Organizing for ambidexterity in the context of SME's

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Award date:
2012

Link to publication
Organizing for ambidexterity in the context of SMEs

Master thesis
TU/e Master Innovation management

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Literature study:
1ML05
Spring semester 2012

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Preface

This report describes the research project dedicated to the concept of organizational ambidexterity in the SME setting I conducted from January until June 2012 as part of my master graduation project of the TU/e Innovation management program. Moreover, this document contains conclusions and recommendations with respect to my analysis of the organization at CM, the firm who willingly facilitated me to conduct research. I would like to dedicate a few words of appreciation to a number of people who contributed and enabled me to get as far as where I’m now.

When I was urged to apply for a thesis mentor at the end of 2010’s fall semester, I asked myself which of the tutors from the past period inspired me most, helping me in valuing those aspects of a mentoring relationship that I believed would be helpful during my graduation project. When Prof. dr. Langerak chose to mentor me, I found myself the supervisor that was highly challenging and as such motivating me to deliver, yet in a pragmatic fashion. I am truly grateful for the challenging and inspiring discussions; I can’t think of a better way to do a master graduation project than how we did. Thank you! I would also like to express my appreciation to my second supervisor, dr. Bob Walrave MSc.

CM’s Jeroen van Glabbeek and Gilbert Gooijers presented their firm as a case for the Design Science Methodology course and eventually invited us over to Breda. That was the start of me being with CM, the firm that not only offered me a good setting to conduct my research, but also a nice and challenging place to work where I gained a lot of experience and had a truly good time. Jeroen and Gilbert, thank you for the opportunity you offered. I also owe you thank you’s to my direct colleague Xander de Jong, Microincasso’s product manager, with whom I was able to participate in the development of Microincasso right from the start. We were great sparring partners, I enjoyed working with you and respect the way you enabled me to learn and contribute in so many ways. Also Gijs, Maikel, Mark, Jeroen, Robbie, Jan, Babs, Lieke, Mark, and the approximately 70 others at CM, thank you for your support and making my stay as pleasant as it has been.

From Eindhoven, I would also like to thank Robert Peels. We met when you started your own company after you mentored a PhD project in Eindhoven. Working with you in Flostock is a pleasure and I’m grateful for the significant work experience I gained, bridging the gap between education and business. Please do find an alternative for the Flostock lunches we organized at the TU/e campus so far.

Rob and Tom, my study mates, what’s there to say? I think we were a fantastic team; when we met each other, Rob during Design science methodology and Tom when participating in the System dynamics assignment, things got on really well. We had a great time together and we delivered. Thanks buddies! Thank you’re also for Jeffery, my fellow student back from my time at the Industrial design department where I received my Bachelor’s degree. I cherish our coffee breaks and a sheer endless list of adventures we found ourselves in. I’ll never forget “LEDje kneep!” I’m glad I got to know you as a friend.

Here’s to Freek, Thijs, Erwin, Daniëlle, Peter, Rik, Niels and Job: although I have never been the one going on into too much detail about what I was doing, your advice and supportive words, but also the fair amount of usual banter meant a lot. Without you, and without the support of my family, I would be nowhere. Thank you.
Table of contents

Abstract .................................................................................................................................................. i
Glossary ................................................................................................................................................ ii
List of Figures ..................................................................................................................................... iii
List of Tables ....................................................................................................................................... iv
1. Introduction ..................................................................................................................................... 1
2. Problem statement .......................................................................................................................... 3
3. Research question .......................................................................................................................... 4
4. Research methodology .................................................................................................................. 5
  4.1. Research design ........................................................................................................................ 5
  4.2. Case description ......................................................................................................................... 6
  4.3. Data collection ............................................................................................................................ 8
  4.4. Data analysis ............................................................................................................................... 10
  4.5. Generalization of research findings ......................................................................................... 11
5. The balance of innovation in an efficiency-oriented SME ............................................................... 12
  5.1. A historical perspective on innovation at CM: products, organization and portfolio balance 12
    5.1.1. Portfolio management ....................................................................................................... 12
    5.1.2. Organizational structure .................................................................................................. 15
  5.2. CM’s current product portfolio ................................................................................................ 17
  5.3. Product diversification: exploring Microincasso ................................................................... 18
  5.4. The quest for organizational ambidexterity: why, when and how much? ............................. 20
  5.5. Conclusion ............................................................................................................................... 21
6. Towards organizational ambidexterity: finding fit and misfit .......................................................... 23
  6.1. Approaches to organizational ambidexterity ........................................................................ 23
    6.1.1. Structural organizational ambidexterity .......................................................................... 24
    6.1.2. Contextual organizational ambidexterity ........................................................................ 25
  6.2. A theoretical framework: organizational ambidexterity in the context of the SME .......... 27
  6.3. An evaluation of CM’s organizational design ......................................................................... 31
    6.3.1. Organization level ............................................................................................................ 31
    6.3.2. Department level ............................................................................................................. 40
    6.3.3. Individual level ............................................................................................................... 44
  6.4. Moderators of the organizational ambidexterity – performance relationship at CM .......... 48
6.4.1. Firm size and resource availability ................................................................. 48
6.4.2. Strategic scope .......................................................................................... 50
6.4.3. Environmental dynamism ......................................................................... 51
6.5. Conclusion .................................................................................................... 51

7. An improved organizational design ............................................................... 53

7.1. A new perspective on CM’s organizational design ........................................ 53
7.2. Redesign’s implications for organizational aspects ........................................ 56

7.2.1. Design of the marketing function ............................................................ 56
7.2.2. Strategic orientation ................................................................................ 58
7.2.3. Design of the new product development team ........................................ 59
7.2.4. Product and project management ............................................................ 61

7.3. Change management practices for implementing the recommendations ....... 63
7.4. Conclusions .................................................................................................. 65

8. Conclusion, discussion and managerial implications ........................................ 67

9. Limitations and future research ..................................................................... 70

Appendix .............................................................................................................. 71

1. Interview protocols ......................................................................................... 72

References ............................................................................................................ 74
Abstract

CM, a Dutch technology SME founded in 2000 and market leader in the national SMS business, faces a need for an ambidextrous organization given a changing competitive environment, forcing the firm to innovate in new product-market combinations while maximally exploiting the current product portfolio in a setting where margins are calculated in cents.

An in-depth analysis of the organization shows that CM’s organizational designed largely meets the prerequisites for facilitating organizational ambidexterity. The ability to be organized ambidextrously will be enhanced by adhering to a number of recommendations presented, including the formalization of the marketing function, an improved and more effective coordination of new product development teams and the careful allocation of management tasks to individual employees. Then, CM can benefit from more accurate market intelligence, helping the firm both in the exploitation of its current product portfolio, as in determining the right product-market combinations to target upon radical innovation efforts. The more effective management of the new product development team increases the efficient use of personnel resources, enlarges the access to knowledge and competences aligned with different requirements throughout the product development cycle, and keeps the team lean and mean and thus effective and flexible.
## Glossary

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
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<tbody>
<tr>
<td><strong>Bulk SMS</strong></td>
<td>text message received by a mobile phone owner, who is not charged for the receipt of the text message</td>
</tr>
<tr>
<td><strong>E-commerce</strong></td>
<td>commercial activities initiated and processed over a computer-based network</td>
</tr>
<tr>
<td><strong>Fuzzy-front-end</strong></td>
<td>idea generation and concept development phases of the new product development cycle, associated with high levels of uncertainty and risk about the outcome of the new product development endeavor</td>
</tr>
<tr>
<td><strong>M-commerce</strong></td>
<td>commercial activities initiated and processed by means of a smartphone</td>
</tr>
<tr>
<td><strong>Merchant (Microincasso)</strong></td>
<td>customer of CM in the business-to-business setting</td>
</tr>
<tr>
<td><strong>Microincasso</strong></td>
<td>mobile payment solution offered by CM, distinctive in that it does not charge a user via his or her telephone bill, but directly from his or her bank account</td>
</tr>
<tr>
<td><strong>Mobile payment</strong></td>
<td>payment initiated on a mobile device, e.g. cell phone, smart phone or tablet</td>
</tr>
<tr>
<td><strong>Organizational ambidexterity</strong></td>
<td>organizational form in which explorative and exploitative activities are performed in parallel within an organization</td>
</tr>
<tr>
<td><strong>Premium SMS</strong></td>
<td>text message received by a mobile phone owner, who is charged for the receipt of the text message</td>
</tr>
<tr>
<td><strong>Punctuated equilibrium</strong></td>
<td>organizational form in which explorative and exploitative activities occur sequentially and not in parallel</td>
</tr>
<tr>
<td><strong>SME</strong></td>
<td>Small- and Medium-sized Enterprises; firms with a yearly turnover of € 50 million or a balance sheet value of € 43 million at maximum, and a maximum employee base of 249 (European Commission, 2003)</td>
</tr>
<tr>
<td><strong>User (Microincasso)</strong></td>
<td>individual with a need to pay for which Microincasso is an available payment solution</td>
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</table>
List of Figures

Figure 1. Illustration of the different elements covered by the research question.......................... 4
Figure 2. Types of case study designs............................................................................................... 6
Figure 3. Two levels for making inferences....................................................................................... 11
Figure 4. Product launch timeline of CM and yearly financial and employee base indicators......... 13
Figure 5. CM's product portfolio classified in terms of the underlying growth strategy................. 14
Figure 6. Financial-juridical structure of CM in 2007................................................................. 15
Figure 7. Financial-juridical structure of CM in 2012................................................................. 16
Figure 8. Organizational chart of the CM organization in 2012.................................................... 16
Figure 9. CM's current product portfolio and related area of application per product.................... 17
Figure 10. User evaluation criteria of mobile payment solutions.................................................. 18
Figure 11. Elements of the Microincasso service........................................................................... 18
Figure 12. Attributes that shape the organizational context......................................................... 27
Figure 13. An organization's context in terms of performance management and social support.... 27
Figure 14. Pathways for housing innovations in terms of the strategic importance and operational leverage................................................................................................................... 32
Figure 15. The success syndrome in which growing and aging firms experience structural and cultural inertia ........................................................................................................................................ 36
Figure 16. Project assignment preference overview for CM's development team............................ 46
Figure 17. Need for organizational ambidexterity over time for a growing firm with a cyclic new product development approach .......................................................................................................................... 49
Figure 18. Proposed organizational structure for CM...................................................................... 54
Figure 19. Heavy-weight team structure, where the project manager directly reports to the higher management level and team members are assigned from within functional groups to the project........................................................................................................................ 61
List of Tables

Table 1. Yearly financial and employee base indicators of CM................................................................. 8
Table 2. List of interviewees.................................................................................................................... 10
Table 3. Different requirements for successfully engaging in explorative and exploitative activities posed on organizations.................................................................................................................. 19
Table 4. Antecedents of organizational ambidexterity.............................................................................. 29
Table 5. Differences between SMEs and larger organizations................................................................. 30
Table 6. CM’s performance on organizational-level antecedents of organizational ambidexterity........ 39
Table 7. CM’s performance on department-level antecedents of organizational ambidexterity.......... 43
Table 8. CM’s performance on individual-level antecedents of organizational ambidexterity.......... 47
Table 9. Market-side characteristics of different sales-marketing interfaces........................................... 57
Table 10. Project structures with different locus of authority................................................................. 60
1. Introduction

Firms engaging in innovation activities can aim either for incremental innovation or for its radical (or discontinuous) counterpart. There is a vast amount of literature covering the benefits that arise from proper portfolio management in terms of innovative stance of the product offering. It is generally accepted that a too narrow focus on incremental innovations poses the risk of missing the boat when discontinuous change, e.g. in terms of technology, is initiated by competitors or by market demand. Conversely, a focus limited to radically new developments is costly in terms of financial investments and returns and - with respect to the uncertain nature of and risks associated with radical innovations - no less a guarantee of maintaining a competitive advantage (e.g. Benner & Tushman, 2003; Chao & Kavadias, 2008; Tushman & O’Reilly, 1996).

With respect to their innovative extent, firms’ new product development activities can be classified in terms of their degree of exploration and exploitation. Whereas the former reflects the learning activities and innovation, exploitation is connected to the use of past knowledge and, depending on the researcher’s viewpoint, learning but with a different scope (e.g. Benner & Tushman, 2002; Gupta, Smith & Shalley, 2006; He & Wong, 2004; March, 1991). Then, explorative activities aim at innovations of the radical type, whereas exploitative activities are likely to lead to incremental innovations. However, maintaining a balance between exploration and exploitation poses challenges to an organization given the different prerequisite of the activity types. Whereas exploration connects with risk-taking, a long-term perspective and project management, and is characterized by high degrees of uncertainty, low speed of learning and open cultures, exploitative activities are generally classified as risk-averse, having a short-term focus and relate to process management, while being characterized by variance reduction, a higher learning speed and a narrow scope (e.g. March, 1996). Given a finite set of resources and conflicting mind-sets that reflect the characteristics of explorative and exploitative activities, the different nature of both poses challenges for combining exploration and exploitation within an organization. One approach to do so is organizational ambidexterity. Tushman and O’Reilly defined this as the “ability to simultaneously pursue both incremental and discontinuous innovation and change” (1996: 24). Atuahena-Gima (2005) takes this definition further by requiring high levels of excellence with respect to explorative and exploitative activities. Adhering to this viewpoint because it explicitly addresses the necessity of developing competences in doing both, the concept of organizational ambidexterity does not advocate a mere split of attention over the two activities, but aims at reconciliation of both. That co-existence of exploration and exploitation can be achieved by a structural approach to organizational ambidexterity, i.e. by creating dual structures for exploration and exploitation respectively, and by a contextual approach, which depends on behavioral and social means to integrate exploration and exploitation: “[c]ontextual ambidexterity is the behavioral capacity to simultaneously demonstrate alignment and adaptability across an entire business unit” (Gibson & Birkinshaw, 2004: 209).

Whereas much research on the concept of organizational ambidexterity exists, it is only rarely applied to the setting of small to medium enterprises (SMEs). Besides firm size also other characteristics separate SMEs from their larger counterparts. Examples of such differentiators are the absence of structural and cultural inertia, available management skills and the degree of institutionalization. These and other factors might not only influence the relationship between organizational
ambidexterity and innovative performance, but also between the success factors of organizational ambidexterity and the concept itself. Hence, it requires little imagination that not all determinants of successful organizational ambidexterity are as relevant and feasible for SMEs as for large organizations. The lack of research on the concept of organizational ambidexterity within the setting of an SME is remarkable, as such firms are often characterized as the driving force behind innovation, when they get ahead of established companies suffering from inertia upon discontinuities in technological trajectories (McNamara & Baden-Fuller, 1999; Rosenbusch, Brinckmann & Bausch, 2009; Salavou & Avlonitis, 2008; Tushman & O’Reilly, 1996). At the same time, such firms are regularly found to get trapped after a product ‘hit’ as the organization is oriented towards maximum exploitation of the market success (Levinthal & March, 1993). The inability to develop a balance between explorative and exploitative activities can be identified as a source for the failure to transform from initial to sustainable innovative successes, for example when technological discontinuities occur and an organization does not yet have an answer to changes in the competitive environment (Benner & Tushman, 2003; Chao & Kavadias, 2008; Tushman & O’Reilly, 1996). In order to stay ahead of or at least keep up with competition, firms ideally maintain a pipeline of new product concepts (Chao & Kavadias, 2008). Given the importance of such balance in the firm’s product portfolio, and hence the ability to behave in an ambidextrous fashion, for SMEs, this research project will focus on the facilitation of organizational ambidexterity within an SME firm. As such, it adds to the existing, but limited knowledge base concerning the practical relevance and limitations of the organizational ambidexterity concept in a specific and focused setting.

For this study, the innovation processes and organizational design of CM, a Dutch SME and national market leader in the SMS industry, will be analyzed. CM, as will be discussed in later parts of this thesis, started in 2000 as a SMS marketing provider, expanding its offering to a wide spectrum of SMS services in subsequent years. To date, CM supplies high volume Premium SMS traffic and international bulk traffic in about 180 countries worldwide and offers Mobile Content Billing solutions in the business-to-business setting. From the mid of 2011, concept development of a new m-commerce payment service started, with the launch of Microincasso celebrated on December 6th. The product draws from existing knowledge in the area of SMS operation, but also involves building competences new to the firm. Directly involving consumer users besides business customers, and developing utilities for payment servicing, CM entered new markets with a product which consisted of a significant amount of technology new to the firm. The incorporation of the Microincasso project within the CM organization as such acts as a case study to investigate the organization’s quest for ambidexterity.
2. Problem statement

SMEs like CM face other challenges than large organizations when it comes to facilitating organizational ambidexterity. Whereas large organizations generally have more slack resources, for example for building separate structures for departments that engage in exploration or exploitation, SMEs often have less abundant resources and have to resort to other options for maintaining a balance between exploration and exploitation. Insufficient financial resources are directly affecting a firm’s ability to be organized ambidextrously, because a lack of financial capital disables management to explore new opportunities, while exploitation is key to short-term survival (Wiklund & Shepherd, 2003). This suggests that smaller firms are inclined to focus more on short-term survival, whereas larger organizations, due to their likely higher capital availability, can invest more easily for future sustainability. As a result, also SMEs should be highly aware of the competence trap because leveraging current capabilities by a focus on exploitative activities might bring short-term profits at the expense of developing new knowledge and competencies to remain competitive. Furthermore, the financial buffer to overcome periods with marginal returns on exploitation is often small or non-existent. Hence, the firm becomes vulnerable to market changes and discontinuous technological trajectories when too narrowly focusing on exploitation (Atuahena-Gima, 2005; Levinthal & March, 1993). The SME setting thus provides two challenges with respect to balancing exploration and exploitation: first, smaller firms are inclined to opt for exploitation at the expense of exploration, and second, resources for investments in developing organizational ambidexterity might be limited. Oppositely, SMEs are characterized as innovative as a result of the lack of cultural and structural inertia, which provides them an advantage over older and larger organizations (Hannan & Freeman, 1984; Tushman & O’Reilly, 1996). These observations suggest that while some descriptors of an SME or beneficial with respect to the positively to reconcile exploration and exploitation efforts, e.g. the lack of institutionalization, other elements, such as the limited resource base, are detrimental.

With respect to the current operations of CM, the balance between exploration and exploitation has been heavily leaning towards exploitation as commonly observed within SMEs (Levinthal & March, 1993), although exploration projects have been housed with greater success in recent years. For one, because the market in which CM operates poses challenges with respect to future sustainability, as other technologies, especially internet-based, now slowly start to diffuse over part of the current product-markets served by CM. Other spotted opportunities stem from the needs and wants of CM’s customer base. One of such opportunities targets the market for micro-payments, where high transaction costs, increasingly strict regulations and a lack of alternatives to the current operator-based, user-friendly products led to the introduction of CM’s Microincasso. Although earlier innovation projects diverging significantly from the organization’s core competences failed - and CM as such has not been overly successful when it comes to developing radical innovations alongside their efficiency-based operations – the firm recently started reshaping its organizational structure to better facilitate its exploration projects. Succeeding in doing so might be of eminent importance for CM’s future viability, not in the last place to not miss the market opportunity at hand for the firm’s new products. Without this ability to be organized ambidextrously, CM can face a hard time when it has to develop new product concepts to ensure the firm’s future health, given the changes in the competitive environment that are foreseen. It cannot yet do without the financial back-up of its core SMS products, effectively forcing to invest in new product concept while maximally exploiting the existing.
3. Research question

The aim of this research project is to investigate CM’s current organizational design and to evaluate it along characteristics of an ambidextrous organization. Based on information about the implementation of historical innovation projects and the current organizational design at CM, an improved organizational design to facilitate the simultaneous engagement in explorative and exploitative activities will be proposed. It will be investigated how the organizational design changed over time and how this contributed to the emergence of organizational ambidexterity at CM, as will be done for the current developments within the organization. This research then will contribute with insights in how SME organizations can become ambidextrous with respect to their way of organizing for innovation will be derived.

The overall research question is formulated as follows:

*How can an SME like CM transform its organization from one in which exploration and exploitation do not effectively co-exist in parallel, into an organization that is ambidextrous with respect to its competences to engage in both exploration and exploitation simultaneously?*

A number of subquestions are defined, covering the current *ist* and desired *soll* situation at CM and shedding light on the course of actions that increases the firm’s degree of organizational ambidexterity. Furthermore, they allow an assessment of the firm’s current organizational design against recommendations found in literature.

i. What balance between explorative and exploitative activities is currently achieved by CM?
ii. What balance of exploration and exploitation should CM strive for given the internal and external environment in which the organization operates?
iii. How did CM integrate past innovation projects in their organization?
iv. What organizational design would be most effective and feasible for CM to facilitate the emergence of organizational ambidexterity?
v. How can CM proceed in facilitating the emergence of organizational ambidexterity given their current organizational design?

