu & Maitlis, 2014) influence their strategic decisions. Extending these works, our study shifts the focus from within-group psychological dynamics to organizational level structures. Our study shows how groups occupying different structural positions influence the co-evolution of top managers' emotions and the content of strategy making.

Investigating the emotional consequences of organizational structure also enriches research on structures, which has mainly focused on structures' impact on information processing and coordination (e.g., Davis, Eisenhardt & Bingham, 2009; Dutt & Joseph, 2019; Sine, Mitsuhashi, & Kirsch, 2006). Our study reveals that the effectiveness of strategy making could rely on various groups' ability to regulate top managers' emotions and that the formal organizational structure substantially contributes to this distributed ability. Beyond strategy making, emotions and their regulation could also influence various other organizational processes. Some structural arrangements might generate more adaptive emotions and emotion regulation than others (see also, DiBenigdo, 2018). Hence, future research could investigate more systematically how various structural arrangements elicit the emotions of various groups and influence their emotion regulation behaviors.

Transcending individual-level limitations of emotion regulation. Socially distributed emotion regulation could help organizations transcend some of the limitations of individual-level regulation. Existing research has shown high variance among individuals in their emotion regulation ability and motivation (e.g., Gross, 2015; Schabram & Maitlis, 2017). Hence, emotion regulation based on individual-level abilities and motivations could be maladaptive and unreliable during strategy making. In contrast, a structured, distributed process should be less vulnerable to individual-level limitations. As our study shows, in a formalized distributed process, task-requirements nudge group members to perform activities that lead to changes in their own and other groups' emotions. In addition, as the structured process both enables and limits each groups' activities and each group performs only parts of the overall emotion regulation process, they are less likely to underperform due to exhaustion and ego depletion (cf. Lian et al., 2017).

The ability of a socially distributed process to transcend individual-level limitations in emotion regulation is analogical to how organizations could transcend individual-level bounded rationality (cf. Hutchins, 1995; Michel, 2007). In an organizational system, each member works only on a part of the overall problem. Their joint efforts likely create a more adaptive solution than any individual could produce. Superior collective performance emerges from the complementary efforts of various actors. Thus, individual-level emotional intelligence (Cote & Miners, 2006) might be necessary but insufficient to regulate initial emotions for adaptive purposes, especially in complex organizational contexts dealing with equivocal and fast-changing informational inputs.

The allocation of tasks related to distributed emotion regulation also implies that there might be a need for "specialization" in emotion regulation abilities and motivations. This suggests that every member of the organization does not need to develop similar emotional abilities, like prior research implicitly assumes (cf. Raffaelli et al., 2019; Healey & Hodgkinson, 2017). Instead, specific emotion regulation activities depend on the task and structural position of the individual and their group.

Temporal Dynamics of Emotion Regulation during Strategy Making

Our study also provides fresh insight into the temporal dynamics of emotion regulation during strategy making. Scholars typically treat emotion regulation as an activity that occurs over a single episode, lasting only for a few seconds, minutes, or hours (e.g., Grant, 2013; Grodal et al., 2015; Pugh, 2017; Seo & Barrett, 2007; Wang, Liao, Zhan, & Shi, 2011). In contrast, our research reveals how emotion regulation during strategy making involved various actions in a sequence over several weeks and months, with cumulative effects (see also, Heaphy, 2017). This temporal extension implies that the effectiveness of the overall emotion regulation process may depend on the timing, sequencing, combining, and rhythm of actions enacted as much as using any specific approach. For example, whereas most research considers reappraisals as beneficial and suppression as harmful (e.g., Gross, 2015; Healey & Hodgkinson, 2017; Schutte et al., 2009), our findings suggest their benefits might depend on their sequence: Suppressing initial emotional reactions might enable collecting more information and forming an informed reappraisal of the situation. This would lead to more adaptive emotions and a better decision. In contrast, early reappraisal might facilitate naïve, uninformed optimism (feeling no need to change an outdated strategy). Subsequent suppression of doubt could escalate commitment to the early optimism against external realities, leading to suboptimal outcomes.

The temporal extension of emotion regulation also enriches our understanding of adaptive emotional states for strategy making. Scholars have noted how positive emotions (Liu & Maitlis, 2014) and psychological safety (Edmondson, 1999; Veltrop et al., 2020) could benefit strategy making. Although research on psychological safety has shown its beneficial effect on team information exchange and learning (e.g., Edmondson & Zhike, 2014), we have incomplete understanding of how managers can concretely create team psychological safety. Our study enriches the processual dimension of psychological safety by showing the contributing effects of emotion regulation actions and negative emotions over a prolonged time. We describe strategy making as an emotionally rich journey replete with negative emotions, conflict, and ambivalence, all of which could improve strategic thinking over time (e.g., van Knippenberg, Kooij-de Bode, & van Ginkel, 2010) if their harmful effects are regulated. Thus, it might not be adaptive for decision makers to eliminate all negative emotions. Rather, they should understand their causes and effects and regulate them to generate rich strategic options and optimal choices.