Figure 1 graphically depicts the different elements covered by the research question.

Multiple innovation projects were conducted during CM’s life time, including Microincasso since mid-2011. Because of company expansion, a growing product portfolio and market dynamics, but also in an attempt to house radically innovative innovation projects, the organization changed continuously, and still does.
4. Research methodology

Subsequent to the discussion outlining the problem statement and research question, this chapter describes the methodology applied to answer the research question. Outlining the approach underlying this research project, it is explained how research qualifications as rigor, systematic, valid, verifiable, empirical and critical are met. The first paragraph of this chapter describes the chosen research design – a case study approach – followed by the case description in the second paragraph. The third and fourth paragraphs cover the process underlying the data gathering and data analysis phase of this project. The research prerequisites of construct validity, internal validity, external validity and reliability are addressed where applicable.

4.1. Research design

This master thesis project consists of two distinct, yet related research phases. The first phase, from September 2011 until February 2012, has been devoted to an analysis of the scientific literature about both the topic of organizational ambidexterity and the context of small to medium enterprises. Scientific databases were used to identify related research papers. Furthermore, key authors on the field of organizational ambidexterity were queried for recent additions to the theoretical knowledge base. The resulting set of papers, including meta-analytical research and case studies, has been used to derive a conceptual framework of antecedents of organizational ambidexterity and their relevance to the SME setting.

The second phase, of which this thesis document reports the findings, started in February 2012 and came to an end in July 2012. During this time span, the focus has been on applied research. As outlined by the research question underlying this thesis project, core elements were understanding the phenomenon of organizational ambidexterity within the SME setting in practice and how organizational ambidexterity can be reached in such context. The objectives of this research thus are both descriptive – analyzing the historical and current situation of the case at hand, and explanatory – deducting how an SME organization succeeded or failed to become ambidextrous with respect to their organizational design. It also includes a prescriptive element in that the findings from practice are used to formulate propositions about the process behind facilitating organizational ambidexterity in the SME setting, which can serve as food for thought for future research projects. A case study approach has been chosen to investigate the quest for and realization of organizational ambidexterity in a Dutch SME that showed both success and failure with respect to their radical innovations. A case study approach is deemed appropriate given the aim of the research, answering how firms with specific characteristics can be organized in an ambidextrous fashion, because the contextual characteristics are highly relevant to the problem statement and research question, and because knowledge about the mutual effects of the organizational ambidexterity concept and the SME context is limited to date (Yin, 2003; Baxter & Jack, 2008). Although research time and capacity are constrained for master thesis graduation projects, the opportunity arose to observe organizational change during the most critical period, which also suggest for a single-case study approach.
The literature study conducted prior to this field study on organizational ambidexterity in the context of SMEs resulted in a set of antecedents to the ambidexterity concept. These antecedents have been identified at different levels: the organization level, the department or unit level and the level of the individual, all contributing to the emergence of organizational ambidexterity within the organization. Therefore, the unit of analysis ranges from the firm or organization as a whole, via firm departments, to individual employees. The research approach therefore can be classified as an embedded single-case study (Yin, 2003).

The case at hand is described in the next paragraph.

4.2. Case description

For the field study to organizational ambidexterity in the context of an SME the Dutch technology firm CM, former Clubmessage, was selected. This paragraph describes the firm’s background and discusses its current business with respect to innovation.

Struck by the low effectiveness of radio commercials in the late nineties, Clubmessage’s founding team Jeroen van Glabbeek and Gilbert Gooijers envisioned the use of SMS as a new advertisement medium for entertainment clubs. The cell phone started to diffuse among consumers, as it did among the visitors of some popular clubs. Manually texting the agenda or line-up of a number of clubs, Van Glabbeek and Gooijers were able to provide evidence of the success of SMS as a direct marketing medium when visitor counts to the participating clubs rose significantly. Starting Clubmessage at January 14, 2000, within a year its customer base increased to about 500 clubs in the Netherlands and Belgium. Convinced by the opportunities SMS had for marketing purposes, the next two years were devoted to building market share in the area of bulk SMS: selling bundles of messages to the business setting, enabling firms to reach their respective customer base by SMS, and offering a SMS Gateway for direct access to all Dutch mobile phone operators. To facilitate the rising volumes, Mail SMS was introduced among other technological developments mid-2002 to initiate the text process by sending the message’s input by mail instead of by phone, for which Clubmessage was awarded with a patent. By then, clubs were already only one of the product-markets served by Clubmessage, as firms in a wide range of markets used the SMS services provided by CM to communicate with employees and customers.

By 2002, it became clear that Clubmessage missed a market opportunity when Premium SMS rapidly gained popularity in the Netherlands as a way to incur payments from individual consumers. Opposed to bulk SMS, where only the sender pays a fee and receiving the message is free of costs, Premium SMS does charge a fee to the receiver. Clubmessage, facing rapid growth of its major competitor Golden Bytes during the Big Brother TV hit series, had to build the technology for Premium SMS from scratch, but managed to become the Dutch largest provider of Premium SMS in the past years by offering superior performance and service. The product is nowadays frequently used in voting shows,
where an individual can vote for his or her favorite candidate and receives an acknowledgement by Premium SMS, but also for content delivery such as ring tones. The associated costs for receiving the Premium SMS can be as high as six Euros per message received. With Premium SMS, CM entered the market for micro payments, which was to become one of the firm’s core product groups.

From 2003 and onwards, an internationalization strategy led to Clubmessage’s entrance in the German, UK, Spanish and Polish market, with a local office founded in the latter country. Although operation in foreign countries generally was successful, the Polish office appeared difficult to manage from the Netherlands and Clubmessage did not succeed in building a significant market share within three years, leading to the closure of the international office. Servicing other than the Dutch and Belgium markets continued from Breda and started to grow from 2007 and onwards, with the organization now being active in fourteen countries in Europe and South-America.

Still privately funded, Clubmessage was able to take over SMS departments of competing firms for which the SMS market did not link with one’s product strategy. The ever-increasing SMS volumes Clubmessage handled however led to performance and reliability issues, forcing the firm to develop an own server park early in 2008. From then on, Clubmessage positioned itself as a reliable business-to-business service provider. A 24/7 network operations centre was developed to the level of a unique selling point. The high levels of performance and service that CM could provide were awarded with major contracts of the Dutch public TV channel authority NPO, SBS broadcasting and the national government. Given the different markets targeted by Clubmessage, a name change to CM was in order in 2008.

In 2011, the organization reached out to new markets by launching CM Direct, offering easy access to its SMS gateway system based on a try-before-you-buy subscription service over the internet. Gooijers, responsible for the firm’s innovation strategy, also spotted opportunities in the field of m-commerce, where Dutch initiatives for a simple mobile payment product stalled. Based on Premium SMS payment methods, Mobile Content Billing products were offered from 2010 and onwards, effectively strengthening the position of mobile payments as a major product category within CM. A year later concept development of Microincasso started, using SMS as a communication medium instead of a PC or a smart phone app in combination with a Random Reader or alike, and offering higher pay-outs to its customers due to the shorter value chain as CM houses the payment service itself. It is becoming the most distinct product in CM’s portfolio given its target market and non-CM identity (Gooijers, 2012). Besides the SMS and micro payment business, a third product category was formed in 2011, when all of CM’s voice-over-phone services were grouped and redesigned into one major voice product proposition.

In just over ten years, CM’s journey showed great volatility. The firm continuously expanded its product offering close to its core competences, now and then also probing new venues. CM internationalized and now services over ten countries. For years in a row, turnover values doubled each year. Table 1 shows an overview of the major, yearly financial and employee base indicators of the firm.
Concerning levels of organizational ambidexterity, the knowledge base to date shows a limited set of rather arbitrarily defined measures. Output indicators are mainly built using sales volume (Venkatraman et al., 2007) or number of patents filed (Atuahena-Gima, 2005), depending on the

<table>
<thead>
<tr>
<th>Turnover (x € 1.000)</th>
<th>2000</th>
<th>2001</th>
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<th>2005</th>
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<tr>
<td>-</td>
<td>-</td>
<td>157,00</td>
<td>359,00</td>
<td>690,00</td>
<td>880,00</td>
<td>1,061,00</td>
</tr>
<tr>
<td>Gross turnover (x € 1.000)</td>
<td>-</td>
<td>63,00</td>
<td>171,00</td>
<td>345,00</td>
<td>408,00</td>
<td>485,00</td>
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<tr>
<th>Employee base (FTE)</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
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<tr>
<td>2.60</td>
<td>4.80</td>
<td>7.90</td>
<td>8.40</td>
<td>8.50</td>
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<table>
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<tr>
<th>Turnover (x € 1.000)</th>
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<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.986,00</td>
<td>4.593,00</td>
<td>8.849,00</td>
<td>26.000,00</td>
<td>43.000,00</td>
<td>40.527,00</td>
<td></td>
</tr>
<tr>
<td>Gross turnover (x € 1.000)</td>
<td>717,00</td>
<td>1.041,00</td>
<td>1.635,00</td>
<td>3.400,00</td>
<td>4.100,00</td>
<td>4.839,00</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Employee base (FTE)</th>
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<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
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<tbody>
<tr>
<td>15,00</td>
<td>20,00</td>
<td>19,00</td>
<td>25,00</td>
<td>44,00</td>
<td>65,00</td>
<td></td>
</tr>
</tbody>
</table>

Table 1. Yearly financial and employee base indicators of CM.

CM was furthermore awarded with Deloitte’s qualification of one of the Best Managed Companies in the Netherlands, was ranked in Deloitte’s Dutch Fast50 five times, received fd’s Gazellen award in 2011, indicating its growth and financial health. Although the firm’s major products in bulk and Premium SMS are still highly profitable, more strict regulations and the rise of internet-based alternatives to SMS can eventually influence the firm’s revenues. In the first half of 2011 the amount of SMS messages sent out in CM’s main market, the Netherlands, declined for the first time, with about 145 million to 5.737 million text messages over a six-month period. Yet growth in the business setting and in other, international SMS markets results in a continuous increase of CM’s turnover, which does not put the company at immediate risk of technological discontinuities. The market development strategy chosen with the introduction of CM Direct and the diversification pathway opted for with the voice and micro payment product categories however illustrates that CM is not oblivious to the dynamics of the competitive environment: business is going well, but dark clouds are building in the distance. The changing competitive environment forces CM to not only be successful in exploiting its current product base, but also in a simultaneous development of radically new products. The challenge for CM thus is to improve its competence in performing both explorative and exploitative tasks within the organization. Without this competence, the firm might not be able to respond to technological discontinuities, which eventually effects to overall profitability of the firm.

4.3. Data collection

To answer the research question underlying this master thesis project, data from practice is needed with respect to a number of topics. Input is required to determine the actual and the requested future balance between the contribution of explorative and exploitative innovation projects at CM. Furthermore, information about the way in which CM integrated past innovation projects in its organization has to be gathered to assess the firm’s barriers to and successes in facilitating the emergence of organizational ambidexterity. The last phase considers change management and requires input about the way in which organizational change is, and is to be achieved at CM.
nature of the product-market combination. Such indicators provide quantitative figures that, combined with the qualitative data from employee interviews from all levels of the firm, indicate how successful an organization is with respect to being ambidextrous. Both output indicators prove to be of limited help in the CM case. A patent was only filed for its MailSMS technology in the early 2000’s, and whereas CM’s profit and loss statements are insufficiently detailed to link revenues to specific products, rough estimates of the firm’s account managers provide an indication about the contribution to the firm’s profit of separate products. An analysis of the firm’s product portfolio over time using archival records and documentation, plus knowledge developed using interviews are therefore key to generating insights with respect to the achieved balance between exploration and exploitation. Simultaneously, management perceptions about trends in CM’s product markets, supported by actual market figures, provide information about the desired future balance. Insights in the achieved level of organizational ambidexterity by means of process measurements, shedding light on individual mechanisms at the basis of the concept, are rare, with Birkinshaw’s and Gibson’s (2004) take on the role of the combination of performance management and social support being a lonely exception. As this performance management construct is deemed an antecedent of organizational ambidexterity (Birkinshaw & Gibson, 2004), it is covered in the analysis of the firm’s barriers and successes in facilitating the emergence of organizational ambidexterity. Based on the set of antecedents of organizational ambidexterity based on literature research, included in paragraph 6.2 of this document, CM’s performance with respect to the individual antecedents describing an organization’s design is assessed using management and lower-level employee perceptions. Because of the wide range of topics covered by these antecedents, interviews are chosen as the data collection method over inquiries. Archival records and documentation about the organizational design at CM are limitedly available. Participant observations however can be used to collect data, as a lot of the firm’s key persons nowadays have been working at CM for a majority of the firm’s existence. The same line of reasoning is applied for data collection on the subject of organizational change, in which key persons at CM are asked about their perceptions of ongoing change. While direct observations enrich the understanding of these ongoing changes, participant observations are used for organizational developments in the past.

Data collection calls for a number of requirements to be met in order to facilitate sound academic research. Construct validity refers to the correct establishment of operational measures for the concepts under study (Yin, 2003). The antecedents of organizational ambidexterity, which are of key interest to this research project, are derived from a large pool of academic knowledge in the literature study preceding this field study, and were included only when appropriate consensus among researchers was reached. Triangulation tactics, using multiple sources of evidence, were applied using literature knowledge, documents and archival records, own and participant observations and interviews. For similar cross-validation purposes, interviews were held with a number of persons throughout the CM organization, including the firm’s CEO and its managing director, the software development manager, the IT infrastructure specialist, one account manager and two project managers according to Table 2. Interpretation of documents and archival publications were validated with knowledgeable people in the organization.

A second concern with respect to data collection is reliability, or the reproducibility of research outcomes. Interviews were designed in a semi-structured fashion to offer enough room for in-depth exploration. A set of questions related to the different topics covered in the interviews throughout, i.e. the balance of exploration and exploitation at CM over time, barriers and success factors to
organizational ambidexterity experienced and observed, and organizational change at CM was prepared a priori and can be found in Appendix 1. Transcripts of all interviews are available with the author of this document to ensure reproducibility. It should be noted that the open and non-hierarchical culture at CM resulted in significant amounts of personal communication. Interviews were therefore adapted per interviewee with respect to the number and order of questions used, depending on the shared understanding on concepts developed beforehand.

Using participant observations to afterwards understand phenomena poses the risk of retrospective bias. Golden (1992) empirically shows the significance of the retrospective bias effect in accounts of past strategy and refers to two causes found in literature, being salience of the phenomenon and management of impressions. The open culture at CM, in which making errors or wrong decisions is explicitly address as part of the learning curve, reduces the emergence of impression management. Simultaneously, this research project gained support throughout all levels of the organization. Employees were intrinsically motivated to discuss and learn about organizational processes with respect to the management of new product development. To further reduce the likelihood of retrospective bias, interview questions were designed to provide knowledge of past facts and behaviors, rather than about more subjective topics like personal beliefs. Cross-validation using multiple interviews also aided in filtering out an individual’s bias.

<table>
<thead>
<tr>
<th>Employee</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glabbeek, Jeroen van</td>
<td>CEO</td>
</tr>
<tr>
<td>Gooijers, Gilbert</td>
<td>Managing director</td>
</tr>
<tr>
<td>Hoof, Robbie van</td>
<td>Software development manager</td>
</tr>
<tr>
<td>Kajijim, René</td>
<td>Account manager</td>
</tr>
<tr>
<td>Saan, Jan</td>
<td>IT infrastructure specialist</td>
</tr>
<tr>
<td>Schraven, Rob</td>
<td>Project manager</td>
</tr>
<tr>
<td>Schroot, Marco</td>
<td>Project manager</td>
</tr>
</tbody>
</table>

Table 2. List of interviewees.

4.4. Data analysis

The qualitative data gathered using direct and participant observations, gathered using documents or archival records and obtained from interviews as described in the previous chaptered is to be analyzed and interpreted in order to contribute to answering the research question underlying this master thesis project. Upon choosing a method of analysis, attention is paid to the concept of internal validity, i.e. the validity of causal inferences. The threat of invalid causal inferences is especially of great concern for this research, as the interviews aim at discovering barriers and success factors in CM’s organization to be ambidextrous. To reduce the chance of invalid causal inferences, interviewees were confronted with rival explanations for observations or experiences after bringing forward their viewpoint. Furthermore, when elements contributing to or hampering the emergence of organizational ambidexterity were identified, attention was shifted to the ‘why’ and ‘how’ to uncover the reasons behind the observed or perceived phenomenon.

The interview structure as discussed in the previous paragraph, and included in Appendix 1, is designed such that its setup closely resembles the different topics in the interview. Therefore,
outcomes to the questions can be accurately linked to the elements from theory under study, or other observations made or knowledge developed. Thematic analysis of the interview results using a content coding approach, in which individual responses are dismantled into chunks of information covering a specific theme or topic, is preferred over interpretative phenomenological analysis, which takes on an idiographic or sense-making perspective, while the research’s focus is to explain objective phenomena (Smith & Osborn, 2003). As the knowledge gathering is mainly descriptive in nature, a grounded theory approach to build a theory rather than to reflect practice to theory is also disregarded.

4.5. Generalization of research findings

Attention is specifically paid to the generalizability of this research’s findings. Yin (2003) distinguishes two levels of generalization, being statistical or level one generalization and analytical or level two generalization as depicted in Figure 3.

Case studies are only limitedly suitable for statistical inference, where inference about a population is made based on empirical data, because one or a small number of cases are unlikely to be representative for a population (Yin, 2003). Case studies are, as also argued in paragraph 4.1. about the research design chosen for this master thesis project, useful when investigation a phenomenon or concept within a specific, well-outlined context. At the other hand, the case for this research includes a successful technology SME striving for organizational ambidexterity which is not uncommon in the modern business environment. Therefore, analytical generalization, which uses existing theory to compare results from practice, is fruitful in that it enables for replicability of theoretical findings. As such, the outcomes of this master thesis project can aid in building understanding about the applicability of the context of organizational ambidexterity to the context of an SME.

Figure 3. Two levels for making inferences. Adapted from Yin (2003).
5. The balance of innovation in an efficiency-oriented SME

This chapter presents and discusses the developments of CM during its start early in 2000 from both an innovation and an organizational viewpoint. The first paragraph includes an overview of the past innovation projects and resulting products, and describes how they have been housed by CM. Next, a discussion of the current product portfolio in general and the Microincasso product in particular can be found in the second and third paragraph. The fourth paragraph describes the desired balance between the core product offering and the radical innovation projects, influenced by technological and market developments and formulated by CM’s management team.

Intermediate conclusions will be drawn with respect to CM’s past and current balance between explorative and exploitative activities, and the desired future levels of both to maintain the competitive position the organization gained over time. These serve as a starting point for the organization redesign task, which will be further set up using an in-depth analysis of CM’s performance with respect to becoming ambidextrous. This analysis can be found in chapter 6.

5.1. A historical perspective on innovation at CM: products, organization and portfolio balance

While CM’s SMS business lays at the firm’s foundation, two other product categories emerged in the past decade and are of rising importance for the organization’s future. The emergence of both new product groups stem from a process that facilitated the organization’s growth and professionalization over the past years. The growth followed on the organization’s efforts towards introducing scalability to the product offering, with ongoing and repeated investments in state of the art infrastructure technologies (Saan, 2012). Essentially offering the same set of core product for years, CM set at heavily exploiting its SMS Gateway technology to different types of customers, offering a number of standard products as GroepSMS, MailSMS, and SMS en Win, and facilitating mobile content delivery and voting functionality. Along with introducing scalability to its product portfolio came an increase in CM’s organizational volume. Although CM currently employs over 70 people, the largest share of its personnel base joined the company in the past three years, with the number of employees rising sharply from about 15 early in 2009.

5.1.1. Portfolio management

The focus on infrastructure development and increasing the firm’s market penetration of its core products can be seen in CM’s product time-line depicted in Figure 4. Periods with a different new product development strategy can be clearly identified: product improvements until 2003, infrastructure enhancements for scalability in 2004 and 2005, exploring the business-to-consumer market with FriendFinder and learning video technology with VideoConsult from 2005 to 2007, a new set of products derived from the core product offering in 2007 and 2008 followed by a focus on
scalability and infrastructure enhancement in 2008 and 2009, and finally a focus on exploration projects from 2009 and onwards. As explained by the firm’s CEO Van Glabbeek (2012) and managing direction Gooijers (2012), CM adheres to a product innovation pattern of inventing and thinking out new opportunities, concept development, and exploitation in roughly three subsequent years respectively, with 2011/2012 covering the concept development phase for Microincasso and the firm’s redesigned voice proposition. Besides an explorative and exploitative phase, CM also clearly includes periods where infrastructure development extent the exploitation of its product portfolio, adding a third element to the firm’s set of activities related to product development.