Cognitive Framing and Emotion Regulation During Strategy Making

A central element of the cognitive-processual perspective on strategy is that managers form and rely on simplified cognitive understandings such as frames to make sense of strategic ambiguity (Walsh, 1995). These frames are dynamic and situated, and managers could seek to influence their colleagues' frames. These framing contests generate firm-level responses (Kaplan, 2008). Our study extends this research stream by showing how emotions shape cognitive framing and the underpinning interpretive processes. When frames compete, their emotional resonance is likely to influence which one gets more endorsement (see also, Raffaelli et al., 2019). Hence, although framing contests could expose managers to multiple perspectives and thus reduce cognitive bias (Kaplan, 2008), they could still be vulnerable to emotional biases. In particular, the emotional unpleasantness of a novel frame might cause defensiveness and contribute to cognitive inertia, above and beyond the cognitive effects recognized in earlier studies (for reviews, see Eggers & Kaplan, 2013; Ocasio et al., 2018).

Our study also enriches research and theorizing on technological innovation. A central finding from this literature is that in times of radical technological change, cognitive shifts need to occur for firms to adapt (Christensen, 1996; Gilbert, 2005; Raffaelli et al., 2019; Raffaelli, 2019). The role of identity and psychological commitment to specific technologies have been acknowledged (Tripsas & Gavetti, 2000; Zuzul & Tripsas, 2020). However, this research stream has insufficiently investigated the emotional dynamics that occur when a firm's dominant technology is under threat and may need to be abandoned. Our study shows how defensive emotional reactions may constitute a powerful affective underpinning of technology-related cognitive inertia. Therefore, appropriate emotion regulation actions may help managers deal with the emotional hurdles to facilitate cognitive change.

Finally, our study extends prior research on how emotional dynamics have harmed Nokia's strategic adaptation. Vuori and Huy (2016) showed how middle managers' fear caused them to hide critical information from top managers, contributing to top managers' overoptimistic perceptions about the company's software capabilities. But their study, focusing on period one, did not suggest how the company could have avoided this maladaptation. In contrast, the comparison of period one and two, done in the present study, suggests a promising way to overcome the nagging problem of cognitive inertia in strategy making: socially distributed emotion regulation by diverse stakeholder groups rather than relying on the rare skill and motivation of any single leader or group.

Boundary Conditions, Future Research, and Managerial Implications

As in any research, context influences our proposed model. Our arguments assume emotions have fairly universal influences on biology and cognition (e.g., Ekman, 2003). Furthermore, we note boards follow "soft" people-oriented practices in various contexts (Finkelstein & Mooney, 2003). However, some context-specific factors may influence how emotions translate to behaviors and whether emotions can be regulated. During our study, Nokia was headquartered in Finland and listed on the New York Stock Exchange. Thus, the board could actively influence top managers, but in other contexts, boards might have more constraints in influencing top managers' strategy making.

Other factors could also influence the occurrence and effectiveness of socially distributed emotion regulation, such as industry norms and the firm's ownership structure. These could, respectively, influence what is considered legitimate behavior in a given social context and board power dynamics in relation to emotion regulation, for example. Future research should investigate how such factors shape socially distributed emotion regulation. Furthermore, our study focuses on the emotion regulation roles of boards, analytical teams, and potential partner firms. Future research should explore whether and how other organizational groups contribute to emotion regulation.

Our study offers practical advice to strategic decision-makers. Management teams and boards of directors should recognize that their governance functions will “naturally” arouse emotions that will influence their strategy making. We recommend three practices for regulating emotions. First, boards should create practices that help contain initial emotional reactions to strategic situations, such as processes that allow executives to study challenges in “digestible parts.” Second, boards should require executives to form data-informed reappraisals of the emotion-arousing situation by generating and analyzing various strategic options. They should use strategy consultants and other advisors to provide input and insight that escape insiders. Third, they should concretize strategic options through interactions with potential partners. Furthermore, as emotions and thinking could evolve gradually, managers should nurture patience when enacting emotion regulation actions.

To conclude, our empirical research is one of the first to investigate the collective and recursive process of emotion regulation influencing strategy making in large organizations. We show that strategy making displays a facade of rationality that hides treacherous emotional under-currents. We hope our study will motivate other scholars to take a deep dive into the emotional depths of organizations that matter so much, yet we still know so little.

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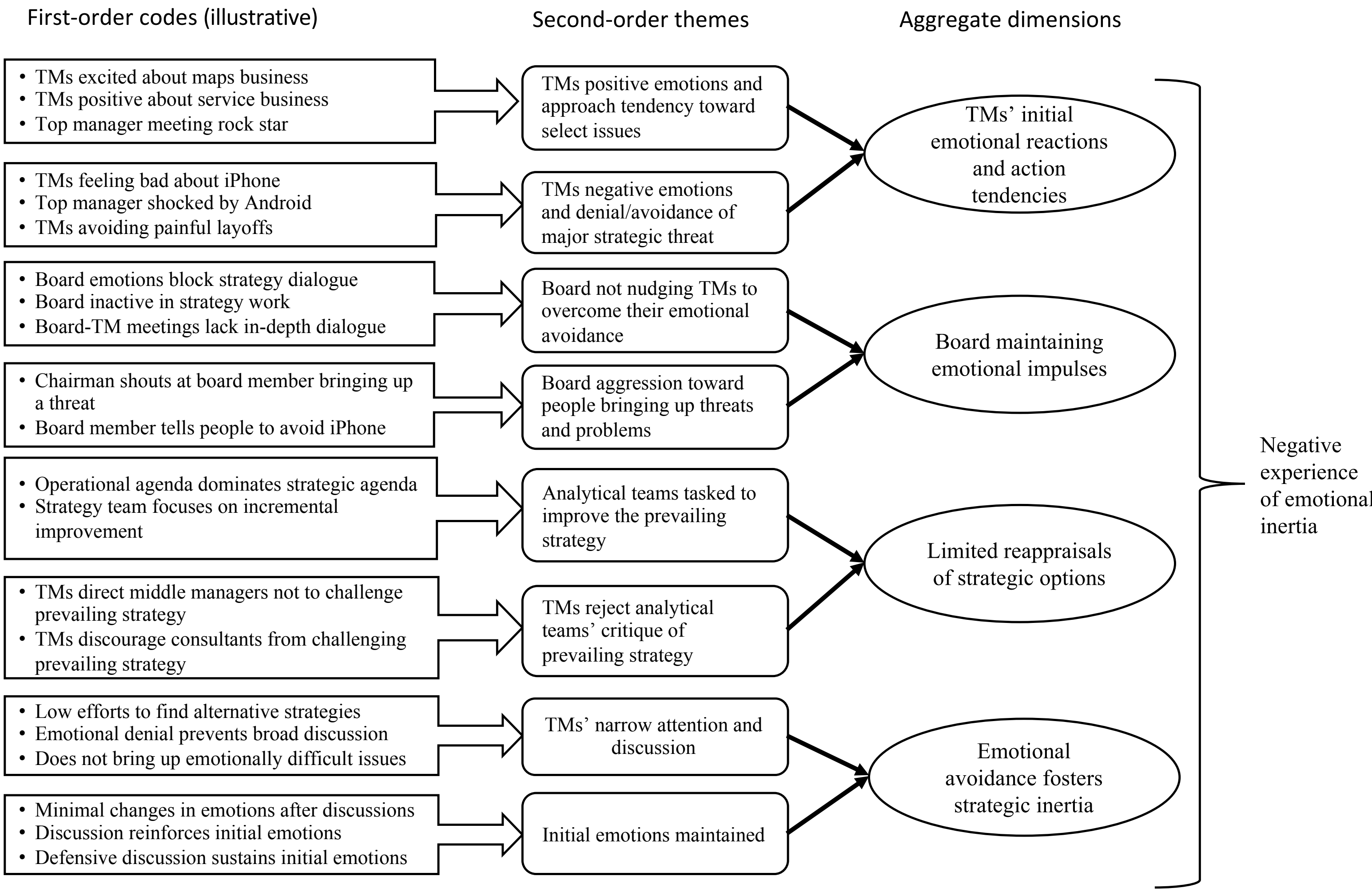
Figure 1a: Data structure for period 1



Note: "TM" refers to "Top Manager"