Figure 4. Product launch timeline of CM and yearly financial and employee base indicators.

Although it might be tempting to interpret the periodicity observed in Figure 4 as a punctuated equilibrium approach to exploration and exploitation, where both activity types are separated in time and do not occur in parallel (Burgelman, 2002; Gupta, Smith & Shalley, 2006; Levinthal & March, 1993), the infrastructure investments were especially in place to facilitate continuous growth of CM’s core product offering. Whereas in the early 2000’s the number of SMS messages processed via CM’s
SMS Gateway added up to approximately one million a year, a decade later on average twice as much messages are processed on a daily basis. Early products, like Messaging and the SMS Gateway, were updated continuously, but are still key elements of CM’s product portfolio, indicating that the firm’s core products were incrementally upgraded and exploited in parallel to its radically new innovations as VideoConsult then and Microincasso and the voice product platform nowadays. Roughly ten years after these product introductions, they still make up for the majority of the firm’s revenues. Without the investments in scalability of these products, CM would not be able to invest in radical new product development: profits generated by the core SMS products were sufficient to invest in radical innovations during discrete time periods, but not to the extent that a large enough buffer was available to significantly lower the investments in these products (Van Glabbeek, 2012; Saan, 2012). A punctuated equilibrium approach, in which the exploration activities come along with a reduced focus on exploitation, there was not viable for CM. At the same time, the firm’s resource base was insufficient to maintain a continuous stream of innovation in parallel with its innovations. New product concepts emerged in phases, or pulses, rather than that the organization could maintain and take up on a pipeline of new concepts.

Classifying CM’s products alongside the dimensions of Ansoff’s matrix - product and market newness to the firm – it becomes evident that the majority of CM’s innovations were aimed at product development, followed by market development and market penetration. Diversification strategies, as adhered to with the launch of VideoConsult in 2007 and Microincasso in 2011, were most rare, although unsurprising given the amount of learning generally involved with products including new technologies and targeting new markets. A classification of all of CM’s product introductions and their respective innovative stance at the time of launch can be found in Figure 5, visually showing a healthy balance between different growth strategies without overreliance on a single one.

![Figure 5. CM’s product portfolio classified in terms of the underlying growth strategy.](image)
CM’s overall strategy can be classified as one of operational excellence, focusing on low delivery costs, reliability and efficiency to be achieved by a process-oriented culture in a top-down approach. The firm sets on standardized operations, benefits heavily from scale and learning effects, but is deemed a slow follower (Treacy & Wiersema, 1993).

Referring back to the firm’s product launch time line depicted in Figure 4, the exploration effort in 2006/2007 resulted in VideoConsult, a video conferencing product for the business-to-business setting derived from a tailor-made product concept for one of CM’s customers. Technical difficulties made it fail, where a constraint on the amount of effort devoted to the product hindered resolving these issues (Saan, 2012; Schraven, 2012; Van Hoof, 2012). Its 2010/2011 exploration effort resulted in market development for Mobile Content Billing, an phone billing based mobile payment solution aimed at familiar markets. Furthermore, it featured the launch of a second new payment solution, Microincasso, as a result of a diversification strategy, plus a redesign of all voice-to-phone related offerings into one product proposition. While Mobile Content Billing is taking up mass, all innovations yet have to prove their viability with and contribution to CM.

5.1.2. Organizational structure

Based on the firm’s product selling, wholesale and development activities, CM decided to found separate entities for its activities in 2005 and 2006, leading to an organizational structure in which CM Technology, CM Telecom and CM Benelux resorted under Clubmessage holding. Whereas CM Technology took its responsibility for delivering turn-key applications and services to facilitate both CM’s as external firms’ business in the (mobile) communications industry, CM Telecom and CM Benelux are oriented towards its customers buying SMS products. Historically, CM Telecom is connected with the mobile operators and sells SMS and Premium SMS traffic to CM’s accounts. CM Benelux offers the standard applications such as the SMS Gateway, GroepSMS and MailSMS. The hierarchical structure after the emergence of CM’s sub-entities is depicted in Figure 6.

![Figure 6. Financial-juridical structure of CM in 2007.](image)

In subsequent years, CM expanded its organizational structure to be better aligned with the different product-market-combinations served. CM International was founded at the end of 2009 to offer wholesale Bulk SMS and Premium SMS to countries other than Belgium and the Netherlands, while CM Telecom markets both products in the latter. CM Benelux, then, focuses on the non-wholesale customers of CM’s SMS products. CM Online was founded in 2010 to house the smallest of the
Belgium and Dutch businesses for CM’s SMS products and offers on-line trial and subscription services. The entity also holds Microincasso since the end of 2011, given its partial application in the on-line web shop setting. Last, with the recent acquisition of Brussels-based MobileWeb, the organization now has a separate division for the Belgium market, although integration is in progress. The current organizational structure is visualized in Figure 7.

Figure 7. Financial-juridical structure of CM in 2012.

Indicative for the rationale behind the organizational structure is the separation between entities by product-market combinations. As the products marketed cross the boundaries of the separate CM firms, and while there is no perceived hierarchical structure amongst the subunits, it is safe to say that the structural design has a financial-juridical rather than a strategic background, as acknowledged by CM’s managing director (Gooijers, 2012). Characteristic is the fact that CM only recently started to administer its personnel to the respective subunits.

Illustrative for the practicalities of the company’s actual organizational structure is the corresponding organizational chart in Figure 8, which shows no directly alignment with the financial-juridical hierarchy.

Figure 8. Organizational chart of the CM organization in 2012.
Innovation is considered a separate pillar at CM, parallel to its commercial sales activities and its technical development. Although it is not reflected in the hierarchical structure, awareness about the distinct characteristics of part of the innovation activities, the more explorative ones like Microincasso, assigns those a special position within the organization. Often referred to as creative lab where radically different concepts and products are allowed to mature, this facilitates distinct evaluation criteria to be set for such new product development projects, especially with respect to return on investment terms and allowance to probe different avenues for launch strategies.

5.2. CM’s current product portfolio

The SMS, voice and micro payment product propositions of CM span a wide application range. Figure 9 presents an overview of the application of the major products offered. Clearly, its SMS products lie at the core of all offerings. It is also, unremarkably given CM’s history, the product group with the largest contribution to the firm’s revenue. Micro payment business was launched as a separate pillar a number of years ago and is, according to employee perceptions, now approaching a phase of regular business where performance and reliability criteria are met and focus can shift to growth (Kaijim, 2012). CM’s voice-to-phone activities consist of a set of partly unrelated offering throughout the past years, which currently are redesigned to a coherent proposition and therefore neither contribute heavily to the firm’s revenues at this time (Schraven, 2012; Van Hoof, 2012).

For micro payment purposes, the company has alternatives based on its SMS Gateway product. Microincasso however doesn’t request its merchant to subscribe to this functionality, hence introducing levels of internal competition between its SMS Gateway based micro payment products and those separate from it. Account managers dealing with Microincasso’s potentially rival products however state that internal competition is not perceived. Among the reasons behind this observation are the high fees charged by network operators when using mobile payment solutions other than Microincasso, which CM can eliminate upon switching customers to its newest micro payment product (Gooijers, 2012; Kaijim, 2012), and a lack of product ownership for CM’s Mobile Content Billing proposition. Observations early 2012 showed that product owner roles were only identified for CM’s Content Delivery System and for Microincasso (Van Hoof, 2012), indicating a mismatch between
ownership taken on products versus product groups and with respect to ownership roles remaining unfulfilled for the firm’s Mobile Content Billing and voice proposition.

5.3. Product diversification: exploring Microincasso

CM spotted a market opportunity in its familiar mobile payments environment early in 2011. Increasing legislation issues with Premium SMS and the high margins demanded by the mobile operators for charging customers with a fee were among the reasons of CM’s top management decision to develop Microincasso, a direct debit payment service. Directed at e-commerce and m-commerce, CM targets both the on-line and off-line sales setting and charity fund raising. The payment service is sold in the business-to-business market, where merchants can offer Microincasso as a payment option to its customers, mostly consumers. CM is involved with these end users, thereby returning to the business-to-consumer market by offering direct subscription to Microincasso via its website, by evaluating end users’ payment credibility and by customer care services related to the payment process.

Contrary to most conventional payment methods, Microincasso includes free payment factoring in its standard offer to merchants, thereby transferring the payment risk to CM: when a Microincasso user is trusted, full outpayment to the merchant is guaranteed while Microincasso only then starts the direct debit procedure. Payment cancellations and complaints about the payment process therefore are directly handled by CM. Developing competencies with respect to both credibility analysis and servicing of individual end users in a business-to-consumer market therefore is of eminent importance for the viability of Microincasso, as the costs of lost revenues weight heavily on the small margins generated.

At the Microincasso launch presentation on Mobile Convention Amsterdam on 2011, December 6th, CM CEO Jeroen van Glabbeek outlined the market opportunity for Microincasso by referring to the barriers to growth of m-commerce. The necessity of a credit card or the a priori payment for credit within a payment environment have been identified as hindering the adoption of alternatives (Poustchi, 2003; see Figure 10), while the introduction of a NFC-based solution developed by SixPack, a consortium of three major banks and mobile operators, is repeatedly postponed due to disagreement among the stakeholders.

![Figure 10. User evaluation criteria of mobile payment solutions. Adapted from Poustchi (2003).](image_url)

![Figure 11. Elements of the Microincasso service.](image_url)
To develop Microincasso up to the level of a fully operational payment service, the product team identified a set of six core elements necessary to efficiently exploit the product, illustrated in Figure 11.

Whereas CM can exploit its knowledge of SMS communication for Microincasso, the payment service offered to its merchants includes acquiring skills in other technology fields. Building new services to facilitate the financial transaction process however appeared to be done relatively easily thanks to the in-house development team and the process of functional specification setting done in close cooperation with CM’s managing director and Microincasso’s product owner and sales person. More difficulty appears to be in the communication and service platform towards Microincasso’s end user base on the one and marketing efforts on the other hand. Unfamiliarity with this user base increases uncertainty about diffusion, adoption and revenue approximates. When concept development took off in the third quarter of 2011, merchant-side adoption was expected most in the context of web shops and content advertisement on radio or TV, although it appeared that charity fund raising and non-advertorial offerings were among the first applications of the Microincasso payment service. The uncertainty with respect to the markets to target poses challenges in determining the requirements of Microincasso for specific appliances during its development phase. The firm therefore has to engage in significant amounts of sensing, identifying opportunities and threats with respect to Microincasso’s appliance, and seizing, tuning Microincasso to be used for the opportunities spotted (Bodwell & Chermack, 2010). The characteristics of this probing effort are in conflict with the nature of efficiency-based operations and exploitative activities, e.g. with respect to the aim, the locus of control and the proximity of the target. Drawing upon literature (e.g. Benner & Tushman, 2003; Cheng & Van de Ven, 1996; Gupta et al., 2006; Katila & Ahuja, 2002; March, 1991; March, 1996), Table 3 includes an overview of the differences between explorative and exploitative activities, and the organizational prerequisites that result in tension upon organizing for both activity types.

<table>
<thead>
<tr>
<th>Characteristic</th>
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<th>Exploitative activities</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Value</td>
<td>Organizational prerequisite</td>
</tr>
<tr>
<td>Nature</td>
<td>Uncertain</td>
<td>Risk-taking</td>
</tr>
<tr>
<td>Aim</td>
<td>Variance-enhancing</td>
<td>Distant search</td>
</tr>
<tr>
<td>Time horizon</td>
<td>Long</td>
<td>Long-term focus</td>
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<td>Speed of learning</td>
<td>Low</td>
<td>Experience</td>
</tr>
<tr>
<td>Proximity of the target</td>
<td>Distant</td>
<td>Distant search</td>
</tr>
<tr>
<td>Locus of control</td>
<td>Reduced</td>
<td>Project management</td>
</tr>
<tr>
<td>Scope</td>
<td>Breadth</td>
<td>Narrow</td>
</tr>
<tr>
<td>Culture</td>
<td>Openness</td>
<td>Cohesiveness</td>
</tr>
<tr>
<td>Team</td>
<td>Thoughtfulness</td>
<td>Commitment</td>
</tr>
</tbody>
</table>

Table 3. Different requirements for successfully engaging in explorative and exploitative activities posed on organizations.

Compared to CM’s regular SMS business, developing Microincasso includes significant amounts of risk taking as a result of the uncertainties about the future markets, and differs with respect to the wide scope of options available to build the product, and project management issues with respect to scope and culture at the team level.
5.4. The quest for organizational ambidexterity: why, when and how much?

The previous paragraphs showed that developing and operations of Microincasso pose a number of challenges to CM’s organization, especially because of the unknown product-market combinations targeted with Microincasso and the shifting focus on a specific product-market combination results in high levels of probing in parallel to its efficiency-based operations. Reasons for wanting or needing to bridge this tension are numerous and stem from either market-side or firm-side demands. From a market perspective, customer needs evolve and so does technological knowledge available for use in developing product propositions. Although a discussion on the effects of technological orientation on a firm’s options to explore and exploit is refrained from here and will be part of an analysis of antecedents of organizational ambidexterity in paragraph 6.3.1., research shows that a narrow focus of existing products, knowledge and competences threatens firms to become vulnerable to market changes and discontinuous technological trajectories (Atuahena-Gima, 2005; Levinthal & March, 1993; Walrave, Van Oorschot & Romme, 2011). Although these findings stem from research in the context of multi-national organizations, a similar line of reasoning is likely to hold for SMEs as well, since the limited resource base of such firms both hinders a parallel investment in exploration alongside exploitation and limits the financial buffer to overcome periods where exploitation revenues marginalize. Exploration thus is a prerequisite in remaining competitive and in preventing falling behind with respect to new developments both from a technological and a market perspective. SMEs with a limited resource base might require revenues from its exploitation business to fund these exploration activities, thus aiming at a reconciliation of both.

From an opposite viewpoint, firms might want to organize in an ambidextrous fashion to be able to address new opportunities spotted, even when these opportunities are in areas other than those in which the firm acquired knowledge and competencies in the past. CM, for example, was confronted with opportunities to enter the voice-to-phone market during the first decade of the years 2000, although at that time it had neither experience nor knowledge with respect to the respective technologies (Saan, 2012; Van Hoof, 2012). The market opportunity provided a chance to expand its profitability even when its SMS business remained highly profitable. Ambidextrous organizational forms thus can be a prerequisite of a firm’s diversification growth strategy.

An analysis of CM’s mission, its growth strategies and the competitive environment in which the firm operates reveals that its quest for organizational ambidexterity stems from both market developments and firm-side demands. In the latter case, CM’s belief that a conceptually sound payment solution in the m-commerce setting was lacking, combined with a business model that would pay off, led to a decision to take up concept development of Microincasso in 2011 (Gooijers, 2012; Kajijim, 2012; Slagter, 2012; Van Glabbeek, 2011). In the former case, where market developments partly dictate CM’s product profitability, margins are small and growth slows down or comes to a halt. Contrary to wide-held beliefs that the share of SMS in communication is declining as a result of internet-based alternatives (Onafhankelijke Post en Telecommunicatie Autoriteit, 2011), its usage in the business setting is still increasing (Gooijers, 2012; Van Glabbeek, 2011). Simultaneously, international expansion also pays off for CM (Gooijers, 2012). Nevertheless, CM’s main market for its highly profitable Content Delivery System already reached its peak (Gooijers, 2012), resulting in the creation of a small, multi-disciplinary team in 2008 to keep overhead low and maximize exploitation of its offering (Gooijers,
Company-wide beliefs exist that also for its currently growing SMS businesses growth will slow down or come to a halt in the next decade (Saan, 2012; Van Hoof, 2012). Changes in the market settings are also brought forward by governmental actions, for example for mobile payment solutions and the use of Premium SMS by means of increasingly strict regulations. Country-specific legislation demands a list of requirements to be met before application of Premium SMS as a payment carrier is allowed, stopping its application in the dodgiest of businesses (Kaijim, 2012).

At CM, the consensus seems to be that in the next couple of years, its SMS business will remain highly profitable. Future outlooks however predict that growth will slow down or come to a halt, such that a focus limited to the firm’s current SMS products is deemed inappropriate. At the same time, forecasts for its new-found product category voice and its addition to the mobile payment group, Microincasso, are brighter. The organization’s want to be ambidextrous and to take up on radical innovations therefore seems aligned with a market development-driven need to be ambidextrous: while CM now cannot do without the revenues from its current SMS products, it needs to redefine its product portfolio to ensure a healthy future.

Given CM’s three-yearly cycle of invention, concept development and exploitation of products (Gooijers, 2012; Van Glabbeek, 2012) and the learning required to master the competence of being ambidextrous, the question of when to start building an ambidextrous organization seems to be of less practical relevance. Especially with the firm’s recent growth in terms of resources, both with respect to finance and personnel base, and specific and now continuously paid attention to innovation (see the firm’s organizational chart in Figure 8), an organization that is designed to include exploration and exploitation for the long haul would be most practical. The difficulty lies in assessing the necessary investments in and contribution of explorative activities. Again a combination of both market-driven and firm-driven factors, the top management team needs to evaluate the viability of current businesses, the time needed for concept development and launch of new innovations and the leeway in market entry timing. With two new product propositions at this moment, in voice and Microincasso, and its Mobile Content Billing system as a maturing product, CM seems to set at a sufficient portfolio expansion. Initiating new developments could be aligned with a next three-yearly product cycle, when more market intelligence with respect to developments of the SMS business is achieved and the contribution of voice and Microincasso to the organization’s revenue stream is more certain. Whether this pace will indeed be feasible depends on the accuracy of the market forecasts for CM’s current cash-cowling SMS businesses, such that close observations to developments in this area are advocated.

### 5.5. Conclusion

Based on the outcomes of the analysis of CM’s prior and current product portfolio and organizational design as described in this chapter, conclusions will be drawn with respect to the achieved balance between explorative and exploitative activities undertaken by the organization.

A close inspection of the firm’s product portfolio over time reveals that its set of core products now is to a large extent similar with its offering halfway during the previous decade. CM has set heavily on exploiting its product base by continuous investments in infrastructure renewal, which facilitated the
firm’s growth in terms of SMS messages processed, its customer base and subsequently its personnel base, especially in the sales function. This focus on scalability of its product offering created a significant boost in revenues generated, which enabled CM to invest in innovations which were new to the firm in terms of technology incorporated and markets targeted. Periods with increased levels of attention paid to exploration of new opportunities were observed in 2006/2007 and 2010/2011. During these periods, development of the firm’s existing products continued in terms of incremental updates and renewal of the underlying infrastructure, which is indicative of organizational ambidexterity approaches rather than a punctuated equilibrium, in which exploration and exploitation occur in subsequent phases. The periodicity in the investments in explorative activities is explained by the firm’s three-yearly innovation cycle, which consists of approximately equal periods of invention, concept development and exploitation of its developments. Again, it shows CM’s ability to invest in exploration alongside exploitation, but not to the extent that the organization can maintain a filled pipeline of new product concepts. As a result, CM continues to exploit its existing product, while showing pulsed exploration efforts. The critical mass necessary to facilitate continuous exploration, up to the core level of idea generation and concept development, is reached only recently.

CM’s organizational structure, with sub-businesses founded for a number of different product-market combinations, mainly has a financial-juridical background, while the structure is not imposed onto the day-to-day operations of the firm. The firm’s organizational hierarchy with respect to scope of operations, reflected in the organizational chart in Figure 8, is neither in alignment with this financial-juridical structure. Although innovation is considered an important and distinct activity of CM, there is no formal structure designed to facilitate this.

Except for the firm’s start-up phase, the exploration efforts in 2006/2007 and 2010/2011 were the sole periods in which CM attempted to reconcile exploration with the day-to-day exploitation of its existing product offering. With ongoing incremental innovations and infrastructure investments in place, exploration was superimposed on the company’s activity set. Although CM for more than half of its life time focused on exploitation of its products, development of VideoConsult as exploration project in 2006/2007 consumed a relatively large amount of resources given the small personnel base back then. Since 2010, the balance has shifted significantly, with development of three new products (Mobile Content Billing, CM Direct, Microincasso) and one project (reconciling the firm’s voice technologies into one coherent product proposition) undertaken. For the first time, its quest to become an ambidextrous organization showed results, as both with respect to its radical as to its incremental innovations CM successfully launched or exploited its products.