Figure 1b: Data structure for period 2

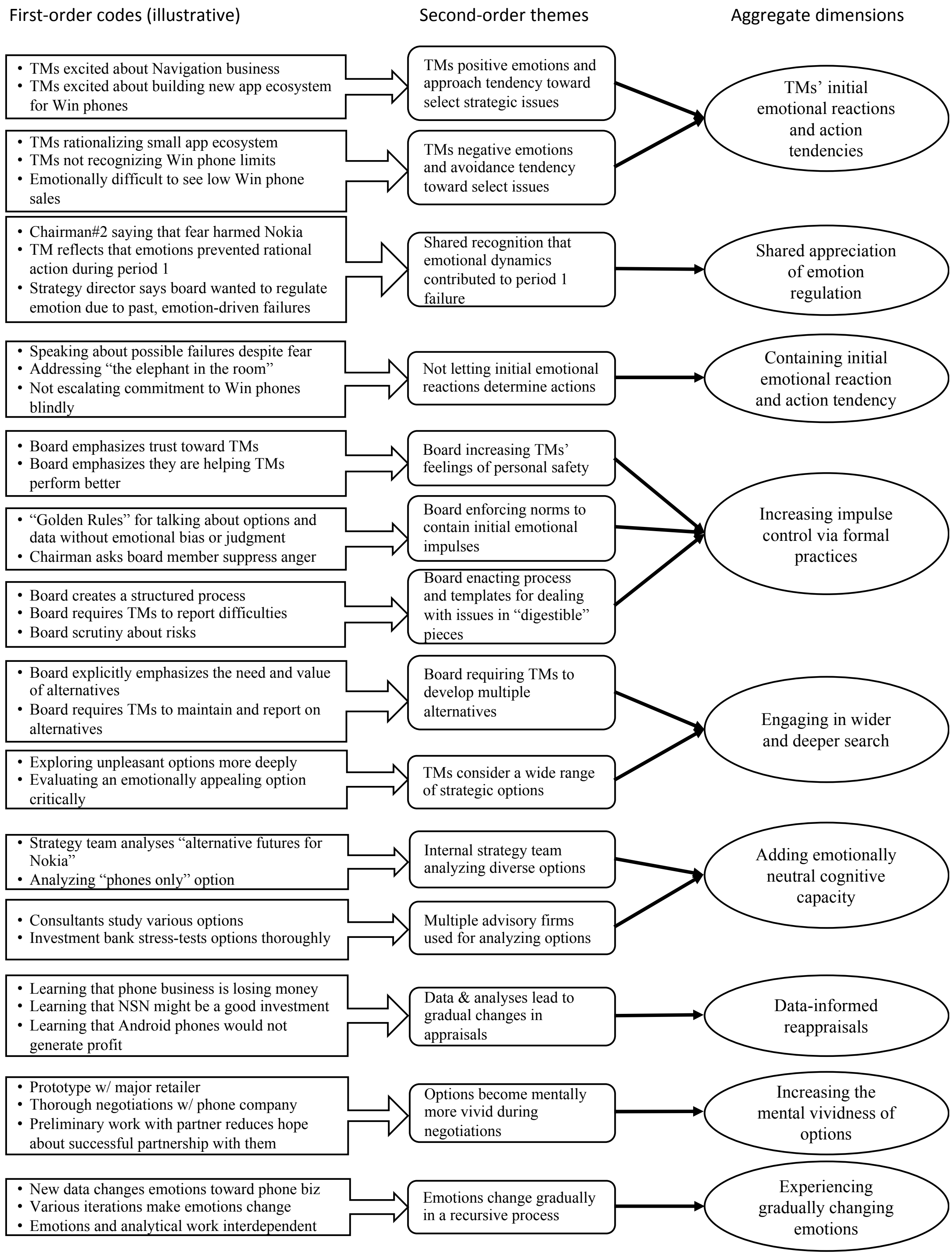
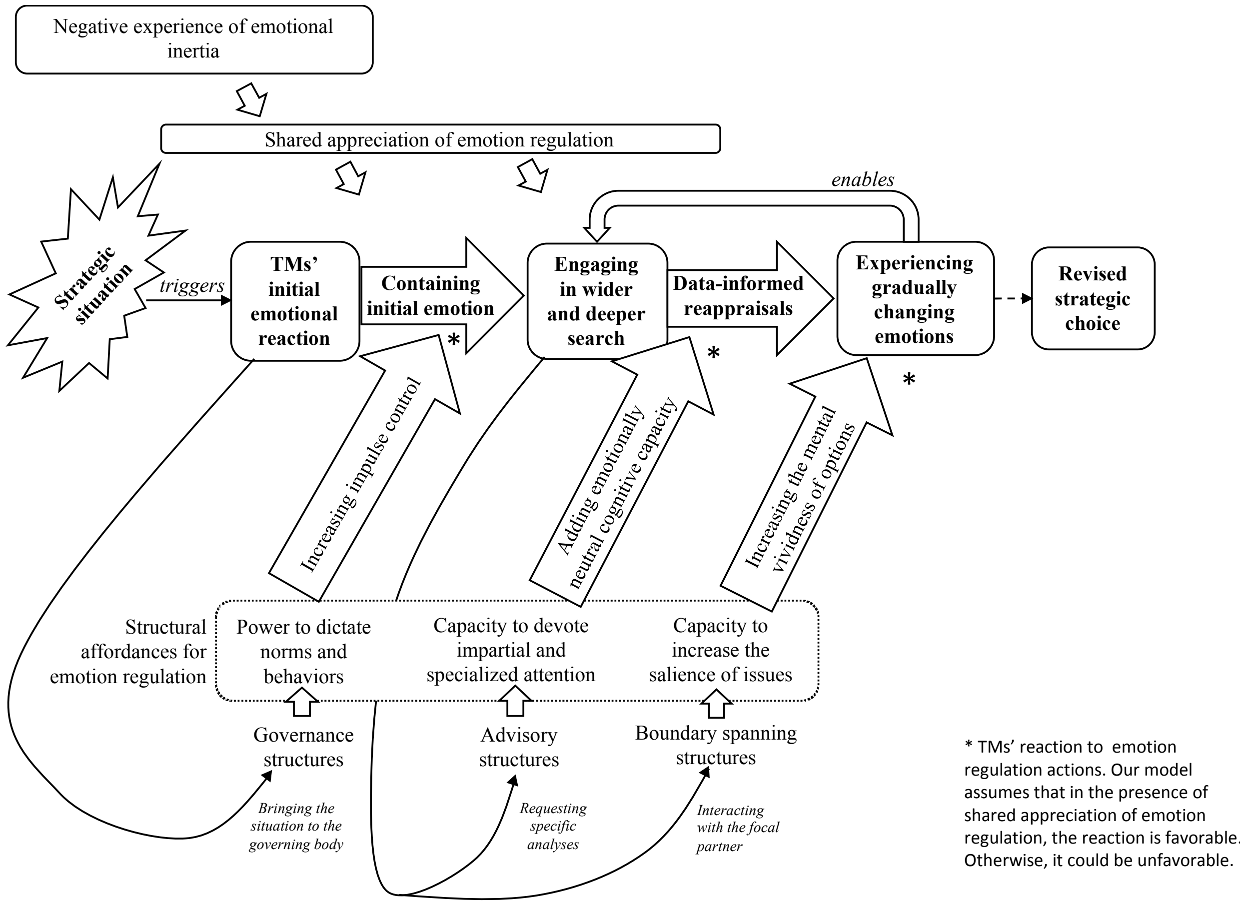


Figure 2: Socially distributed emotion regulation during strategy making



Note: "TM" refers to "Top Manager"

Table 1: informants and interviews

	At Nokia during first period	At Nokia during second period	Number of interviews	Year of interview(s)
Board member #1	x	x	1	2017
Board member #2	x	x	3	2014-2018
Board member #3		x	2	2016
Board member #4	x	x	1	2017
Board member #5	x		1	2013-2014
Board member #6	x	x	1	2016
TOTAL board members			*9*	
Top manager #1	x	x	2	2016-2017
Top manager #2	x	x	1	2016
Top manager #3	x	x	2	2016-2017
Top manager #4	x	x	1	2017
Top manager #5	x	x	4	2014-2017
Top manager #6	x		3	2013-2017
Top manager #7	x	x	2	2016
Top manager #8	x		5	2013-2015
Top manager #9	x		1	2016
TOTAL top managers			*20*	
Strategy specialist #1	x	x	1	2016
Strategy specialist #2	x		2	2013-2014
Strategy specialist #3	x	x	2	2016
Strategy specialist #4	x		4	2013-2015
Strategy specialist #5	x		3	2013-2015
Strategy specialist #6	x		2	2013-2014
Strategy specialist #7	x	x	1	2016
Strategy specialist #8		x	2	2016-2017
Strategy specialist #9		x	2	2016-2017
Strategy specialist #10	x	x	2	2016
TOTAL strategy specialists			*21*	
External advisors (4 individuals)	x	x	4	2014-2018
Software (senior) vice presidents or middle managers (14 individuals)	x	x	18	2013-2017
Other (senior) vice presidents (15 individuals)	x	x	23	2014-2017
Other middle managers (23 individuals)	x	x	30	2013-2017
TOTAL Other informants	x	x	*71*	2013-2018
TOTAL			*121*	

Table 2: Additional illustrative quotes and triangulating real-time evidence on theoretical categories for period 1

Concept	Illustrative quotes	Triangulating real-time evidence
Top managers' initial emotional reactions and action tendencies	*Denial of threat*: If you think of Nokia back then [after the iPhone launch in 2007], the stock price went upwards. The stock rose during 2007, 80%, so all external measures show that things are actually fine. To say, at that point, "All this that everyone is seeing is total garbage," it takes quite some leadership—and even more than that, because I may form that view myself, but I also have to bring everyone with me. (Top manager #5)	*2010-09-21*: A Nokia top manager said that "mobile manufacturers who go down the Android route are doing no better than Finnish boys who 'pee in their pants' for warmth in the winter". The vivid description indicates emotional dislike of Android. https://www.engadget.com/2010/09/21/ce-oh-no-he-didnt-anssi-vanjoki-says-using-android-is-like-pe/
Maintaining emotional impulses	[Board#1 members] who had the most ownership of some of the decisions of the past had the hardest emotional journey through this period. You can imagine there was definitely some stress around that. […] [The open discussion culture was] repressed and held back both by [an influential board member] who was holding on to the past, and by some leaders who were just being dogmatic in their own personal beliefs. (Top manager #2) [Chairman#1 explained that the board was not overly active in managing the strategy work because] "[strategic options] were the responsibility of the managing director […] there are smart people on different levels of the organisation who must be allowed to work undisturbed" (Helsingin Sanomat, 2018, available at https://theworldnews.net/fi-news/jorma-ollila-brought-nokia-great-success-but-did-he-also-bring-the-company-down-the-former-phone-giant-s-current-chairman-risto-siilasmaa-tells-us-what-he-witnessed).	*2012-04-26*: Interviews with several people who describe aggressive behaviors by Chairman#1 https://www.kauppalehti.fi/uutiset/jorma-ollila---akkipikainen--meuhkaava--pitkavihainen-mies/zCAUK2Ce *2011-02-17*: Chairman #1 indicates in an interview that Nokia started seriously consider the viability of its Symbian strategy and considering options for it only in fall 2010 – this implies that the board did not actively challenge TMT to develop strategic options earlier. https://muropaketti.com/mobiili/mobiiliuutiset/jorma-ollila-kertoi-a-plussan-haastattelussa-yksityiskohtia-nokian-ja-microsoftin-yhteistyosta/
Limited reappraisals of strategic options	[The CEO] brought next to the strategic agenda this operational agenda [in 2006]. […] the operational agenda actually started getting more dominant over the strategic agenda in top management discussions […] only the implementation of the strategy was considered through operative agenda. (Strategy specialist #4)	*Presentation material (dated in Spring 2010)* made by a top tier consulting company to the top management team only focused improving the Symbian strategy; no radical strategic options were included in this material or alluded to.
Emotional avoidance feeds strategic inertia	Even though they've understood these themes [radical changes in the phone industry around 2008] intellectually, for some reason they've been unable to do anything about them. They've just been like the deer in the headlight, you know? The train or the truck is coming and it keeps coming, and coming, and coming, and "now we'll die, we'll die, okay, let's die." (Strategy consultant)	*2009-06-29:* Nokia issued an "outright denial" that it was planning to introduce Android phones, indicating strong resistance to the idea of changing strategy. http://www.zdnet.com/article/nokia-android-rumours-earn-outright-denial/

Table 3: Additional illustrative quotes and triangulating real-time evidence on theoretical categories for period 2