Key persons at CM foresee a declining growth in the SMS market over time, although consensus exists that growth for the next couple of years is still expected in CM’s business-to-business market and from international operations. By then, the products newly launched should have matured to the extent that the downfall in revenues is balanced. Given the recent expansion of CM in terms of business volume and resources, it is suggested that CM can switch to a mode in which exploration becomes a continuous activity instead of a periodical endeavor.
6. Towards organizational ambidexterity: finding fit and misfit

In the previous chapter the internal development of CM since its start in 1999 has been described and Microincasso has been outlined as most recent and most explorative new product introduction of the firm. This chapter is subsequently devoted to an analysis of the implementation of the Microincasso project within the efficiency-oriented organization.

In order to accurately describe the organization’s design in facilitating the simultaneous existence of explorative and exploitative activities, this chapter starts with a theoretical introduction to the concept of organizational ambidexterity. The first paragraph provides a discussion of the two distinct forms of organizational ambidexterity: the structural and the contextual approach. Subsequently, the second paragraph provides an overview of the merits and drawbacks of both in the context of an SME organization. Next, the third paragraph presents an evaluation of CM’s current organizational design alongside antecedents of organizational ambidexterity found in literature. This evaluation is based upon an analysis of firm documents and archival records, direct and participant observations and interviews held with CM’s CEO and its managing director, the software development manager, the IT infrastructure specialist, one account manager and two project managers, according to the procedure described in paragraph 4.3. The outcomes of this analysis are evaluated against existing beliefs about the sustainability of ambidextrous organizational forms for firms in the SME setting according to the approach described in paragraph 4.4.

Whether and how the ability to facilitate organizational ambidexterity actually leads to an organization being ambidextrous also depends on the relevance and effectiveness of organizational ambidexterity to an organization. The fourth paragraph of this chapter discusses moderators of the organizational ambidexterity – performance relationship to understand how CM’s ability to be organized ambidextrously over time influenced its actual emergence. This chapter ends with intermediate conclusions about how prior innovation projects were integrated in the organization of CM and which barriers to and success factors for the organization to be ambidextrous were encountered.

6.1. Approaches to organizational ambidexterity

Literature reveals two distinct approaches to achieving organizational ambidexterity in practice: a structural or architectural approach (e.g. Tushman & O’Reilly, 1996, Adler, Goldoftas & Levine, 1999; O’Reilly & Tushman, 2004; De Visser, De Weerd-Nederhof, Faems, Song, Van Looy & Visscher, 2009) and a contextual approach (e.g. Gibson & Birkinshaw, 2004; Lubatkin et al., 2006; Carmeli & Halevi, 2004; Jansen, Vera & Crossan, 2009). Whereas the former embraces an either/or perspective of exploration and exploitation between units within the firm, the latter takes on organizational ambidexterity as a truly paradoxical approach as it regards both types of activities present simultaneously within teams or units. As such, the contextual form of organizational ambidexterity does not rely on the creation of dual structures as the complementary approach does.
6.1.1. Structural organizational ambidexterity

Benner and Tushman (2003: 247) describe the structural separation approach to organizational ambidexterity in the following fashion:

“Ambidextrous organization designs are composed of highly differentiated but weakly integrated subunits. While the exploratory units are small and decentralized, with loose cultures and processes, the exploitation units are larger and more centralized, with tight cultures and processes. Exploratory units succeed by experimenting—by frequently creating small wins and losses (Sitkin, 1992). Because process management tends to drive out experimentation, it must be prevented from migrating into exploratory units and processes. In contrast, exploitation units that succeed by reducing variability and maximizing efficiency and control are an ideal location for the tight coordination associated with process management efforts.”

The differences that can emerge as a result of the dual structures rest in the goal, time and interpersonal orientation of individual departments (Golden & Ma, 2003). This definition of organizational ambidexterity as provided by Benner and Tushman (2003) delineates some of the organizational prerequisites for the concept to be applicable, like a low degree of centralization and formalization for the units engaging in explorative activities. Fang, Lee and Schilling (2010) argue that decentralization leads to learning to occur more frequently at the level of the individual department, whereas it also acts as a barrier for the rapid dispersion of norms and procedures from other units. As such, the different mind-sets required for exploration and exploitation (Benner and Tushman, 2003) are better protected from each-other. The same line of reasoning applies to formalization, which refers to the extent to which procedures are written down and departments or individual employees are given freedom to act independently. Brown and Eisenhardt describe this as a “limited structure around responsibilities and priorities with extensive communication and design freedom to create improvisation within current projects” (1997: 1) to the extent that change still can occur, but that chaos is prevented. Adler, Godoflas and Levine (1999) use the terms organic and mechanistic organization structures to identify those with a low degree of centralization and routine formalization versus those with high levels on both aspects. As such, Adler et al. (1999) couple explorative activities to units with an organic form of organization and exploitative activities to those which are led in a mechanist fashion with a focus on process optimization. It is also suggested that separation of units engaging in exploration from the exploitatively-oriented departments leads to higher creativity (Amabile, Conti, Coon, Lazenby and Herron, 1996). Benner and Tushman (2003: 251) propose that under conditions of organizational ambidexterity “increases in process management practices will enhance responsiveness and performance during eras of incremental change but will have no effect on responsiveness or performance during eras of technological ferment.” They reason that ambidextrous organizations uncouple the units that seek for variance reduction from those in which variation is critical, and that process management activities as such do not hamper exploration in the latter group.

The structural approach to organizational ambidexterity is not limited to the creation of different units or departments engaging in either exploration or exploitation. Stemming from a dual structure approach, task partitioning within a single unit is a concept in which part of the employees organizes for explorative activities and part for exploitative (Adler et al., 1999). By means of task partitioning only part of a functional group organizes in a mechanistic fashion to support exploitation, whereas the
other engages in exploration. As such, task partitioning reflects dividing explorative and exploitative activities over a functional unit. Another dual structure concept is temporal separation (Adler et al., 1999). At the unit level focus shifts from exploration to exploitation and forth on a day-to-day basis. Both task partitioning and structural separation show benefits relative to the dual structure approach at the organizational level as they reduce difficulties of integrating the output of the departments engaging in exploration in the exploitative-oriented units. Also, the locus of control to resolve such issues is shifted from top management to the middle management level. Golden and Ma argue that coordination precedes integration, where coordination requires “sufficient, shared knowledge about the firm’s activities and environment” (2003: 485). Information exchange throughout the company thus remains of eminent importance to prevent both the explorative as the exploitative to lead a life of their own.

6.1.2. Contextual organizational ambidexterity

As opposed to structural organizational ambidexterity, its contextual counterpart does not originate from the creation of dual structures within an organization. Rather, it emphasizes behavioral and social means to integrate exploration and exploitation: “[c]ontextual ambidexterity is the behavioural capacity to simultaneously demonstrate alignment and adaptability across an entire business unit” (Gibson & Birkinshaw, 2004: 209). In this approach, individuals in an organization are encouraged to determine themselves how to optimally divide their efforts over the various tasks at hand, of which some relate to exploration and others to exploitation. In contextual organizational ambidextrous forms, each individual in the ambidextrous unit “can deliver value to existing customers in his or her own functional area, but at the same time every individual is on the lookout for changes in the task environment, and acts accordingly” (Gibson & Birkinshaw, 2004: 211).

Because a whole unit is ambidextrous, compared to structural organizational ambidexterity in which organizational ambidexterity is developed at the level of the organization by means of differently oriented units, coordination and integration issues are reduced. As such, the organization’s challenge is not so much to integrate units engaging in exploration and exploitation, but to create and sustain a context in which individual employees can make their own choices for paying attention to the different activities (Birkinshaw & Gibson, 2004).

At the organizational level focus is directed to mechanisms that overcome the tension between exploration and exploitation at the individual rather than at the organizational level. Adler, Goldofitas and Levine (1999) discuss metaroutines for systematizing the creative process and job enrichment schemes to overcome the tension that exists between explorative and exploitative activities. Metaroutines are standardized procedures for problem-solving behavior to improve existing or to create new routines. Job enrichment enables employees to be more innovative and to engage in explorative behavior even when working on routine, or exploitative, tasks (Adler et al., 1999). This can be achieved by means of switching between different roles, such that individual employees work on explorative tasks part of their time while the rest of their time is devoted to exploitative activities, or by partitioning. The latter mechanism results in specialization at the unit level as part of the employees is assigned to exploration-related activities and the other group to the exploitative counterpart. As
such, there are significant similarities with the partitioning concept of the structural organizational ambidextrous approach, albeit not between but within units or departments.

At the individual level other issues emerge. Birkinshaw and Gibson (2004) identified four behavior patterns that characterize an individual being able to participate in contextual ambidextrous organizational forms: taking initiative and being alert to opportunities in and out the scope of the job, being cooperative and seeking opportunities to combine efforts with others, engaging in knowledge brokering, and engaging in multiple tasks with different roles simultaneously. Furthermore, whereas in structural organizational ambidextrous forms employee roles tend to be clearly defined and skills are relatively specific, contextual ambidexterity builds on relatively flexible roles and more general skills of individual employees (Birkinshaw & Gibson, 2004). On a more general level however the authors draw from the definition of organizational context given by Ghoshal and Bartlett (1994: 95) in terms of stretch, discipline, trust and support, the behavior-framing attributes created and reinforced by micro- and macro-level actions of managers. Discipline refers to the context attribute that “induces its members to voluntarily strive for meeting all expectations ... Establishment of clear stands of performance and behavior, a system of open candid and fast-cycle feedback ...” (Ghoshal & Bartlett, 1994: 97). Together with stretch, according to Ghoshal and Bartlett (1994) the attribute that induces individuals to strive for meeting more ambitious objectives, it forms the performance management dimension of an organizational context (Birkinshaw & Gibson, 2004). The second dimension of that context, social support, consists of the trust and support attributes (Birkinshaw & Gibson, 2004; Ghoshal & Bartlett, 1994). Trust is defined as the context’s attribute that “induces its members to rely on the commitments of each other. Fairness and equity in the organization's decision processes, involvement of individuals in decisions and activities affecting them, and staffing of positions with people who possess and are seen to possess the required capabilities contribute to the establishment of trust.” (Ghoshal & Bartlett, 1994: 102). It is complemented by support, which refers to lending assistance and countenance to others, the ability to access resources and freedom of initiative (Ghoshal & Bartlett, 1994). Combined, the attributes builds learning of the organization or department as a collective as depicted in Figure 12. Birkinshaw and Gibson (2004) translate the existence of performance management and social support in two-by-two classification of the organizational context (Figure 13): a high performance context for both high levels of performance management and trust and a low performance context for the opposite. A setting in which high levels of performance management are combined with low levels of social support is characterized as burnout context, whereas low performance management complemented by high levels of social supports is referred to as a country club context (Birkinshaw and Gibson, 2004). In their seminal paper on contextual organizational ambidexterity Birkinshaw and Gibson (2004) propose that the high performance context, where social support is equally important as performance management, best facilitates employees to engage in ambidextrous working modes.
Creating a high performance context therefore is a key aspect for contextual organizational ambidexterity. Upon discussion antecedents of organizational ambidexterity, the relationship with creating such a setting is taken into account.

6.2. **A theoretical framework: antecedents of organizational ambidexterity**

Research on the concept of organizational ambidexterity has flourished in the past decade and resulted in a set of seminal papers. Combined with the findings of recent additions to the knowledge base their conclusions with respect to antecedents of organization ambidexterity are summarized in Table 4, in which also the relatedness of the individual antecedents of the structural and contextual approach to organizational ambidexterity is indicated. These findings partly stem from empirical research in the context of multi-national organizations, although a number of antecedent effects are also observed explicitly in the SME setting. Were applicable, evidence of the moderating effect of
firm size and other differentiators of SMEs and multi-national companies is searched for in literature. For a number of antecedents, especially those at the department and individual level, it is furthermore argued that the overall size of the organization does not affect the effect on organizational ambidexterity as a result of the limited scope of these antecedents.

It can be observed that all antecedents that are associated with structural organizational ambidexterity are also linked to its contextual counterpart, whereas the other way round this is not always the case. Especially antecedents at the department and at the individual level which are associated with contextual forms or organizational ambidexterity do not necessarily relate to the structural approach. Table 4 also includes an assessment of the relevance of the individual antecedents of organizational ambidexterity for firms operating in the SME setting. This assessment is based on a review of the literature base in the field of organization science where it comes down to characteristics of smaller firms versus their larger counterparts.

Referring to March’ (1991) arguments of the competition for scarce resources between explorative and exploitative activities, the limited balance sheet value of SMEs implies that smaller firms have less financial possibilities to invest in processes that combine both exploration and exploitation simultaneously. It is one reason why SMEs are regularly found to fail after an initially successful product launch, because, financial-resource constrained, the organization is oriented towards exploitation of the market success at the cost of exploration for future innovations (Levintal & March, 1993). Insufficient financial resource are directly affecting a firm’s ability to be organized ambidextrously, because a lack of financial capital disables management to explore new opportunities, while exploitation is key to short-term survival (Wiklund & Shepherd, 2003). This suggests that smaller firms are inclined to focus more on short-term survival, where larger organizations, due to their likely higher capital availability, can invest more easily for future sustainability. Indeed, research suggests that venture capitalists funding start-ups try to funnel-out all but the most promising NPD projects given the high levels of risk and uncertainty (Bergemann & Hege, 1998). Financial investments for explorative activities generally put additional weight on the firm’s balance sheet, because they not only have to cover for the research and development investments in exploration, but also have to alleviate these risks of failing and losing the investments (Wiklund & Shepherd, 2005).

Although so far no agreement has been reached about whether small firms are better equipped for exploitation or exploration strategies, a number of factors, like the possibility to achieve economies of scale and scope and management skills, are identified that at least tell something about whether a firm would be able to successfully facilitate either one of the two, but also that being successful in both simultaneously is even harder for SMEs than for large organizations (Chang & Hughes, 2011). Uncovering the most effective and efficient determinants of organizational ambidexterity in the light of the SME setting therefore is of significant practical relevance. For the purpose of clarity, the characteristics and how SMEs and larger organization score on them are summarized in Table 5.

Although organizational ambidexterity, and especially the structural approach, is often said to be infeasible for SMEs (Tushman & O’Reilly, 1996), the prior discussion about SME characteristics appears to not exclude organizational ambidexterity for the smaller companies in business. This observation is in line with recent findings of Chang and Hughes (2011), which advocate the relevance of contextual and leadership-based approaches to achieve organizational ambidexterity in SMEs, but
<table>
<thead>
<tr>
<th>Level</th>
<th>Antecedent</th>
<th>Effect</th>
<th>Structural</th>
<th>Contextual</th>
<th>Large organizations</th>
<th>SME's</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organization</td>
<td>Strategic orientation</td>
<td>Organizational ambidexterity is likely to be found when innovations are of strategic importance to the firm and when operational competences can be leveraged for the innovation.</td>
<td>x</td>
<td>x</td>
<td>**</td>
<td>**</td>
</tr>
<tr>
<td></td>
<td>Technological orientation</td>
<td>Higher levels of technological orientation lead to more exploration at a certain level of exploitation.</td>
<td>x</td>
<td>x</td>
<td>***</td>
<td>**</td>
</tr>
<tr>
<td></td>
<td>Market orientation</td>
<td>Higher levels of market orientation lead to more exploration at a certain level of exploitation.</td>
<td>x</td>
<td>x</td>
<td>***</td>
<td>**</td>
</tr>
<tr>
<td></td>
<td>Background of the founding team</td>
<td>Founding teams consisting of individuals with both common and diverse backgrounds facilitate organizational ambidexterity.</td>
<td>x</td>
<td>x</td>
<td>**</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Leadership style</td>
<td>Transformational leadership styles foster exploration, transactional leadership styles foster exploitation.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Degree of centralization</td>
<td>Higher degree of centralization reduces exploration; lower degree of centralization facilitates exploration.</td>
<td>x</td>
<td>x</td>
<td>***</td>
<td>+</td>
</tr>
<tr>
<td></td>
<td>Degree of formalization</td>
<td>Higher degree of formalization facilitates exploration and limits exploration.</td>
<td></td>
<td></td>
<td>***</td>
<td>**</td>
</tr>
<tr>
<td></td>
<td>Structural and cultural adaptability</td>
<td>Tightening linkages over time and institutionalization of norms and values reduce adaptability and foster exploitation.</td>
<td>x</td>
<td>x</td>
<td>**</td>
<td>***</td>
</tr>
<tr>
<td>Department</td>
<td>Degree of integration</td>
<td>Tight integration of departments with different mind-sets and routines shifts the balance towards suboptimal means of exploration and exploitation, loose integration of departments with different mind-sets and routines facilitates exploration and exploitation respectively.</td>
<td></td>
<td></td>
<td>**</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Performance management and social trust</td>
<td>High degrees of performance management and social trust simultaneously facilitate both exploration and exploitation.</td>
<td>x</td>
<td></td>
<td>***</td>
<td>***</td>
</tr>
<tr>
<td></td>
<td>Project team composition</td>
<td>Cross-functional teams outperform functional teams in explorative activities; functional teams outperform cross-functional teams in exploitative activities.</td>
<td>x</td>
<td>x</td>
<td>***</td>
<td>***</td>
</tr>
<tr>
<td></td>
<td>Job characteristics</td>
<td>Meta-routines and job enrichment bridge the gap between exploration and exploitation to facilitate participation in both activity types.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Individual</td>
<td>Behavioral patterns</td>
<td>Behavior consisting of initiative taking, knowledge brokering, engaging in multiple roles, searching for opportunities and cooperation with colleagues relates to adaptability to the conflicting demands of exploration and exploitation.</td>
<td></td>
<td>x</td>
<td>**</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Personality characteristics</td>
<td>The Big Five personality dimension extraversion, conscientiousness and openness together cover traits that capture both adaptors and innovators.</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 4. Antecedents of organizational ambidexterity.
at the same time conclude that structural separation, in the purest sense as described by Tushman and O’Reilly (1996), is not. That does not imply that all mechanisms associated with the structural organizational ambidexterity approach are feasible for SMEs, as the concept also includes task partitioning and temporal separation methods. Smaller firms can opt for such mechanisms which, as discussed, relate to the organization’s degree of integration, formalization and centralization. As no evidence that is suggesting otherwise has been found so far, it might be safe to conclude that all approaches towards organizational ambidexterity, maybe except full structural separation at the extreme, offer opportunities to help SME organizations to become ambidextrous.

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>At the SME</th>
<th>At the large organization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employee base is ...</td>
<td>small (&lt;= 249)</td>
<td>large (&gt;= 250)</td>
</tr>
<tr>
<td>Capital resources are ...</td>
<td>limited (balance sheet value &lt;= € 43 mln.)</td>
<td>considerable (balance sheet value &gt; € 43 mln.)</td>
</tr>
<tr>
<td>Market strategy is ...</td>
<td>focused on niches</td>
<td>focused on large product-market</td>
</tr>
<tr>
<td>Bargaining power with suppliers and buyers is ...</td>
<td>limited</td>
<td>considerable</td>
</tr>
<tr>
<td>Characteristics of the organization:</td>
<td>less bureaucratic, formalized and structured</td>
<td>bureaucratic and to a large degree formalized and structured</td>
</tr>
<tr>
<td>Management skills are ...</td>
<td>limited</td>
<td>extensive</td>
</tr>
<tr>
<td>The organization's culture is often ...</td>
<td>loose</td>
<td>formalized and hierarchic</td>
</tr>
<tr>
<td>Functional boundaries are ...</td>
<td>less strictly defined and organic</td>
<td>well-defined and mechanistic</td>
</tr>
<tr>
<td>Structural and cultural inertia is ...</td>
<td>absent</td>
<td>present</td>
</tr>
</tbody>
</table>

Table 5. Differences between SMEs and larger organizations.

Again, Table 4 offers an overview of all antecedents identified to facilitate the emergence of organizational ambidexterity and an indication of their feasibility within the SME setting and for larger organizations. For the feasibility, one, two or three score marks are assigned, of which one mark represents limited and three marks maximum feasibility. Judgment of the feasibility is based on assessing the match between the SME setting and the relevance of the antecedent, and by consensus about the feasibility among different authors in research papers found.

Among the most relevant mechanisms that SMEs could choose first in an attempt to facilitate the emergence of ambidexterity in their organization are assuring structural and cultural adaptability, performance management and building social trust among employees, creating cross-functional teams and building jobs that extent past functional task descriptions, originating from both the structural and the contextual approach to organizational ambidexterity. Other options, e.g. reducing centralization, formalization, and integration of departments with different mind-sets and organizational routines, might positively moderate the effect of the contextual antecedents, although research to such interaction of antecedents to organizational ambidexterity is missing. Referring to the concept of structural and cultural inertia (Tushman & O’Reilly, 1996), institutionalization might for example be a barrier to the effectiveness of transactional leadership approaches or cross-functional integration.