Concept / category	Interview quotes	Triangulating real-time data
Top managers' initial emotional reactions and action tendencies	When decisions were made and then the Windows Phone didn't start selling, then there was no discussion about the difficulties but instead only that now we have to get this thing, we'll go with this strategy now. (Strategy specialist #3) In the summer of 2012, [Microsoft] announced that they would start shipping the Surface tablet. […] it was a huge shock […] Having full access to our roadmaps […] knowing a lot of things about us. And then they would be our worst competitor. That's a nightmarish situation. (Board member #2)	*2014-06-19:* Chairman#2 said: "Night-time tensions and grand emotions […] emotional roller-coaster through the negotiations—from initial 'gritting your teeth and getting on with it' through to nervous shudders at the idea that the Finnish national institution might be completely swallowed up by the American software giant." https://yle.fi/uutiset/osasto/news/thursdays_papers_nokia_chair_speaks_out_stubbs_uphill_struggle_and_egg_shortage_threatens_clinics/7309402
Shared Appreciation of Emotion Regulation	When we focused on proceeding from our position, that was an emotional state. At the very first stage of decision-making [2007-2011], we were myopic and influenced by our emotions. It must have helped that chairman#2 had observed the first decision-making situation. If you compare the later stages with the first one, you see that we may have learned. (Top manager #3) Because of the autocratic forces coming from certain senior leaders you weren't allowed to talk about Nokia's problems. The suppressive culture changed partly because [the new CEO] had an open and transparent leadership style, took people through the process, and demanded that they contribute. But, [he] was also the beneficiary of a rebound or whiplash of accumulated knowledge and frustration that was disallowed because the previous leadership did not tolerate discussions on emotionally difficult topics. (Top manager #2)	*Indirect evidence 2012-09-15:* Chairman#2 spoke about teaching values as part of leadership (43:00; 54:00) and about the need to "kill our darlings" (35:00) and other emotionally charged dynamics (31:00-33:00, 36:30-38:00). (Talk // REE Europe 2012, Aalto University) https://www.youtube.com/watch?v=nFyKRCo4QkM&t=117s
Containing Initial Emotional Reaction and Action Tendency	[Chairman#2] was being a very hands-on chairman and working collaboratively with [the CEO]. […] They went through this very methodical analysis of all of the options. (Top manager #7) [In strategy work], it is essential to maintain the freedom to mentally entertain any alternative without falling into the trap of attaching to just one of them too soon. [...] The Chairman[#2] did not push for anyone to make up their minds too soon, and he did not signal to us what his own preference would be. This kept the playing field open. […] we kept our minds open to considering all scenarios until the day came when a decision was to be made. (Board member #1)	[The fact that Nokia divested the phone business rather than continued to develop it shows that they did not act on the emotional impulse to continue the phone business.]
Increasing impulse control via formal practices.	It was very structured, cordial, organized. Usually only a limited group was involved. No one avoided the issue out of fear or other negative emotions. We were very business-minded […] and scrutinized all options. (Top manager #7) By laying out on the table all scenarios - even the most horrific ones – […] Nokia's board enabled the discussion to stay visionary and pragmatic, unfettered by sentimentality. […] We envisioned the most fantastic recovery […], but we also spoke out the ugliest and most fearsome scenarios. Once the scene was laid	*2013-05-07*: In Chairman#2's speech and answers to questions at the annual general meeting, he said that his first principle is to allow people to ask difficult questions and to answer them "openly, and without fearing that people might not like the answer" http://www.is.fi/taloussanomat/porssiuutiset/art-2000001795387.html *Indirect evidence 2015-03-05*: Chairman described a guiding principle for unemotional reactions to messengers of bad news: "No news is bad

	out like that, it was permissible to discuss any scenario. (Board member #1)	news. Bad news is good news. And good news is no news." https://schoolofherring.com/2015/03/05/bad-news-is-good-news/
Engaging in Wider and Deeper Search	It's such a big issue, we dedicate the whole meeting for [it], and there arise a lot of questions that would have been passed on to the management as homework […] and we go through it again; is it really that we don't have any options besides [Option #1]. And then we start thinking about, what are the options if [#1] is not an option. [#2] is one of them, how about [#3], why is [#2] supposed to be better, we need to discuss it thoroughly. (Board member #2) One of the scenarios that we started looking at [in late spring 2012] was Microsoft becoming a device company as well. And in the summer of 2012 they announced that they would start shipping the Surface tablet. (Board member #2)	*2012-07-02*: Chairman#2 stated publicly that Nokia has "contingency plans" in case the Windows phone fails. https://www.wired.com/2012/07/nokia-says-it-has-backup-plan/ *Indirect evidence 2012-05-15:* Rumors that Nokia's board was disappointed in Windows 7 and considering switching back to Symbian and/or MeeGo. http://www.androidauthority.com/nokia-wp7-failure-meego-relaunch-85565/
Adding emotionally neutral cognitive capacity.	The board got several second opinions about what the world might look like. (Strategy specialist #3) [Our informal discussions and email exchanges during 2014-2018 with senior members of two prestigious strategy consulting firms confirmed their active presence in the process]	*Indirect evidence*: Spring 2013: Our informal discussions with consultants working on projects at Nokia. The consultants described high workloads and various demands. *Indirect evidence*: Background materials, such as Gartner reports from 2012-2013, related to the analysis of options, shared by advisor firm
Data-Informed Reappraisals	The indicators were there, and we followed them. […] they started showing that hey, this isn't looking good. […] you looked at that from that situation forward, and the courage came for divesting the devices business. (Top manager #7) The intuition comes from experience. And we're analytical people in some ways, in that if the financial model now looks how it looked then [when Windows phones were not selling in 2012-2013], then you can't just throw it away and say that my intuition tells me that [things will be fine] (Top manager #5)	*2013-09-03:* Chairman#2 on deal announcement in 2013: "Nokia has analyzed all possible options [and] This was an emotionally difficult decision, but rationally the right one" http://www.is.fi/digitoday/art-2000000654319.html http://www.iltalehti.fi/talous/2013090317443833_ta.shtml
Increasing the mental vividness of options.	From a mobile phone perspective, the interactions with the other major players in the industry were not on a strategic or impactful enough level to truly have significant influence on Nokia's choices. The absence of a signal was a signal in itself; it showed that other key players did not feel they had to pay that much attention to a phone manufacturer. (Board member #1)	*2013-12-10:* [Nokia launched Android phones after announcing the divestment, indicating that they had been developing such phones for at least several months as a potential alternative for the Windows phone strategy.] https://www.theverge.com/2013/12/10/5197746/nokia-android-phone-normandy
Experiencing Gradually Changing Emotions	[Our thoughts and emotions toward options] evolved over time. Some of these things originated from how to complement the Windows Phone trajectory, or should the direction be changed completely. […] Gradually, as time passed and the performance gap grew wider, we started looking at things differently. […] At the point where one really had to look at the alternatives, it became clear that if we were really looking at realistic alternatives, then, taking scale into account, there were not that many alternatives to consider. (Top manager #5)	*2013-09-04:* Chairman#2 said: "This transaction [selling phone business to Microsoft] makes all the sense rationally, but emotionally, it gets complicated" https://yle.fi/uutiset/osasto/news/nokia_more_than_just_a_company_to_finns/6813695 *2014-04-30*: [Nokia held over 60 board and committee meetings during one year, which is consistent with the claim the board and TMT considered various options and their emotions toward the options evolved during the process.] Nokia annual report 2013, p. 6, http://company.nokia.com/sites/default/files/download/investors/nokia_in_2013.pdf

Table 4: Recursive dynamics between emotions and analytical work related to four main options during 2012-2013.

Evolution of Strategic options	**Continue Windows phones with Microsoft (Q2-Q4/2012)**	**Divest the mobile phone business (Q4/2012-Q3/2013)**	**Develop Android phones (with a partner firm) (Q3/2012-Q2/2013)**	**Acquire Nokia-Siemens Networks (NSN) (Q1-Q2/2013)**
Initial emotional reaction	**Positive:** "[TMT had] still this sort of religious believers in how to make [the prevailing Windows phone strategy] a success" (TM #7)*		**Curious, positive:** "I originally felt we should detach ourselves from the Windows agreement and start making Android" (Senior strategy manager #3) "People really started to double down their focus on the Android-like products that were in the skunk works in mobile phones because we were desperate at that point." (TM #7)	
Temporary emotional containing	**Initiating analyses to assess prospects**: "We needed to prepare for all possible scenarios early on. One needs to analyze the alternatives before one is at the point where the current approach can be determined to be failing." (Board member #2) "There was a disparity between our plan and the reality. Then the question was, "What can we do about it?" Then we started studying that" (TM #3)		**Perform critical analyses**: "[The board and TMT] went through this very methodical analysis of all of the options […] going with Android, to many other variants" (TM #7) "I was evaluating opportunities [to make Android phones in collaboration with] other companies like [Company X]" (TM #7)	
Data-informed reappraisal	**Microsoft unlikely to invest more in the collaboration and might offer to buy the phone business**: "We got into a catch 22 where we needed to do radical things to really start to move the needle including a fairly hefty investment in marketing. Microsoft said 'well why would we keep giving you more money on a product that's not doing great and we don't make any money on it?'" (TM #7) "Microsoft was making much higher payments to support Windows strategy than the license fee payments we were going to make to Microsoft, since the volumes were one fourth or fifth of what they were supposed to be [chuckles] according to the original plan. […] Microsoft contacted Nokia, and said they're interested in discussing a plan where they would buy the phone business." (TM #4)		**Some potential for Android phones (with a partner)**: "It was totally possible to ramp down the smart devices completely and continue to focus on basic phones. Then we could have moved toward Android" (TM #4) "The question actually was whether the Android path would in some way have been possible. That's what [collaboration with company X] was also related to. Whether it could've been part of the Android path." (TM #5)	
Next recursive stage				
New/initial emotional reaction		**Highly negative: "**[When] the board was first presented with this option [divesting phone business] it reacted like 'Oh my God, no way!'" (TM #7) "We all had a fear that this might end up very badly. […] this might end up with Nokia not existing anymore, that we would just sell the whole company	**Continued curiosity, but turning toward more negative:** "On the emotional level, there was a commitment with that, we really wanted to find a way to continue on	**Negative**: "[Acquiring NSN] was the least appealing option" (Board member #2) "No one was thinking about that. […] At that point the Nokia board