Compared to larger firms, mechanisms related to the contextual variant of organizational ambidexterity indeed might be more feasible for SMEs than those stemming from the structural approach, but then again it is more a matter of degree than of yes and no. The specifics of the firm,
the way it is currently organized and its leeway in terms of resources, skills and competences are likely to suggest which mechanisms are most feasible to get in place, rather than does a definition-wise classification depending on size. Therefore, interviews with employees from different functional backgrounds at CM were organized to develop understanding about success factors and barriers to organizational ambidexterity in practice. The next two chapters address these, by individually discussing the previously defined antecedents to organizational ambidexterity on the level of the organization, the department and the individual employee.

6.3. An evaluation of CM’s organizational design

After introducing the influence of the SME setting on the concept and feasibility of organizational ambidexterity approaches, this paragraph turns to a discussion of the antecedents of organizational ambidexterity. Predictors are categorized in three groups, reflecting the organizational, departmental and individual level on which each relates. Antecedents are then discussed starting with strategically oriented concepts and ending with their operational counterparts. Each set of antecedents is briefly introduced with respect to theoretical findings, before reflecting on CM’s organizational design now and in the past. Intermediate conclusions will be drawn with respect to the firm’s performance on the antecedents of organizational ambidexterity, before drawing general conclusions about CM’s facilitation of organizational ambidexterity in the last paragraph of this chapter.

6.3.1. Organization level

Predictors of organizational ambidexterity at the level of the organization as a whole include the firm’s degree of organization in terms of formalization and centralization, and leadership fashion.

Strategic orientation
Prior to striving for an ambidextrous organizational form to house exploration projects, it is worthwhile to consider how such projects and their subsequent new product developments relate to the firm’s other businesses. According to O’Reilly and Tushman (2007), for innovations that are of strategic importance to the organization, and for which operational leverage exists (i.e., the firm benefits from economies of scope or economies of scale), embedding the explorative development into the organization by creating an ambidextrous organizational form is the way to go. When the operational leverage however is limited, a separate business unit might be a better alternative to not disturb the most important operational processes (O’Reilly & Tushman, 2007). The classification is illustrated in Figure 14.
Given the desire to decrease the risks associated with a limited product market focus and the growth opportunities seen, Microincasso, as part of the micro payment product group at CM, is considered of strategic importance by many of the firm’s key persons and account managers (Gooijers, 2012; Kajijim, 2012; Saan; 2012; Schraven, 2012; Van Hoof; 2012). This perception is reflected in the investments in developing Microincasso, for example in terms of human resource allocation, the willingness to partner with merchants for purposes other than direct financial returns, and time and space for the product to mature in its own pace. With respect to the operational leverage that can be achieved, outlooks are less clear. A useful distinction emerges when separating Microincasso’s product development from its operations business. The technology, heavily relying on SMS as a communication medium, is core to the organization. Merchants that are to adopt Microincasso are often known and not seldom already customer of CM. Oppositely, the end user base of the product, consumers with a need for mobile payment possibilities, are far less known by CM. Servicing these end users is a new area when it comes to other than the rather static means of a user login portal on a website: customer care by phone, e-mail or social media. Although the firm’s Network Operations Center (NOC) addresses the first two of the tasks for a large share of the other products of CM, this servicing — in the business-to-business setting — is almost without exception technical in nature and as such not comparable to the service needs of Microincasso’s end user’s needs. Furthermore, the NOC has been designed as a service offering for the performance of CM’s products rather than a general call center to address any questions that reside with users of CM’s products. Although the NOC has been assigned a fair number of tasks originally not belonging to its domain, capacity and quality issues recently initiated a process to focus and improve its functioning with respect to monitoring and intervention upon issues (Van Hoof, 2012). While the NOC acts as a service center for technical support in CM’s business-to-business operations, its customers also have direct and easy access to other departments as sales or administration. Servicing the Microincasso user base oppositely would call for customer service interface covering all of these areas. Combined with the recent developments surrounding CM’s NOC therefore is an indication that the service aspect for Microincasso cannot benefit from other in-house operations at this time. It suggests that, while operational leverage is high during development, it might shift to lower levels when building the platform becomes less intense, while the product’s user base gradually expands. These separate phases are observed by CM’s managing director, stating that Microincasso might evolve into a product which ongoing developments might adjust to a lower, steady pace, while the product’s day-to-day operations and its strategic positioning activities might separate it from CM’s other businesses (Gooijers; 2012). Transforming Microincasso from a product integrated in the current CM organization towards an independent business unit therefore might be expected in the future.
(Gooijers; 2012). Gooijers (2012) also points towards the non-CM identity of Microincasso’s presentation towards its user base, as opposite to its merchant customer base.

Past radical innovation projects of CM, resulting in VideoConsult and its voice-over-phone related offerings, took a different stand. VideoConsult’s operational leverage was low and its strategic importance was considered limited, which might indicate why the need for an ambidextrous organizational form was experienced less. The same also holds for the firm’s voice-over-phone offerings, although operational leverage was high as a result of the shared customer base of its SMS offering. An important share of learning was however circumvented by externally buying the required technology. Microincasso, as part of CM’s micro-payment product category considered strategically important, then is distinctive of the firm’s prior innovation products in that it calls for an organizational ambidexterity solution rather than an internalization or independent business unit strategy, at least in the product’s development phase.

*Technological and market orientation*

Han, Kim and Kim find that a sustained technological orientation, a “corporate disposition toward[s] new technology” (2001: 6), plays a major role in determining the direction of future innovations within an organization. The authors find that without such technological orientation organizations are biased towards incremental innovations, because such innovations help to protect the market advantage a firm has and which is often grounded on a certain technology platform. This however can easily lead core competencies to become core rigidities (Atuahena-Gima, 2005). Han et al. argue that the contribution of technological orientation stems from a two-step mechanism, in which a current technological platform offers room for “incremental innovations to create and sustain an installed customer base in the early stages of the [innovation] cycle (2001: 12). In turn, the revenues generated from this exploitation facilitate the development of “both continuous and discontinuous innovations in anticipation of pre-empting the inevitable innovative challenges at some point down the road” (Han et al., 2001: 12). As such, a technological orientation contributes to ambidextrous modes of operation because exploration and exploitation become part of the firm’s strategy for innovation. At CM, this technological orientation has evidently contributed to the organization ability to engage in exploration projects. Outlined by the firm’s managing direction and IT infrastructure specialist, the on-going quest for optimization, efficiency, reliability and scalability enabled CM to increase its processing power from about one million SMS messages per year to over two million per day now (Gooijers, 2012; Saan 2012; Van Hoof; 2012). The infrastructure renewal rhyme of once every 18 months and continuously facilitating learning for the firm’s developers ensure state of the art and up to date technologies and knowledge being used. As a result, CM managed to attract more and larger customers while offering increasingly better and more reliable performance. The subsequent boost in revenues enabled the firm to explore also other areas, like the video conferencing product, voice-to-phone products and distinct micro payment solutions (Gooijers, 2012; Saan, 2012).

A firm’s market orientation can contribute to an organization’s ambidexterity in a similar fashion, by the complementary effects of marketing exploration strategies on marketing exploitation strategies and vice versa. Kyriakopoulos and Moorman (2004) describe marketing exploration strategies as mainly relating to new segmentation and positioning, new products, new channels and other elements of the marketing mix. Oppositely, exploitation-related marketing strategies mainly involve the refinement of current competences and routines associated with existing marketing strategies, which relate to current market segments, positioning, distribution, et cetera. Kyriakopoulos and
Moorman (2004: 226) find evidence that “a firm’s market orientation can facilitate their [exploration and exploitation] complementarity” by its ability to provide a common frame of reference, which enables a focus on customer goals and facilitates market information flowing throughout the projects characterized by exploration or exploitation. A combination of exploration and exploitation, i.e. ambidextrous modes of operation, leads to the most effective and efficient ways to address customer needs (Kyriakopoulos & Moorman, 2004). Remarkably, the cooperation between CM and its customers with respect to new product development projects shows two extremes. In the past CM has been gratefully addressing customer demands in a “you name it, we make it” market-pull fashion (Gooijers, 2012; Saan, 2012; Van Glabbeek, 2012; Van Hoof, 2012). The scope of the CM Technology subsidiary included developing tailor-made technologic solutions for firms in the mobile communications market. Only during the last couple of years CM bottom-sliced its least profitable business to increase its returns on investments (Gooijers, 2012; Saan, 2012; Van Hoof, 2012).

Managing director Gooijers acknowledges the different policies in a product life cycle with respect to this area, in which also entering moderately profitable business in early times can be effective in building market share or a larger installed base (Gooijers, 2012). Oppositely, innovations stemming from a technology-push approach of CM, in which the firm’s, knowledge and competencies form the basis for the development of the product, show little to none end user involvement during the concept development and product development stages (Gooijers, 2012; Kaijim, 2012; Saan, 2012; Schraven, 2012). As customer-oriented CM can be when addressing explicated customer needs, the organization appears to neglect specific user information available in the market from time to time. Obviously, this is not so much the case at the strategic level, were the firm’s top management team outlines a future growth plan, but rather on the individual product level. Although the firm’s Content Delivery System turned out to develop into an important cash cow for CM, its initial product offering was met by a fair amount of criticism with respect to its alignment with customer needs. While CM had access to a relatively large number of customers in the market in which CDS was to be launched, its development was grounded on in-house technological beliefs rather than on a thorough analysis of the wants and needs of the market inhabitants. It required a major upgrade, supported by a new account manager, for the system to become truly embraced by the market. While some of the interviewees question the chosen approach, CM’s CEO addressed an underlying tactic, in which the first three-year period of inventing, concept development and exploitation excludes a focus on scalability and is willingly developed without the optimum amount of customer involvement to benefit from earlier market entry. A subsequent three-year cycle then is devoted to product improvement and optimization, benefitting of learning from the market (Van Glabbeek, 2012). Although requests for new functionality outlined by individual customers reduced the product’s usability in a later stage, CM finally opted to deliberately determine how the product proposition should look like in the past two years (Kaijim, 2012; Saan, 2012). And although this new belief to carefully consider incremental innovations to CM’s product portfolio has led to better manageable product propositions, it did not extend to a careful analysis of customer needs for exploration projects. The development of Microincasso, the firm’s most recent new product addition, still has been conceptualized without input of the product’s future customer and user base, although, especially at the customer or merchant level, CM has easy access to such information sources. It resulted in a drifting focus on product-market combinations, where off-line marketing applications, web-shop payments and charity fund raising hold different beliefs about necessary features and barriers to adoption, resulting in ad-hoc adjustments to the planned functionality while being in business.
The firm’s CEO (Van Glabbeek, 2012) points towards two different phases with respect to CM’s market orientation. In the first decade, until about 2010, the firm’s financial foundation did not allow for a mere strategy-based new product development rhyme. Directly responding to customer’s requests enabled CM to maintain a sustainable cash flow. Even partnering with unprofitable customers could be beneficial given quantity-based discounts granted in the SMS wholesale business. From 2010 onwards, CM was able to take a more pro-active stand with respect to its innovation policy, as the firm’s financial resources had increased sufficiently to provide back-up if necessary, while the quantity-discount pricing system disappeared and reduced the incentive to also connect less-profitable customers (Van Glabbeek, 2012). This change in tactics does not have to lead to a reduced market orientation per se, but it is remarkable that developing Microincasso’s proposition was done without much involvement of potential customers. At the other hand, when Microincasso was launched knowledge from CM’s exploitative marketing efforts – although delayed - were dissipated also with Microincasso’s team, thus enabling more knowledge about customers using other micro-payment products to be gathered. Room for improvement, hence, seems to rest specifically at the new product’s development stage.

Structure and culture
A firm’s technological or market orientation, or at a more aggregate level the strategy or strategies a firm adopts for its product innovation processes, are not mere independent constructs, but are influenced by those people at the top of an organization. With respect to the structures or concepts developed for combining exploration and exploitation, Beckman (2006) and Peretti and Negro (2006) suggest that the past work experience of individual employees influences a founding team’s stand towards exploration or exploitation. Both research projects suggest that teams which consist of individuals with both shared and diverse experience might be best suited to engage in ambidextrous modes of operation. Past experiences of the individual team members influences which ideas and opportunities are recognized and pursued and as such it is also a firm’s starting position that co-determines the potential for organizational change and future development (Levinthlauf, 1997). This contingency perspective can be extended beyond the launch phase of a firm. Tushman and O’Reilly (1996) argue that the more successful a company has been, the more institutionalized its norms and values become, which in turn leads to inertia (see Figure 15). A distinction can be made between structural and cultural inertia, in which the former reflects the tightening linkages of structures and systems upon the aging of successful companies, and the latter connects to the institutionalization of the formal and informal norms and values within an organization (Tushman & O’Reilly, 1996). Tushman and O’Reilly (1996: 26) therefore argue for an organizational culture “to promote integration across the company and to encourage identification and sharing of information and resources”. By building trust and predictability as a result of consistent communication of a company’s vision, an organization’s culture becomes an overall culture that brings guidance and holds the firm together, instead of an imposed culture that prescribes behaviors and leads to inertia.
Inertia within CM’s organization has become more of a threat recently given the rapid expansion of the firm’s personnel base in the past three years. Novices to the firm are not unlikely to adapt an attitude in line with the beliefs of experienced CM workers held, as a result of which the firm’s culture becomes more and more institutionalized upon growth. Managing the development of Microincasso therefore was consciously assigned to newly hired employees, which were partly separated from CM’s day-to-day operations by assigning a project room apart of all other departments (Gooijers, 2012; Saan, 2012). The same effect was to be achieved by appointing one dedicated sales person to Microincasso, while colleagues with the same functional background were actively left uninvolved with shaping Microincasso in the first phases of its conceptualization and subsequent product development (Gooijers, 2011). Only when Microincasso successfully piloted the Dutch Serious Request charity fund raising at the end of 2011, other sales representatives took up on prospecting Microincasso to potential customers. Simultaneously, Microincasso team members were more frequently asked to collaborate on other activities, effectively lowering the degree of separation of the exploration with the firm’s efficiency-oriented operations. This however remained limited to the extent of initial requests, such that the new product team first and foremost remained intact for Microincasso.

**Degree of organization**

Whereas structural and cultural inertia refer to a reduction in an organization’s adaptability to changes, such impediments can also be brought upon by the organization’s design and installed procedures. Centralization and formalization refer to the locus of decision making and the institutionalization of procedures throughout an organization. Jansen, Van den Bosch and Volberda (2006) find empirical evidence that higher levels of centralization within a firm, that is when the locus of decision making and of authority is concentrated in a firm’s upper organizational layers (Damanpour, 1991), reduce the level of exploration. Centralization decreases an individual’s sense of control over work, or sense of ownership, and therefore reduces the likelihood that individual team members engage in exploration for problem solving purposes by diverting from known paths and procedures (Atuahene-Gima, 2003; Damanpour, 1991). By lowering the degree of centralization and shifting the locus of decision making to the department level the effect is reversed and exploration is stimulated. Although centralization of decision making can create distance between the lower, operational level of the organization and the decision-making unit, it is not necessarily the case. CM illustrates this, as decision-making is centralized around the top management team, but the relatively small organization with a limited hierarchical structure, direct communication lines and open culture prevents any significant distance to emerge between the individual employees and all firm departments. Not only does this relate to CM’s strategic decision making, but it also helps to respond
quickly to any issues that arise in the administration, development, juridical or IT area. As a result, all functional areas are closely linked to the day to day operations of CM, facilitating direct learning. Such practice poses risks in terms of the different mind-sets and cultures that are found with explorative and exploitative activities, because the close ties between the departments that are intrinsically efficiency oriented enable these mind-sets and cultures to be imposed on the employees working on the explorative tasks. At CM, the Microincasso project owner is mandated to lead the product’s development by reliance on the firm’s top management team and without much involvement of employees in the efficiency-oriented business (Gooijers, 2012; Saan, 2012).

In a similar fashion as centralization, formalization of procedures aims at achieving variance-reduction by means of incremental innovations in products and processes. As such, it is a core element of process management by codifying best practices which are optimally designed for performing standardized activities for existing sets of customers (Benner & Tushman, 2003). Formalization therefore directly connects to exploitation of existing knowledge and competences, contrary to the nature of activities related to exploration. Low degrees of formalization are connected with open cultures, encouraging genuinely new ideas and behaviors to emerge (Damanpour, 1991). Formalization at CM is encountered at several levels of the organization, indeed to optimally perform standard activities. Internally, the firm’s administration is loaded with strict procedures for effective and efficient financial operations. At the same time, capacity for administrative work outside this realm is maintained to facilitate housing explorative projects, like Microincasso in its early phase when its system are not yet soundly integrated with the firm’s administrative department (Gooijers, 2012; Saan, 2012). Also the software development unit of CM has some strict procedures for work planning in order to ensure sufficient attention to be paid to those businesses that are vital to the firm’s short-term financial revenues, and where problems potentially lead to large losses. As a result, less critical projects or product developments, for example of Microincasso, faced limited or no development capacity from time to time, hindering its stable and on-going development. Following on-going debates about development resources and the unpredictability of its availability, CM’s software development manager decided to assign development capacity on a product group and a project team basis, ensuring continuous capacity available to all of CM’s product groups and additional workforce to respond to emerging opportunities or large-scale improvements (Gooijers, 2012; Saan, 2012; Van Hoof, 2012).

**Leadership**

In recent years the focus of research on the concept of leadership has been extended towards its relatedness with organization-level elements like structure, culture and learning, but also to innovation processes and how to facilitate exploration and exploitation. Jansen, Vera and Crossan (2009) empirically researched the link between both transactional and transformational leadership as dominant styles on exploratory and exploitative innovation. Transformational leadership consists of intellectual stimulation, individualized consideration, idealized influence and inspirational motivation (Avolio, Bass & Jung, 1999). Intellectual stimulation is meant to challenge individual employees to be innovative and creative; individualized consideration reflects the mentoring role a leader has in paying attention to the need for achievement and growth of individual employees (Bass, Avolio, Jung & Berson, 2003). By idealized influence, the leader is in a position where he is respected and trusted; inspirational motivation occurs when a leader is able to communicate an appealing vision and succeeds in motivating employees by providing meaning and challenge to the employees’ work (Bass et al., 2003). As such, it is a richer concept compared to the classical transactional approach which
embraces contingent rewards and active management by exception. The former refers to specifying what an employee has to fulfill to receive rewards, whereas the latter implies that the leader intervenes when the employee’s work falls behind of demands (Avolio et al., 1999). Jansen et al. (2009) find empirical evidence that transformational leadership is associated with exploratory forms of innovation at the cost of exploitation, while its transactional counterpart facilitates the latter activity type and doesn’t influence exploration. Transformational leadership styles, they reason, promotes exploration as the leaders are able to “mobilize commitment to realize the potential of radical innovation” (Jansen et al., 2009), e.g. by the mechanisms of idealized influence and inspirational motivation as presented earlier. Due to the focus on short-term goals for rewarding, transactional leadership styles pushes employees from participation in explorative activities, which require flexibility and adaptability and are uncertain in nature, to exploitation.

Given the limited hierarchy within CM’s organization, leadership roles reside only with a few employees. CEO Van Glabbeek actively contributes to inspirational motivation by his quarterly dinner meetings with all of CM’s staff, in which he outlines recent developments within the organization, but also characterizes them as part of on-going development of the organization from a past form towards a future goal. Individual employees are also acknowledged and rewarded for meeting goals chosen at the company level, at the team level and at the personal level, pro-actively challenging employees to grow and excel in different areas. All staff members of CM are regularly scheduled for assessment meetings in which personal development and contribution to the organization are key aspects. The nature of leadership as CM as such can be considered as transformational.

6.3.1.1. Conclusions

Antecedents of organizational ambidexterity at the organization level include strategic, technical and market orientation, degree of organization, structure, culture and leadership categories. Table 6 aggregates the findings from the previous section by assigning a positive, negative or neutral score on CM’s performance to each antecedent, and by briefly summarizing the past and current status of the antecedent’s underlying attributes at CM. While CM performs well on most of the topics covered, a more strategy-wise approach of its product portfolio management can enhance the effectiveness and efficiency of new product development endeavors, because an unclear strategy about which product-market domain to target and how to benefit from operational leverage achievable hinders the firm’s innovative success. In a similar fashion, valuable market intelligence was not absorbed into the organization as a result of the firm’s hidden marketing configuration.