	in pieces." (TM #3) "When Microsoft first approached the subject with [Chairman #2], the first reaction from the board was 'no', that wasn't something that they were willing to entertain. I recall a conversation with one of the board members as [he or she] was leaving the board where [he or she] was like "Don't sell the company for less than 10 billion". (TM #7)		the devices [by making Android phones]". (TM #3)	[#1 and #2] had been trying to get rid of the networks business for seven years" (TM #4)
Temporary emotional containing	**Initiate analyses of divestment option and alternatives**: "It was obviously emotionally very hard but [the chairman] set the tone saying, 'We have to recognize that the transformation of Nokia is going to continue and we have to be very smart about how we go through this.'" (TM #2) "[Chairman #2] made a smart move in saying to [Microsoft CEO] that we need more time, so he played it well by getting more time to make a decision and get more information." (TM #4) "[Board and TMT started working more actively] when the divestment consideration was started […] the strategy formation included not only what we ended up with, the divestment, but also all the different alternatives: what does it mean if we continue without making major changes, what does it mean if we try to replace Windows Phone with something else and what these other alternatives are" (TM #5)		**Continue analyses and negotiations**: "I was leading [negotiations with Company Y], which is why I remember it." (TM #7) The conversations with Google led to us making Android phones […]. [In addition,] we were in the process of making phones with [Company X], [and] we had discussed with for instance [Company Z] and [Company Y] and, all sorts of companies about different kinds of structural options. (TM #5)	**Perform preliminary analyses of the option:** "We were discussing alternatives for NSN because we had many alternatives, such as selling the whole asset, taking a less controlling part and having a private equity firm, or buying the Siemens part with someone so that Nokia wouldn't have to spend so much." (TM #4)
Data-informed reappraisal	(end)	**Phone business is losing money; divestment might benefit Nokia**: "Our problem was that we spent so much money on product development, on smart devices and it didn't yield any profit and it seemed it wasn't going anywhere." (TM #4) "Once the numbers were there on the smartphones it was indisputable. There was no option where you could argue that 'If we just keep going six more months and we double our sales we'll be all right.' There was no scenario for that" (TM #7) [Board and TMT] went through this very methodical analysis of all of the options so that you were ultimately left with concluding when none of those looked appealing the plan C which was sell some or all of it to Microsoft. (TM #7)	**Very low chance of success for Nokia Android phones**: "We considered Android, but no DCF [discounted cash flow] models produced a better valuation. So, if you first look at how much it would cost to ramp down Windows and then ramp up Android, all that money would be spent during the first three years, with profits delayed until about 2045." (TM #4) "None of [the Android options we investigated] would have brought changes big enough to change the overall dynamics." (TM #5)	**From a short-term financial perspective, the acquiring NSN could provide value**: "We concluded that if we can buy it under a certain price, we should do so. If we can sell it over a certain price, we should do so. Otherwise, we are indifferent." (TM #4)
Next recursive stage				
New/initial emotional reaction		**Ambivalent:** "At one stage, despite our differences, everyone wondered where we were going, which brought pressure, emotion, and thoughts about how to handle the problem. The decision was completely different than any decisions we had ever made." (TM #3)	**Negative:** "Really what our DNA needed was for us to invent and create our own and we had neither the resources, the funds or the innovation to be able to catch up to where Apple and Google were going with their	**Mildly positive:** "People weren't really enthusiastic about it, right away. But after a few discussions, it was reasonable specifically in terms of the financial parameters." (TM #4)

		"I remember having a conversation with [TM #4]. It wasn't until around June time for [TM #4] where he realized [that the phone business was doing very badly], before that he was really doubting it, like I we making a huge mistake?" (TM #7) "It was mentally extremely difficult." (TM #4)	operating systems, we were already several years too late." (TM #7)	
Temporary emotional containing		**Continue extensive analyses and negotiations to find best option:** "The board really wanted to see the different scenarios and alternatives like the total phone sales, or just the smart device sales, with HERE, without HERE, what other alternatives there were […]?" (TM #4) "There was a lot of highs and lows as we went through those negotiations […] when you think about emotions and I've done so many deals in my career where people make really stupid decisions in the heat of the moment and that really never came to bear [in our negotiations with Microsoft] because Chairman #2 was as cool as a cucumber [and] because we were so prepared, we had done the analysis. When we were in the meeting, we knew all the answers, we knew what they were going to say, we knew how we were going to respond to it" (TM #7)	(end)	**Negotiate systematically and analyze potential of NSN:** "The price negotiation was a separate discussion [chuckles] with Siemens. But we had very good leverage because no one knew about the Microsoft thing, and Nokia's financial position was looking challenging, and becoming more challenging. Siemens felt that it would require a crazy amount of work to sell it to somebody else, so it was probably best to get the money from Nokia." (TM #4)
Data-informed reappraisal		**Divestment is a good option and there is a specific deal structure that would be good for Nokia**: "I remember [CFO] saying 'holy shit we cannot manage our way out of this, this is dire and we need to offload this because it just doesn't make financial sense to keep it on our books anymore.'" (TM #7) "It wasn't really a hard decision at the point in the negotiations when our conditions were accepted" (TM #4) [TMT and board] knew intellectually and factually that we were doing the very best thing for our shareholders and we fought for our employees as well. (TM #2)		**Acquiring NSN would provide financial gains and new strategic direction for Nokia:** "We had the chance to buy it for cheap. I mean, for so cheap that it seemed like a no-brainer, that no matter what the situation, it would be entirely crazy to not buy." (TM #5) **"**The rationale for an acquisition boiled down to two elements: It would create certain shareholder value because we would be buying under market price, and it offered option value through the opportunity for Nokia to build a new company around the infrastructure business." (Chairman #2; Siilasmaa, 2018: Kindle location 3396)
Next recursive stage				
New emotional reaction		**Positive:** "I felt it personally. […] we got a great deal [from Microsoft] but what motivated me was the belief that people working in Nokia's phone business had a second chance to work with a company that had deeper pockets than we did." (TM #7) "Experts who follow turnarounds said that our accomplishment was brilliant. Earlier, they thought Nokia was dead forever, but we gave it a fresh life in a very powerful way." (TM #2)		**Positive:** "It was genius, and I don't use that word lightly. That we were able to execute both [NSN acquisition and phone business divestment] at the same time, with a very clear view on the strategy. It's sort of the Phoenix from the ashes for Nokia […] it's truly incredible, right?" (TM #7) "Also end up with a stronger Nokia, which again you saw the deal done with Siemens to get the 50% share of NSN which was a master stroke of brilliance. That was beautifully executed with just the right timing." (TM #2)

* Note: "TM" refers to "top manager"

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