With respect to the firm’s strategic orientation, the need for organizational ambidexterity is highest recently, as taking up on Microincasso concerns an innovation part of a product category which is one of the firm’s core pillars, and hence is of strategic importance. Simultaneously, and especially in the development stage, Microincasso benefits from knowledge and competences that can be leveraged within CM. Earlier radical innovations, like the firm’s VideoConsult and voice products, were of less strategic importance and could only benefit limitedly of the firm’s knowledge and operational assets. Integration of Microincasso in CM’s Mobile Content Billing proposition was identified as a way to mutually strengthen the product propositions, but only after the product-
market domain to target with Microincasso shifted a number of times, possibly reducing first-mover advantages.

<table>
<thead>
<tr>
<th>Antecedent</th>
<th>Effect</th>
<th>CM’s performance</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strategic orientation</td>
<td>Organizational ambidexterity is likely to be found when innovations are of strategic importance to the firm and when operational competences can be leveraged for the innovation.</td>
<td>Radical new product developments also in areas where limited operational leverage could be obtained, and relatively distant from the firm's existing product-market domains.</td>
<td>Neutral</td>
</tr>
<tr>
<td>Technological orientation</td>
<td>Higher levels of technological orientation lead to more exploration at a certain level of exploitation.</td>
<td>Three-yearly cycles of idea generation, concept development and exploitation of new products. Continuous investment in system infrastructure for enhanced exploitation of product portfolio.</td>
<td>Positive</td>
</tr>
<tr>
<td>Market orientation</td>
<td>Higher levels of market orientation lead to more exploration at a certain level of exploitation.</td>
<td>Market-pull due to limited financial resources, accepting all work.</td>
<td>Negative</td>
</tr>
<tr>
<td>Background of the founding team</td>
<td>Founding teams consisting of individuals with both common and diverse backgrounds facilitate organizational ambidexterity.</td>
<td>The firm's top managers have a background in business administration and are surrounded by a core team with diverse backgrounds.</td>
<td>Positive</td>
</tr>
<tr>
<td>Leadership style</td>
<td>Transformational leadership styles foster exploration, transactional leadership styles foster exploitation.</td>
<td>Leadership style at CM is transformational, not transactional.</td>
<td>Positive</td>
</tr>
<tr>
<td>Degree of centralization</td>
<td>Higher degree of centralization reduces exploration; lower degree of centralization facilitates exploration.</td>
<td>Decision-making is centralized, but the flat limited practical hierarchy prevents distance between operational and higher levels of the organization.</td>
<td>Positive</td>
</tr>
<tr>
<td>Degree of formalization</td>
<td>Higher degree of formalization facilitates exploitation and limits exploration.</td>
<td>Routine work moderately formalized, but increasing levels of formalization for sales and administration departments over time.</td>
<td>Positive</td>
</tr>
<tr>
<td>Structural and cultural adaptability</td>
<td>Tightening linkages over time and institutionalization of norms and values reduce adaptability and foster exploitation.</td>
<td>Relatively small organization in a dynamic environment prevented institutionalization.</td>
<td>Neutral</td>
</tr>
</tbody>
</table>

Table 6. CM’s performance on organizational-level antecedents of organizational ambidexterity.

To facilitate this organizational ambidexterity sought, a firm's technological orientation can aid in ensuring resources for exploration. Historically, CM has been oriented towards exploitation of its product offerings and introducing scalability to increase return on investments, allowing for investments in radical new product developments. While the firm’s technological orientation remained constant, its market orientation changed when CM matured enough to switch from a customer-responsive to a vision-based innovation strategy around 2009/2010. While market knowledge while in operation was spread throughout the company, customer and user involvement
during concept development was limited to non-existent, thereby undermining an effective market segmentation and product launch strategy, which in turn threatens the radical innovation performance of an ambidextrous organization.

With respect to the degree of organization at CM, analysis shows a structure with a limited hierarchy, with direct interactions between employees of all levels of the firm possible and facilitated. Decision making is centralized with the firm’s management team, although the low levels of hierarchy enable discussion among all internal stakeholders. Formalization within the company’s most efficiency-oriented departments like administration and development increased over time to facilitate upscaling its SMS business, although capacity for non-procedural work is consciously maintained and used for exploration projects like Microincasso. This explorative new product development initiative is shielded from the efficiency-oriented culture at CM by creating a separate product team consisting of newly-hired employees except for its sales representative, an approach used for the first time at CM. A cautious determination about which employees are allowed to contribute to the project was also used to reduce the risk of suboptimal levels of attention paid to either the firm’s exploitative or explorative business, as occurred with the development of VideoConsult years before. Last, adhering to a transformational leadership style, CM’s top management actively engages in intellectual stimulation of and individualized consideration paid to its employees, while exerting an idealized influence and giving inspirational motivation by creating a team culture in which all employees can identify with the firm’s values.

As the status quo of CM’s strategic and market orientation heavily influence the firm’s ability to be organized ambidextrously, both areas will be included in the organizational redesign task discussed in chapter 7. Before, the next paragraph discusses department-level antecedents of organizational ambidexterity together with CM’s performance.

6.3.2. Department level

At the department level individual projects draw from the knowledge and competences of multiple and distinct (functional) units or groups. The design of such units is relevant for the feasibility and effectiveness of organizational ambidexterity approaches, because it is at this level where the different mind sets and routines necessary for exploration and exploitation collide. Antecedents of organizational ambidexterity are identified with respect to the integration of different units and the composition of new product development teams.

Coordination
Given that different departments exist within an organization, and that such departments have to create alignment with other units to a certain extent to facilitate coordination, the design of such department interfaces is relevant to the organizational ambidexterity debate. March (1991) and later Benner and Tushman (2003) discussed the different mind-sets and organizational routines that characterized exploration and exploitation. By a tight integration of departments which engage in either one of the two types of activities, mind-sets and routines can merge together such that the performance of the department, with respect to either radical innovative or incremental innovative output, declines. Literature reveals different points of view with respect to the optimal degree of integration of different units, ranging from complete separation of the exploration and exploitation
engaging departments to mixed forms of tight and loose coupling. According to O’Reilly and Tushman (2004), ambidextrous organizations consist of tightly coupled subunits, where these groups of subunits themselves are loosely coupled together. As such, the subunits that all work on radical innovations can achieve alignment and the embracing departments are shielded from each other by physical and cultural separation. The departments then can have different incentive systems and managerial teams, while coordination is achieved at the senior management level (O’Reilly & Tushman, 2004). In a smaller organization like CM however, and as outlined upon discussing the firm’s organizational structure in paragraph 5.1.2., often limited levels of specialization and separation of NPD activities can be found (Birkinshaw & Gibson, 2004). As mentioned by two of the project managers, specialization of employees working on products or projects only occurred in the last few years, when a sharp increase in the size of the employee base brought additional human resources to the different teams at CM (Schraven, 2012; Schroot, 2012). Until then, different functions were joined seamlessly: sales, concept development and development were close to another, as were product and project management. Departments at CM now include functional groups, e.g. administration, development, IT and legal, alongside a number of product groups. Although specialization set in, separation of CM’s efficiency-oriented business from its explorative projects like Microincasso remained moderate as a result of the open culture at CM. Sales personnel, coming across market opportunities for Microincasso, familiarized with the product themselves instead of actively involving CM’s senior sales manager responsible for Microincasso’s commercial introduction. Still, Microincasso was assigned a separate product team, consisting of a product owner, a technical product owner (or developer), a sales person and a number of communication and business economics graduate candidates housed in a separate room, and relieved from the immediate burden of short-term return on investment measures. Oppositely however, the product team was exposed to the culture of the administration and development units. In case of the former, part of the department was greatly concerned with the delayed setup of Microincasso’s financial system, although CM’s managing direction emphasized and awarded freedom to derive from strict administrative procedures in order to build more time-critical, external elements of the concept. The administrative department in fact appeared to be organized to the extent that some spare capacity for hand-processing financial transactions during Microincasso’s start-up phase, or any other explorative project in general, can be facilitated (Gooijers, 2012; Saan, 2012). Coordination of the different interests of the departments thus was handled by the firm’s top management by delaying efficiency-measured, enabled by maintaining capacity for manually processing administrative data.

The unit’s emphasis on the importance of an early financial monitoring and processing system brought awareness about what has to come once Microincasso matures. The same effect was achieved by the development manager, requiring estimates of return on investments within one month after a given item of project would be developed. As such estimates are highly uncertain in the fuzzy-front-end stages of new product development, and tend to be limited as a result of the initially small customer base, explorative projects face the risk of being paid limited or reduced attention given higher short-term return on investments for exploitative development activities (Saan, 2012; Schraven, 2012; Schroot, 2012). Nevertheless, besides an incidental shortcoming of capacity, it is believed that this return on investment procedure to allocate capacity never limited attention to one of CM’s radical innovations in the past (Gooijers, 2012; Saan, 2012; Schraven, 2012), although CM software development manager explained that development capacity is fully used and by 2012 not all requests can be fulfilled before new personnel resources were added in the year’s
second quartile. While chances of an out-of-capacity situation combined with return on investment measures seriously threaten resources assigned to explorative projects, the change towards fixed development capacity per product group and a separate project team early in 2012 brought more stability to development capacity resources for all product groups of CM (Saan, 2012; Schraven, 2012; Schroot, 2012; Van Hoof, 2012).

**New product development teams**

At the operational level, De Visser et al. (2009) find evidence that the innovative stance of a new product development project moderates the effectiveness of the structural form of the NPD teams with respect to its innovative performance. Cross-functional team structures, in which employees of different functional departments together form a new product development team, tend to outperform functional teams working on innovative projects, but only when these innovations are of the radical type. Such cross-functional teams enhance communication and cooperation between different departments, thereby facilitating coordination at the higher (organizational) level (Henard & Szymanski, 2001) although up to a point in which coordination between different departments becomes too complex (Troy, Hirunyawipada & Paswan, 2008). Simultaneously, the collaboration of employees with different functional backgrounds results in a larger knowledge pool during the development process, thus increasing the success chance of a new product (Balbontin, Yazdani, Cooper & Souder, 1999; Damanpour, 1991; Taylor & Greeve, 2006; Troy et al., 2008). A third argument for the positive effect of the cross-functional approach to NPD projects lies in the possibility to let design and development tasks partially overlap which reduces the overall development time and can bring competitive advantage, for example due to first-mover advantages (Brown & Eisenhardt, 1995). Oppositely, De Visser et al. (2009) find that for incremental innovations, functional teams outperform their cross-functional counterpart. The line of reasoning adopted here is that the diverse backgrounds and opinions that employees of different functional departments bring disrupts the optimized work routines and hampers effective and efficient decisions making (Song & Xie, 2000). As such, the effect of cross-functional NPD teams is contingent upon the type of innovation, which makes De Visser et al. (2009) call for structural organizational ambidexterity to join exploration and exploitation, or radical and incremental innovation projects. This is in line with CM’s recent approach to radical innovation projects, where the Microincasso project is the first to start with a cross-functional team. Product and project management were satisfied by the results of this team prior to the Dutch fund raising event Serious Request (Gooijers, 2012; Saan, 2012; Schraven, 2012; Schroot, 2012; Van Hoof, 2012), for which 3FM radio became Microincasso’s launching customer. Cross-functional teams however were not new to the organization, as it also was introduced for CM’s Content Delivery System after overhead grew when more than twenty employees in some way or another contributed to the product (Gooijers, 2012). Although the product’s developments are generally incremental in nature, the cross-functional team rather than the theoretically advised functional structure is chosen given the enormous contribution of the product to CM’s revenue stream and the effect size in case of operational problems (Gooijers, 2012; Kaijim, 2012; Saan, 2012).
6.3.2.1. Conclusions

At the department level, antecedents of organizational ambidexterity include intra-firm coordination and the design and management of new product development teams. Table 7 aggregates the findings and indicates that CM’s current approach to new product development teams offers significant room for improvement, leading to a more effective and efficient use of its employee resource base and related knowledge and competences.

Coordination between the different departments, for Microincasso especially administration (with respect to the product’s financial flow) and software development (regarding capacity), were coordinated at the level of the top management by explicitly setting boundaries. Consciously created spare capacity for non-procedural work enabled the firm to do so and relieves exploration projects like Microincasso with early burdens of an efficiency-oriented operation, as such facilitating exploration products to align themselves with facilitating departments oriented at CM’s product exploitation. At the project team level, CM took the opportunity to create a cross-functional or multidisciplinary team to guide the radical innovation developments for the first time. The approach was positively evaluated by all of the firm’s internal stakeholders of the Microincasso project. At the same time, the project team composition was not aligned with actual needs over time, resulting in a lack of market intelligence and too high levels of sales involvement during some phases, both reducing effectiveness and efficiency of the concept’s development.

<table>
<thead>
<tr>
<th>Antecedent</th>
<th>Effect</th>
<th>CM's performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Degree of integration</td>
<td>Tight integration of departments with different mind-sets and routines shifts the balance towards suboptimal means of exploration and exploitation, loose integration of departments with different mind-sets and routines facilitates exploration and exploitation respectively.</td>
<td>Limited firm size prevented specialization, exploration less of a team endeavor than a one man task. Teams assigned a task requiring a different mind-set and routines are loosely integrated in the CM organization alongside departments covering only or mainly exploitative activities. Positive</td>
</tr>
<tr>
<td>Performance management and social trust</td>
<td>High degrees of performance management and social trust simultaneously facilitate both exploration and exploitation.</td>
<td>High performance context with high levels of social support and care for individual employees. Positive</td>
</tr>
<tr>
<td>Project team composition</td>
<td>Cross-functional teams outperform functional teams in explorative activities; functional teams outperform cross-functional teams in exploitative activities.</td>
<td>Functional approach; no use of cross-functional teams for new product development. Cross-functional teams, but relatively static over time and not closely aligned with actual functional needs. Negative</td>
</tr>
</tbody>
</table>

Table 7. CM's performance on department-level antecedents of organizational ambidexterity.

Given the suboptimal take on designing and managing the new product development team, this topic will be included in the organizational redesign endeavor presented in chapter 7.
6.3.3. Individual level

Individual employees are affected by the way in which the organization as a whole combines exploration and exploitation. In the contextual approach towards organizational ambidexterity, each employee has own responsibility in engaging in exploration and exploitation and as such is confronted with managing this trade-off. Job design and behavioral patterns influence how individuals approach their participation in exploration and exploitation, or how they fit in the ambidextrous organization. At the same time, each individual handles the requirements that engaging in both explorative and exploitative activities pose in a different way. Personality characteristics are therefore included in the research to examine how and when individuals cope with such conflicting demands.

Job characteristics

Adler et al. (1999) describe several mechanisms that affect an individual employee’s trading-off between engaging in exploration and exploitation. Metaroutines bridge the gap between both activity types: as a result of “systematiz[ing] the creative process”, (1999: 45) personnel shift this trade-off by changing non-routine tasks into more continuous activities to enhance efficiency in exploration business. Literature also reveals mechanisms that start from routine - or exploitative - tasks. Job enrichment is an approach in which production tasks also include improvement and efficiency-related goals (Adler et al., 1999). By creating an environment in which employees can contribute to the firm performance by identifying improvement opportunities, routine workers can also engage in exploration, although Adler et al. (1999) argue that the cost/benefit balance might be negative due to the limited contribution towards exploration overall. Job enrichment, in that it adds non-routine tasks to routine work, resembles horizontal job enlargement. Because it includes giving more autonomy to the individual employee, there is an increased risk of opportunistic behavior which may be detrimental to the positive benefits of job enrichment (Adler et al., 1999). By temporal separation of exploration and exploitation on the individual level, employees can divide their time over different types of activities. Temporal separation brings the risk of conflicting expectations in both roles: higher autonomy and commitment in the exploration phase and lower upon engaging in exploitative activities. Supportive leadership, training and mutual trust is relevant to prevent the conflicting expectations from negatively influencing the employee’s performance (Adler et al., 1999). Although meta-routines, job enrichment and temporal separation don’t bring the costs of dual structures, they require an organizational context that supports different roles and modes in order to facilitate a shift in balance between exploration and exploitation. Hence, the mechanisms closely connect to contextual ambidextrous organizational forms.

CM experienced the conflicting expectations of employees switching from explorative to exploitative activities during the product launch phase of Microincasso, when a multidisciplinary project team with increased software development capacity was formed to facilitate its Serious Request application. Including new elements, like social medium Twitter, Microincasso’s developments in that stage included a fair amount of learning on the job, with rapidly adjusting plans upon barriers or errors. In the evaluation of the project afterwards, a number of developers part of the team explained this ‘rapid prototyping’ experienced as inefficient, although mutual understanding was reached about the dynamics when having such an explorative task at hand. Also with later development activities for Microincasso, the developers were given additional room to contribute
with best practices and to come up with effective translations of the product team’s functional requirements into technical requirements. Besides some form of metaroutines and job enrichment, this approach also helped to build a sense of ownership of and commitment to the product (Van Hoof, 2012), before a fixed developer was assigned to Microincasso’s product group early in 2012.

**Personality traits**

In a contextual approach to organizational ambidexterity, the locus of control over when and where to engage in exploration or exploitation is lowered towards the level of the individual employee. Birkinshaw and Gibson (2004) describe four characteristics of the individual that facilitate ambidextrous behavior. First, and related to the stretch element of the performance management context that both authors describe, is initiative taking and striving to reach higher goals. Next, ambidextrous individuals should be cooperative and on the look for opportunities to combine efforts with colleagues. Third, in their role as brokers, individuals try to build internal linkages and spot opportunities for the business as a whole. Fourth and last, individuals are willing to engage in multiple roles. By these properties, employees act beyond the confines of a job and initiate actions to the interest of the organization as a whole. Such employees are intrinsically motivated and informed to act spontaneously, and have the ability to adapt to new opportunities while remaining aligned to the organization’s strategy (Birkinshaw & Gibson, 2004). They are at the centre of the adaptor – innovator continuum that Kirton (1976) contents as a basic personality characteristic. In his seminal paper, Kirton (1976) characterizes an adaptor by precision, reliability and efficiency, and as someone concerned with problem solving, reducing problems by improvement and greater efficiency, someone who rarely challenges rules and is cautiously. At the opposite, an innovator is perceived as undisciplined and approaches tasks from unsuspected angles. Such a person is said to catalyst settled groups and creates dissonance, challenges rules and has little respect for past custom (Kirton, 1976). The Kirton Adaption-Innovation Inventory (KAI) since has become the instrument for classifying individuals based on their behavior towards adaption and innovation. It uses the personal characteristics originality and idea creation, conformity to rules and group norms, and efficiency to assess the differences between adaptors and innovators (Kirton, 1976). Miron, Erez and Naveh (2004) however propose and empirically validate a three-factor model, consisting of creativity, conformity, and attention-to-detail, for interpreting cognitive style.

Element of the adaptor and innovator characteristics can also be linked to the Big Five personality dimensions. In their meta-analytical review, Barrick and Mount (1991) validate the predictive validity of the constructs extraversion, emotional stability, agreeableness, conscientiousness and openness to experience on job performance, the measure being defined in terms of job proficiency, training proficiency and personnel data. Extraversion, the first personality dimension, is associated with being sociable, assertive, talkative and active, or represented by the constructs ambition and sociability (Barrick & Mount, 1991). Barrick and Mount (1991) hypothesize and validate that the dimension is a relevant predictor especially for the occupational groups that are characterized by interaction with others: managers and sales. The second personality dimension, emotional stability, captures traits like being insecure, angry, embarrassed and emotional, although Barrick and Mount (1991) were unable to find significantly large effect sizes. The same results were reported for agreeableness, which relates to being flexible, trusting, good in nature, cooperative and tolerant. Conscientiousness (also called conformity) is about being thorough, organized, planful and persevering. Barrick and Mount (1991) find evidence that this dimension is a valid predictor for all performance indicators and for all five occupational groups. The fifth and last personality dimension is openness to experience,
which is associated with being imaginative, curious, original, broad-minded and sensitivity in an artistic fashion. Barrick and Mount (1991) find it to be a predictor for training proficiency only, explained by the relationship between the attitude of the individual towards learning experience and the success of training programs. Upon analyzing the relationship between the Big Five personality dimensions and the characteristics of adaptors and innovators, extraversion, conscientiousness and openness together cover traits that capture both adaptors and innovators. That is in line with findings of empirical research undertaken in Singapore (Kwang, 2002), which revealed higher levels of conscientiousness for adaptors than for innovators, and higher levels of extraversion and openness to experience for innovators than for adaptors. Balanced scores on the constructs thus might indicate a person able to behave in an ambidextrous fashion.

Individual’s personality characteristics always have played an important role in the human resource policy of CM. At the company level, CM explicitly calls for employees that fit within the firm culture of curiosity in the world and development in the technological environment. The firm puts heavy weight on its employees’ development and well-being, as is probably best illustrated with a fragment of its mission, stated in its personnel guide (CM, 2011):

“Wat wij het allerbelangrijkste vinden en wat ons echt voldoening geeft is dat medewerkers van CM doen wat ze leuk vinden en wat ze goed kunnen.”

At the individual level, managers pay detailed attention to individual’s capabilities and preferences when assigning roles, e.g. when separating the steady product management from the more dynamic project management early in 2012 (Saan, 2012; Schroot, 2012; Van Hoof, 2012). Also upon assigning fixed developers to CM’s product groups, careful consideration was paid to who should be allowed to develop to a specialist within one product area, and who would and could become all-round knowledgeable and part of the project team. Periodically, members of CM’s development team were asked to submit project preferences (see Figure 16), enabling a match between assigned projects and an individual’s interests and competency development needs. Similar trade-offs are made at other departments, for example with respect to sales responsibilities.

![Project Assignment Preference](image)

**Figure 16. Project assignment preference overview for CM’s development team.**

6.3.3.1. Conclusions

Individual level antecedents of organizational ambidexterity consist of job characteristics and personality traits. Table 8 summarizes the findings with respect to CM’s performance on the
antecedent categories, which shows that the firm should especially be aware of the alignment of its employees’ personality characteristics when assigning product or project management tasks.

<table>
<thead>
<tr>
<th>Antecedent</th>
<th>Effect</th>
<th>CM’s performance</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Job characteristics</td>
<td>Meta-routines and job enrichment bridge the gap between exploration and exploitation to facilitate participation in both activity types.</td>
<td>Focused effort on new product development matters taken up on by the person finding the opportunity as a result of the limited employee base.</td>
<td>Positive</td>
</tr>
<tr>
<td>Behavioral patterns</td>
<td>Behavior consisting of initiative taking, knowledge brokering, engaging in multiple roles, searching for opportunities and cooperation with colleagues relates to adaptability to the conflicting demands of exploration and exploitation.</td>
<td>CM puts significant weight on finding employees that match the firm’s values and beliefs, having an attitude that fits with the organization’s culture.</td>
<td>Positive</td>
</tr>
<tr>
<td>Personality characteristics</td>
<td>The Big Five personality dimension extraversion, conscientiousness and openness together cover traits that capture both adaptors and innovators.</td>
<td>New product development matters were taken up on by the person finding the opportunity as a result of the limited employee base.</td>
<td>Awareness of personality characteristics of individual employees, but limited consideration given to when managing product’s throughout their life cycle in terms of the different nature of developments. Negative</td>
</tr>
</tbody>
</table>

Table 8. CM’s performance on individual-level antecedents of organizational ambidexterity.

CM applies job enrichment by actively involving the development team in determining the product’s functional design based on a set of requirements handed by the product team. Product ownership is introduced to CM’s development team by assigning a technical product owner early in 2012, resulting in high levels of commitment among personnel. Oppositely, the product team uses meta-routines designed to systematize the creative process in order to achieve sufficient levels of detailing and formalization of the requirements for the software development department. At the personal level, CM deliberately selected a number of its developers to be appointed technical product owners, based on their quest for focus and specialization. Others were migrated to the firm’s project team, offering different products or topics under development in a monthly pattern, thereby addressing individual’s calls for learning of a broad range of techniques and applications. A similar approach was not used for the assignment of managers to the Microincasso project, where the initial project manager was to continue management when the product matured and associated activities became less explorative, regardless of the different challenges that exploration and exploitation pose to management.

The topic of product and project management will be included in the organizational redesign task given its possibly detrimental effect on performance and limited attention gained at CM so far.
6.4. Moderators of the organizational ambidexterity – performance relationship at CM

The analysis of the individual antecedents of organizational ambidexterity in the previous paragraph showed generally positive results about CM’s ability to facilitate ambidextrous organizational forms. Although suggesting that CM would be able to house both exploration and exploitation projects simultaneously, there are other elements relevant to understand whether and how the ability to facilitate organizational ambidexterity actually leads to an organization being ambidextrous. Moderators of the organizational ambidexterity – performance relationship are discussed in order to interpret the outcomes of the prior antecedent analysis against the realization of organizational ambidexterity. These moderators bridge the gap between an organization’s ability to be ambidextrous on the one, and the effectiveness of organizational ambidexterity to boost a firm’s innovative performance on the other hand.

6.4.1. Firm size and resource availability

Firm size is argued to moderate the relationship between organizational ambidexterity and performance. Lubatkin et al. (2006) suggest that the structural approach to organizational ambidexterity is most appropriate for larger organizations, which are often found to have “many organizational impediments and multifaceted external influences” (Raisch & Birkinshaw, 2008: 395). Due to their common more hierarchical structure and greater distance between management and work force, contextual approaches to organizational ambidexterity might be of less practical relevance. At the contrary, Gibson and Birkinshaw (2004) argue that the lower distance between top management and work force in smaller firms makes contextual forms of organizational ambidexterity especially relevant for such smaller organizations. As top managers then not only play strategic roles, but also lead on the operational level, they have potentially much more control over the organizational context which offers room for contextual mechanisms of organizational ambidexterity.

An analysis of the antecedents of organizational ambidexterity reveals that the areas in which organizational change at CM over time was most significant mostly were relevant for the structural approach to organizational ambidexterity also. As the vast majority of the antecedents listed in Table 4 connect with the contextual form of organizational ambidexterity, while a more limited set is also relevant for its structural counterpart, it is understandable how structural elements of organizational ambidexterity became more relevant to CM in the past couple years of growth. Comparing 2006, when VideoConsult was developed, with 2011, CM’s employee base grew with over 300 % from 15 to 65 FTE, while the firm’s turnover nearly reached a tenfold of 2006’s 4,5 million euro result. In practice, this can be seen from the dual structures for both the firm’s exploitative and explorative departments created in 2011, where Microincasso’s new product development team operated in a distinctly shaped environment compared to the rest of the firm, while in 2006 specialization to products or projects was almost nonexistent due to the small employee base. The observation also indicates that structural and contextual ambidexterity are not necessarily to be seen as distinct and extreme concepts; rather it might be interpreted that a soft separation of explorative and exploitative activities, e.g. with a separate project team and room as created for the development of
Microincasso and different importance of procedures to be adhered to, makes organizational ambidexterity easier to be achieved by contextual means.

As does firm size, resource availability also limits the feasibility of organizational ambidexterity approaches. Lubatkin et al. (2006) and Venkatraman, Lee and Iyer (2007) argue that small and medium enterprises often lack slack resources and hierarchical administrative systems for managing exploration and exploitation in dual structures, which confines such organizations to contextual approach to organizational ambidexterity.

It is argued that the question whether organizational ambidexterity can be achieved, regardless of the approach taken, goes hand in hand with the question whether there is a need for organizational ambidexterity. As suggested by both CM’s CEO and managing direction, and visually represented in Figure 17, start-ups initially have to combine building their first product with generating enough money to facilitate the initial product’s development up until a point in which the first product matured enough to be exploited for a while. Then phases start where new explorative activities are undertaken alongside existing products being exploited as liquidity figures rise, increasing the relevance of being organized ambidextrously when the firm grows (Gooijers, 2012; Van Glabbeek, 2012). CM experienced this when it changed the pricing model of its SMS business in 2008, shifting from a pre-paid model to pay-for-use, thereby rapidly increasing its national market share. This phase is clearly visible in Figure 4’s product launch timeline parallel to the introduction of its SMS management tool Messaging 2.0. Apparently, this enabled CM to gain enough critical mass to include exploration activities alongside its exploitation business: for the first time the firm could be ambidextrously organized as shown by the successful inclusion of Microincasso recently. The crux here might be that its exploration efforts are phased, with a relatively short cycle time of three years, rather than that CM already opts for a continuous pipeline of new product concepts.

![Figure 17. Need for organizational ambidexterity over time for a growing firm with a cyclic new product development approach.](image)

This view on the relevance of organizational ambidexterity points out why CM only shows to be ambidextrously organized recently, although an analysis of the antecedents of organizational ambidexterity reveals that there were no major barriers during earlier years. A lack of resources therefore might not only moderate the effectiveness of either one of the approaches to organizational ambidexterity, but also the relevance of the concept as a whole. Still, as shown in recent years, organizational ambidexterity is attainable for SME firms but when they are at their smallest. For CM, this stage arrived around 2008-2009, when its employee base rose to 25 FTE and the firm’s turnover reached approximately € 26,00 mln. (see Figure 4).
6.4.2. Strategic scope

Organizations differ in terms of their market strategy. Whereas some might adopt a business strategy focused on reliability and efficiency, others might choose to be at the forefront of offering innovative features to its customers. It is not difficult to imagine that such an orientation influences whether and to what degree an organization can and wants to be ambidextrous: when adhering to a strategy of continuous radical innovation, a firm’s balance might shift towards exploration, and for a reliability-oriented firm towards exploitation. Miles, Snow, Meyer and Coleman (1978) define four distinct categories to classify firms according to their market strategy: defenders, analyzers, prospectors and reactors. Defenders are those organizations with narrowly-defined product-market domains and often only a single core technology that is incrementally updated. Organizational structures are stable and functional, with centralized and simple coordination. At the opposite, prospectors are continuously on the lookout for new market opportunities and often experimenting with new developments connecting to emerging trends. Their focus is not on efficiency in the first place, but they are responsive to changes in their environment and configure their structure accordingly. Control in such orientation is results-oriented, whereas the locus of decision-making is at the lower level. As a result, coordination between departments is more complex than for a defender (Miles, Snow, Meyer & Coleman, 1978). Similarities between defenders and firms focused on operational excellence are abundant, whereas prospectors connect with elements from a strategy focused on customer responsiveness and product leadership. Miles et al. (1978) also define analyzers, firms that operate in different types of product-market domains, a stable and a dynamic one. In the stable product-market domain, such firms focus on routine and efficient operation by means of formalized procedures, whereas in the dynamic product-market domain the organization adopts a close follower-timing towards radical innovations launched by competitors, resembling a customer responsiveness strategy. The firm’s structure is matrix-wise, a combination of a functional and project hierarchy, which is a barrier for simple and efficient communication (Miles et al., 1978).

The fourth category introduced by Miles et al. (1978) resembles the reactor, an organization in which the top management team frequently perceives changes and uncertainty within the competitive environment of the organization. Because the strategic alignment of such a firm’s structures and processes is suboptimal, effectively responding to the dynamics of the environment in which it operates fails, leading to suboptimal performance levels as the organization is continuously unstable.

Although a typology of business strategies as discussed above is not always as clear-cut, CM nowadays could be identified as an analyzer focusing on different types of product-market combinations after expanding its business to voice-over-phone and mobile payments in the past years. Even when the SMS business’ competitive landscape isn’t overly stable, CM is able to focus on operational efficiency by formalization of procedures. Oppositely, in its dynamic product-market domain served, e.g. that of mobile payments, a close follower market entry timing is adopted with respect to its innovation launch strategy, also showing significant levels of customer responsiveness (Van Glabbeek, 2012). As characteristic for analyzer firms, CM’s organizational nowadays is matrix-wise, combining functional and project hierarchies (Miles et al., 1978). As such an analyzer firm focuses on both stable and dynamic product-market combinations associated with different innovation strategies, organizational ambidexterity is advocated to balance both exploration in the dynamic as exploitation in the stable setting.
Earlier, in the first six or seven years of the firm’s existence, CM could be described as a defender with a narrowly-defined product-market combination, a single core technology exploited, and a subsequently stable and functional organizational structure. The firm’s CEO pointed towards the limited financial resources that did not allow a strategy-driven technology push approach, but forced CM to maximally exploit its core products. Organizational ambidexterity only became relevant when CM’s business strategy changed from a defender to an analyzer approach, also resembling the pattern sketched in Figure 17, as a result of the sharp increase in both financial and employee resources around 2008. This change in strategic scope indeed is clearly aligned with the firm’s growth as discussed in the previous paragraph.

6.4.3. Environmental dynamism

The positive effect of organizational ambidexterity on a firm’s innovative performance is stronger in environments characterized by high levels of dynamism, i.e. increasing rates and unpredictability of change connects with the likelihood of organizational ambidexterity (Levinthal & March, 1996; Jansen, Van den Bosch & Volberda 2006; Siggelkow & Rivkin, 2006). For more rapid variations in technologies, customer preferences and demand or supply of materials, current products and services become obsolete earlier (Jansen et al., 2006). To capitalize on such changes, firms have to engage in explorative activities to come up with radical innovations. Given exploitation of a firm’s current portfolio, exploration is a second stream that organizations have to incorporate. As such, environmental dynamism is not that much a predictor of organizational ambidexterity, but an artifact that forces organizations to become ambidextrous.

CM’s drive to become ambidextrous partly stems from altering SMS market circumstances, where for example ever-increasing regulatory burdens threaten the market of CM’s Premium SMS business and an emergence of internet-based communication tools for the business to business setting aren’t unexpected. Simultaneously, while its SMS business still is highly profitable, the firm’s top management team observed opportunities in the voice-over-phone and mobile payment markets; opportunities worthwhile to pursue given economies of scale and scope benefits attainable. As argued before, CM’s quest for organizational ambidexterity is aligned with the firm’s diversification strategy launched halfway the previous decade and resulting in voice-over-phone and mobile payment product categories to become core pillars of the CM’s product portfolio.

6.5. Conclusion

This chapter offered an analysis of CM’s current organization alongside a framework of antecedents of organizational ambidexterity as presented in paragraph 6.2. The antecedent-wise evaluation resulted in in-depth insights in success factors and barriers to facilitate organizational ambidexterity to emerge at CM. Intermediate conclusions with respect to the firm’s score on antecedents of organizational ambidexterity at three levels of the firm - the organizational, the departmental and the individual’s level – were drawn, indicating where room for improvement remains and which steps have been taken so far to improve facilitation of an ambidextrous organization. Next,
moderators of the organizational ambidexterity – innovative performance relationship were discussed in order to interpret the link between the ability to be organized ambidextrously on the one and the need for it on the other hand. This last paragraph aggregates all findings and provides conclusions with respect to overall possibility of organizational ambidexterity to emerge at CM.

One of the first findings is that CM’s quest for organizational ambidexterity has especially become relevant in recent years, as its youngest radical innovation project Microincasso is part of one of the firm’s core product categories, but also benefits from leveraging existing knowledge and competences of the firm. Earlier radical innovations were not part of one of the firm’s core product categories at that point in time, or could only moderately benefit from operational leverage achievable. The analysis’ outcomes also show that where CM’s organization changed over time with respect to any of the antecedents to organizational ambidexterity, this change was mostly induced by the growth of the firm in terms of its financial and human resources. Only from 2008 and onwards CM appeared to have matured enough in terms of available resources, including about 25 FTE personnel capacity and approximately € 26,00 mln. turnover on a yearly basis, to consistently include exploration projects to its day-to-day operations. The quest for organizational ambidexterity thus started when the firm gained enough critical mass over time, prior to 2008.

From the antecedent-wise analysis also comes the observation that CM scores on predictors that are linked with the structural form of organizational ambidexterity, while that specific approach is often believed to be unfeasible for SMEs (Tushman & O’Reilly, 1996). Although the dual structures CM creates are different from separate business unit approaches, the firm explicitly put Microincasso’s radical innovation project aside of its regular business by means of staffing, housing and procedures. It appears that a hybrid form of organizational ambidexterity emerges at CM, where some degree of structural separation makes it easier for individual employees to work in an ambidextrous setting.

Upon considering CM’s performance with respect to all identified antecedents of organizational ambidexterity, it becomes clear that overall the prerequisites for an ambidextrous organization are met, which is in alignment with the successful inclusion of the development of Microincasso within the organization so far. Opportunities for improvement reside throughout the organization and include the positioning of Microincasso within or outside the CM organization, developing and employing a market orientation approach during different stages of the product life cycle, and the coordination and appointment of employees among the different product groups and to management tasks. The next chapter will start with an organizational design proposition that removes the barriers identified and explains how this design will aid CM in becoming truly ambidextrous. The four topics identified for improvement will next be discussed in the light of this new organizational design: what implications do they have for the CM organization as a whole.
7. **An improved organizational design**

While an analysis of the individual antecedents of organizational ambidexterity at CM as included in the previous chapter showed positive results with respect to most areas, opportunities for improvement remain on all levels of the organization. On the organizational level, an insufficiently developed marketing function and an inadequately formulated strategy with respect to new product development hinder the organization from behaving truly ambidextrously, while at the department level the management of the new product development team and at the individual level the assignment of project and product management tasks to employees influence CM’s ambidextrous performance in a similar fashion.

The first paragraph of this chapter argues in favor of a redesigned organizational structure, in which especially the marketing function is assigned an important role in building and making available accurate market intelligence to all stakeholders involved at CM. This new, explicit knowledge enables the continuous monitoring of and adherence to the firm’s new product development strategy. After elaborating on the overall contribution of the proposed organizational structure on CM being ambidextrously organized, implications on the level of the individual antecedents identified as suboptimal are presented. Together with general directions for managing the organizational change process, which are discussed in the third paragraph, this chapter ultimately is an advice to the firm’s top management team outlining how CM’s organization can become truly ambidextrous.

7.1. **A new perspective on CM’s organizational design**

Four areas in which the status quo of CM’s organization hinder the firm in its ambidextrous performance are key to the redesign of the organizational structure for which is argued in this paragraph. Major and related themes, and heavily influencing the design of the organization, are the strategic and market orientation that CM takes. The advice to focus on product categories and markets to some extent close to the existing, core product-market combinations rests on the premise of effective use of market intelligence. As advocated, CM can increase its market orientation by shaping room for a more mature sales-marketing interface. Now, the marketing function is hidden and performed by the firm’s top management and some key sales people, which limits the firm in benefiting from the leverage between marketing activities connected to its explorative and exploitative activities. Thus, it is suggested to formalize the marketing function, which can gradually transform from a sales-oriented into a long-term and strategically focused division. This maturity process can be aligned with CM’s adaptation to rely more on its own business strategy instead of maintaining the early-years reactive market-approach (Van Glabbeek, 2012), which requires the firm’s market intelligence to become more sophisticated altogether. Regardless of CM’s market approach, the turbulence in the firm’s competitive environment also calls for adequate market sensing and seizing capabilities. Given the likely initial sales-oriented nature when formalizing the marketing function and its relevance for the firm’s innovation program, its integration in the organization should be such that both can naturally draw from the knowledge created, and the maturing of the sales-marketing interface over time is not hindered. To achieve this, structurally
defining the marketing function in parallel with the firm’s commerce, innovation and technical departments (referring back to Figure 7) is suggested as depicted in an adapted organogram, included in Figure 18.

CM could source from its sales force to shape an early marketing function. Although sales and marketing are different subjects, requiring varying skills and capabilities, an analysis at CM shows that its sales team consists also of a number of employees with both other functional backgrounds and marketing experience. Drawing from the sales team can also aid in decreasing the risk of a culture clash, where sales is much more oriented on the short-term and direct wins and marketing takes on a strategic-oriented approach in the long term. Expertise in the field of marketing still is a natural prerequisite; it is therefore explicitly not argued to randomly draw a member of the sales team and assign marketing responsibilities. Considerations relevant to drawing up the marketing function as part of the change process are included in paragraph 7.3.

Once the marketing function is established as such, innovation project teams can draw not only from commercial and technical functional fields, but also from increasingly sophisticated market intelligence, and marketing in turn from the firm’s exploitative oriented departments. In line with Ernst et al. (2010), the innovation project team can consist of employees of CM’s marketing, sales and technical teams, where the role of marketing decreases during product development and is increased again when nearing the product launch stage. Although CM’s project teams can draw from existing functional resources as demonstrated again during the new product development process of Microincasso, it is done in a static rather than agile fashion. With the growth of the firm come increasing degrees of specialization of individual employees, which also calls for a narrower and more targeted resource allocation to keep the team lean and mean. An innovation project’s dedicated sales and marketing team members can act upon leads and early user input, which also contributes to shielding the radical innovation from the day-to-day, exploitative business, where
sales people now are drawn towards Microincasso regularly and in an unstructured fashion. Such an approach also contributes in maintaining focus during a product launch strategy, rather than the early and on-going shifts between different product-market combinations, where opportunities to recover R&D expenses appear to be neglected too easily.

The rationale behind the agile approach of new product development project teams is to benefit from the necessary and available expertise when required, so to keep the team compact and flexible. As CM does not run a designated new product development team, but composes one when necessary, it is understandable that Microincasso’s initial team transforms into a product team as the product matures. Although its personnel resources were adjusted both upwards and downwards where justified, the shift from a development-oriented towards a partly operation-oriented business did not bring new or other expertise to the team besides the beforementioned sales person after initial product development. While managing the new product development process among others comprises coordination with different functional areas in a dynamic environment with increased levels of uncertainty and risk, product management in the more stable exploitative phase is about efficiency and effectiveness, or being lean-and-mean, and involves a larger share of formalized procedures, also with respect to incorporating customer and user feedback. Although ambidexterity at the management level exists (e.g. Van der Borgh et al., 2011), it cannot be assumed for any individual without further thought. On the other hand, CM has to cherish its personnel with product management skills, where it is already short of. An approach similar to its current, general project team is therefore advocated. In that setup, a project manager with additional functional team members temporarily merges with an existing product team to take up a well-defined, one-time endeavor. For innovation projects, CM could also opt for gradually building a product team, which is initially supported by a project manager with expertise in the field of innovation management. The organization then builds lasting expertise in the latter field, while also reducing the risk that a potentially successful product ends up without a product manager, as happened with its voice-over-phone proposition and CM Online business.

As the structural overview reveals, introducing and formalizing the marketing function is a key aspect underlying the organizational redesign. Furthermore, the project division of CM is advised to be extended by innovation management capabilities, which allows for hybrid project and product management in a fashion similar to CM’s non-radical product development endeavors. Such a setup of the organization contributes in lifting the barriers to organizational ambidexterity, on the one hand because CM extends its competences in the area of market intelligence, allowing for a better alignment between strategy, tactics and operations, and on the other because the firm will develop lasting knowledge about exploration and radical innovation practices by building innovation management expertise without compromising the efforts undertaking for CM’s exploitative, yet core business.

It should be noted that the proposed organizational structure and its underlying firm organogram are not in alignment with the firm’s financial-juridical structure. Although the latter is internally of limited practical relevance, CM’s top management team is advised to continuously consider implications such a non-alignment might have. Especially as CM’s growth strategy also includes a competitor take-over strategy, employee identification with the organizational structure can be at risk when the financial-juridical structure becomes increasingly complex with and distant of the internal organizational structure.
The aggregated recommendations discussed above have lower-level, operational implications. A more in-depth discussion of the design of the marketing function, the design and management of new product development teams and product and project management at CM in general is presented in the next paragraph.

7.2. Redesign’s implications for organizational aspects

The proposed redesign of CM’s structural organization reflects means to lift the barriers to organizational ambidexterity identified. Whereas the previous paragraph discussed the redesigned organization on an aggregated level, this paragraph elaborates on the mechanisms by which the proposed changes aid CM in becoming truly ambidextrous. Attention is first paid to the suggested market orientation, as it is the key aspect underlying the redesign. Subsequently, the strategic orientation of the firm, the design of the new product development teams and the topic of product and project management will be covered in more detail.

7.2.1. Design of the marketing function

A firm’s marketing orientation characterizes the organization’s beliefs about how, when and why to serve customer needs. The term has been defined in numerous ways, for example as a firm-wide belief about and focus on servicing and creating value for customers, a set of “organization-wide processes involving the generation, dissemination, and responsiveness to intelligence pertaining to current and future customer needs” (1994: 224), and an organization’s capability to anticipate on market requirements before competition does and transform these requirements in lasting relationships with all stakeholders of the new product sales process (Kyriakopoulos & Moorman, 2004).

As discussed in paragraph 6.3.1. a firm’s market orientation can contribute to an organization’s ambidexterity by the complementary effects of marketing exploration strategies on marketing exploitation strategies and vice versa. Whereas marketing exploration strategies relate to segmentation and positioning and to new products, channels and other means of the marketing mix, marketing exploitation strategies mainly involve the refinement of current competences and routines associated with serving current market segments, product positioning, distribution, et cetera (Kyriakopoulos & Moorman, 2004). A combination of exploration and exploitation, i.e. an ambidextrous mode of operation, is empirically found to be the most effective and efficient way to address customer needs (Kyriakopoulos & Moorman, 2004). The complementarity of a marketing exploration and marketing exploitation strategy can provide a common frame of reference, which enables a focus on customer goals and facilitates market information flowing throughout the projects characterized by exploration or exploitation. “Existing organizational memory” (Kyriakopoulos & Moorman, 2004: 225) can be exploited by a new product development team upon interpreting market information, offering some structure for outlining the explorative activities. Although such structure can impede being explorative when too strictly imposed (e.g. Leonard-Barton, 1992), it is
also believed helpful, because it helps in focusing the new product development team to stay within reach of an organization’s strategic vision (e.g. Brown & Eisenhardt, 1997).

CM does not host a distinct marketing function; its activities are performed by the firm’s top management and key persons of the sales force. Such an approach is termed hidden marketing and reflects the most basic form of the sales-marketing interface, followed by sales-driven marketing, a living-apart-together configuration and integrated sales and marketing (Biemans, Brenčič & Malshe, 2009). Although such hidden marketing approaches as applied by CM come with effective and efficient communication and a focus on existing customers, they also pose the risk of failing to develop a long-term strategic plan, and strategies to be adapted to unexpected market developments more frequently because of limited market intelligence (Biemans et al., 2009). More developed sales – marketing interfaces are characterized by higher levels of strategy, both market and customer responsiveness and complementarity of sales and marketing knowledge available throughout the firm. Table 9 provides an overview of the four different configurations with respect to market-side characteristics.

<table>
<thead>
<tr>
<th>Value delivery</th>
<th>Hidden marketing</th>
<th>Sales-driven marketing</th>
<th>Living apart together</th>
<th>Marketing-sales integration</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Delivery of physical products by sales</td>
<td>Delivery of physical products by sales, plus management of intangible (brand) assets</td>
<td>Marketing creates and manages intangible (brand) assets and supports value creation by sales of products</td>
<td>Marketing and sales participate in full new product development cycle and commercialization to deliver value to customers</td>
</tr>
<tr>
<td>Responsiveness</td>
<td>Reactive responsive to changing short-term needs of individual</td>
<td>Sales identifies and enhances customized solutions</td>
<td>Responsiveness to long-term needs; proactive in identifying needs</td>
<td>Responsive to short-term and long-term needs because of shared</td>
</tr>
</tbody>
</table>

Table 9. Market-side characteristics of different sales-marketing interfaces. Adapted from Biemans et al. (2009).

As a result of this hidden marketing configuration, complementarity of marketing exploitation and marketing exploration efforts at CM is limited. CM’s struggle with finding the right product-market combination for its Microincasso mobile payment solution despite access to relevant customer groups is indicative of the lack of complementarity between the explorative and exploitative marketing output: after the product was launched and gained some initial brand awareness, opportunities for specific applications reached the Microincasso project team through individual sales people concentrating on CM’s other products. At the same time, shortening product life cycles and the costly and capacity-constrained sales resources suggest that a better defined sales-marketing interface would be justified, especially as CM’s organization faces rapid growth since a number of years and relationships are likely to become more formalized, and marketing’s function would exceed that of supporting sales (Kotler, Rackham & Krishnaswamy, 2006). Defining a formal marketing function and creating rules of engagement with the sales department and those involved in product innovation projects would be a first step to increase the firm’s marketing orientation, and aiding in leveraging the marketing exploration and marketing exploitation knowledge throughout the firm. Whereas this marketing initially will be supportive of the sales function, over time it can mature and evolve into a more strategically oriented division with a long-term focus closely involved with outlining the firm’s future plans. Marketing then plays an active role in strategy-setting, but also acts as a consultancy department for evaluating commercialization opportunities of new product ideas. Such an approach is especially advocated as CM transforms from a market-pull into a technology-push organization (Van Glabbeek, 2012), now having sufficient resources to be more strategy-driven than reactive.
7.2.2. Strategic orientation

Prior to discussing how a sound focus with respect to portfolio development in terms of strategic scope and operational leverage achievable is beneficial to the firm, a different viewpoint is taken by analyzing how an organization’s dynamic capabilities can aid in its long-term survival. A dynamic capability, according to Teece, Pisano and Shuen, is “the firm’s ability to integrate, build, and reconfigure internal and external competencies to address rapidly changing environments.” (1997: 516). These firm competencies are shaped by procedures, structures and operational processes and the organization’s culture. O’Reilly and Tushman (2007) point towards the responsibility that top managers have to reconfigure firm assets and competencies when the context of operation shifts, and add to an increasing literature base linking dynamic capabilities to chances of long-term survival. O’Reilly and Tushman (2007) in turn address organizational ambidexterity as a dynamic capability, because it allows a firm to react to market opportunities and probe new avenues in parallel to its ongoing day-to-day operations. Among others, Jansen et al. (2005) and Siggelkow and Rivkin (2005) also concluded that organizational ambidexterity is more likely to emerge in a setting with dynamic and competitive markets; a context in which dynamic capabilities are especially important as a firm’s top management team has to sense and seize market opportunities and threats and has to react to adequately (O’Reilly & Tushman, 2007).

From a firm perspective, Lubatkin et al. (2006) and Venkatraman, Lee and Iyer (2007) argue that small and medium enterprises often lack slack resources and hierarchical administrative systems for managing exploration and exploitation in dual structures. Adhering to the innovation housing strategy matrix depicted in Figure 14, this practically excludes separate business unit approaches when such firms have to determine how to embed radical innovation projects – explorative activities – into the organization. A similar line of reasoning holds for innovation projects that don’t fit with a firm’s strategic scope, nor can benefit from significant levels of operational leverage, making it unlikely to invest in such opportunities when better alternatives in terms of strategic fit and leverage opportunities are available. Hence, it is argued that SME firms seeking to expand their product portfolio to serve new product market combinations try to find expansions which one the one hand allow for operational leverage to be achieved, while at the other are also aligned with the organization’s strategic scope. Then, firms are able to effectively spend their (limited) new product development resources while also benefiting from the dynamic capabilities when sudden changes in the competitive environment force the organization to react or adapt quickly.

The question what approach, from a strategic viewpoint, CM should take with respect to Microincasso essential for the product’s future. As outlined in paragraph 6.3.1. when discussing strategic orientation as an antecedent of organizational ambidexterity, different levels of operational leverage can currently be achieved in different stages of the product life cycle of Microincasso. In the product development phase, in which software development plays an important role, there are high levels of leverage with existing technological knowledge possible, e.g. where it comes down to SMS as a communication medium. On the other hand, CM has limited experience with servicing the end user base targeted by Microincasso: consumers with a need for mobile payment possibilities. Servicing these end users is a new area when it comes to other than the rather static means of a user portal on a website: customer care by phone, e-mail or social media. Although the firm’s Network Operations Center (NOC) addresses the first two of the tasks for a large share of the other products
of CM, this servicing – in the business-to-business setting – is almost without exception technical in nature and as such not comparable to the service needs of Microincasso’s end users.

Upon determining whether Microincasso in the future is to be integrated into the CM organization as a main product, or to be spun-off into a separate business unit, CM considers the operational leverage achievable, the identity of Microincasso relative to CM and the fit with performance requirements CM poses upon its product portfolio. To date, the firm’s management team is in the process of determining how to include Microincasso in the CM organization. As the product’s take-off in the first six months after launch has not been overly rapid, and a new opportunity to integrate Microincasso in the billing page of the firm’s Mobile Content Billing product arose as a result of new legislation in 2012, embedding Microincasso in CM’s mobile payment solutions portfolio seems reasonable. New regulations force MCB payment providers to internally host the payment portal, in practice thereby tightening the linkage between CM and consumers. While recovering part of the research and development costs so far, Microincasso can simultaneously be extended to provide in-app payment features, one of the most promising product-market combinations discovered after launch. Using this approach, CM embeds Microincasso in such a way that maximum operational leverage can be achieved for its strategically important offerings, while pursuing the opportunity to build market share in the in-app payment market.

### 7.2.3. Design of the new product development team

Managing new product development teams is characterized by a number of trade-offs, for example about the incorporation of functional backgrounds during what stages of the development cycle, the number of different functional areas, the hierarchical design of the team and its period of existence.

Ernst, Hoyer and Rübsaamen (2010) empirically show that a close cooperation of the sales and research and development functions of an organization during the concept development stage is required to generate new product ideas that are both closely aligned with customer’s needs and have a high market potential. Cooperation between the sales and marketing function is at the same time essential for the assessment of the product proposition’s fit with broader market requirements and the organization’s new product development strategy. Homburg and Jensen (2007) point out that a sales department often lacks this knowledge. Marketing’s involvement during the concept development stage therefore is required “to generate ideas with the highest market potential, align the ideas with a firm’s NPD strategy, and effectively define the overall product concept and product features before the NPD project is taken into the development stage” (Ernst et al., 2010: 84).

In the product development stage, the cooperation between sales on the one hand and research and development on the other hand is beneficial for the project’s performance, because the sales function can feedback early results of use testing to the development team. The sales team, close to the firm’s customer base, can aid in selecting the best customers for referencing or testing purposes (Ernst et al., 2010). The cooperating between sales and marketing on the other is of less importance in this stage, because the knowledge of individual customers owned by the sales team is of less relevance to marketing’s assessment of the market acceptance and strategic and commercial merits of a new product (Ernst et al., 2010). Oppositely, cooperation of the sales and marketing functions
during the product launch stage is positively associated with a new product development project’s performance. An organization’s sales force is key to adhering to an effective launch strategy and ensuring commitment to selling the new product, while it can also consciously target innovator users crucial for the product’s diffusion in the market (Ernst et al., 2010). The marketing function of a firm is generally lacking such knowledge, hence the reason that the sales function’s input to marketing’s launch strategy development is beneficial for the new product’s success (Ernst et al., 2010). As described in paragraph 7.2.1, the marketing function at CM is hidden. A more mature marketing function contributes to a new product’s success by its input during the concept development and product launch stage, which was mostly lacking for the Microincasso project. Rather than being organic and flexibility adapted to the requirements over time, the new product development team of Microincasso remained relatively static and focused on general product management, with the exception of adding a sales person to the team once Microincasso was ready for launch. A closer involvement of the sales and marketing function therefore could have aided in targeting the right customers during the concept development phase, and targeting the right customers rightly during the product launch stage.

Although most firms house more functional areas than discussed above, not all are relevant during the concept and product development and launch stages. As CM shows, a facilitative department as administration or legal counsel is generally not directly involved in a new product development team, but is drawn upon when necessary only. As such, the number of functional areas simultaneously involved remains limited, which brings forth the benefits of increased responsiveness when making product-related decisions because of the better ability to “generate and disseminate market and technology information”, without reaching the point in which decision complexity outweighs the benefits of the more diverse knowledge and competences available (Akgün, Dayan & Di Benedetto, 2008: 222). Therefore, and in line with the previous recommendations, it would be advocated to keep a new product development team compact and flexibly composed according to the product’s development stage. To achieve such a new product development team, it is worthwhile considering the different project designs available.

Project structures can be defined in numerous ways. Larson and Gobeli (1988) distinguish between a functional, a functional matrix, balanced matrix and project matrix structure, and a project team, each with different implications with respect to the locus of authority. Table 10 provides an overview of the different designs.

<table>
<thead>
<tr>
<th>Design</th>
<th>Locus of authority resides with …</th>
</tr>
</thead>
<tbody>
<tr>
<td>Functional</td>
<td>Functional management and firm’s higher management</td>
</tr>
<tr>
<td>Functional matrix</td>
<td>Functional management for the functional areas, plus a limited-authority overall project manager</td>
</tr>
<tr>
<td>Balanced matrix</td>
<td>Shared between project manager and functional management</td>
</tr>
<tr>
<td>Project matrix</td>
<td>Project manager plus functional management for resources allocation</td>
</tr>
<tr>
<td>Project team</td>
<td>Project manager</td>
</tr>
</tbody>
</table>

Table 10. Project structures with different locus of authority. Adapted from Larson and Gobeli (1988).
Larson and Gobeli (1988) empirically observe that the balanced matrix and project matrix approach are most favorable in terms of cost, schedule and technical performance. Although the coordination is brought along in the matrix designs are argued to be hampering effectiveness and efficiency (Larson & Gobeli, 1988), for smaller firms like CM these are likely to be less of a threat due to the limited hierarchy and distance between individual employees. CM is organized in functional departments, but since recently opts for a project matrix structure when it comes to new product development. In the Microincasso case, the product manager acts as project manager and coordinates the work effort done by the product's sales person and software developer and facilitative departments. Such approach resembles a heavy-weight team structure as introduced by Clark and Wheelwright (1992).

Another significant benefit of such a project matrix over a project team approach is that resource-constrained functional areas, like software development at CM, can more easily be discarded from the project team where appropriate, rather than maintaining a fixed group of participants while resource demand fluctuates over time. Adhering to a similar line of reasoning, the project matrix approach also enables the inclusion of other functional areas, like marketing, when required in the concept development and product launch stage. CM’s new product development team structure therefore can be exploited to better benefit from in-house expertise in different functional areas by organically managing the current project matrix design of new product development projects. Employees from different functional backgrounds should be added and removed from the team depending on the knowledge and competences necessary. This way, available resources are efficiently used and the team remains lean and mean.

7.2.4. Product and project management

Given the nature of new product development activities, including highly coordinated activities across multiple functional disciplines, personality variables are considered important determinants of new product development team performance (Reilly, Lynn & Aronson, 2002). Upon analyzing the relationship between the Big Five personality dimensions and the characteristics of adaptors and innovators (see paragraph 6.3.3.), extraversion, conscientiousness and openness together cover traits that capture both adaptors and innovators. That is in line with findings of empirical research undertaken in Singapore (Kwang, 2002), which revealed higher levels of conscientiousness for
adaptors than for innovators, and higher levels of extraversion and openness to experience for innovators than for adaptors. Balanced scores on the constructs thus might indicate a person able to behave in an ambidextrous fashion.

Reilly et al. (2002) add an additional dimension to this research by taking into account the team heterogeneity with respect to the five personality dimensions. They propose that a team with heterogeneous levels, a wide range of scores on openness is beneficial for incremental innovation project team performance, but detrimental for its radical counterpart. Reilly et al. (2002) explain this difference by the unconditional requirement for high levels of openness in radical innovation project teams, meaning that a mixture of low-level and high-level would result in less optimal performance, whereas incremental innovation project teams benefit from a few participants with high levels of openness to deal with unexpected events that arise even in rather stable product exploitation environments. In a reversed fashion, heterogeneous levels of agreeableness and conscientiousness in an incremental innovation project team are believed to reduce performance, where radical innovation project teams benefit from the challenging competitive instead of cooperative attitude (agreeableness) and different viewpoints and non-conforming attitudes (conscientiousness), although Reilly et al. (2002) advocate the inclusion of a few rule-guided employees in such a team to keep focus on the project goals. Last, Reilly et al. (2002) propose that varying levels of extraversion is beneficial for radical innovation project team to manage both internal and external interfaces.

The differences in the effect directions of the five personality dimensions on innovation team performance suggest that individual employees should not be carelessly shifted between radical and incremental innovation projects. At the same time, managing and leading teams who differ in terms of the team members’ personality characteristics and their heterogeneity poses other challenges on the team’s manager. This is especially relevant for SME firms, which more often than not don’t have a dedicated new product development team, but build one according to the demands. As a result, it isn’t uncommon for a project leader to take on the role of product manager, as also happened with Microincasso’s project team. When this product matures and the focus shifts from development to operation, the nature of the associated activities becomes more exploitative in nature. Whereas a project matrix organizational form as discussed in paragraph 7.1.3. allows for adequately adapting a team to demands in terms of functional resources, the role of product manager at CM is less flexibly adapted, especially not where the organizations faces a shortage of skilled product managers. As a result, the product manager at CM currently leads a team with a shifting focus from exploration to exploitation over time.

While this shift in nature of the activities the team performs poses challenges, additional complexity is created when a product manager has to focus on explorative and exploitative teams simultaneously. The managing scope of Microincasso’s product manager was set to be expanded to CM’s Online division halfway 2012, adding a relatively stable product offering along Microincasso, which is planned to enter a new market segment (in-app mobile payments) in the same time period. Little is known about the effects of ambidextrous product managers on individual product and team performance, hence clear recommendations are refrained from. Still, given the strategic importance that Microincasso both should and could gain within the CM organization, it is worthwhile to touch upon the limited knowledge pool regarding ambidextrous management.
Van der Borgh, De Jong and Nijssen (2011) empirically show how sales manager ambidexterity affects a sales person’s explorative and exploitative proactive selling behavior. The results of their study indicate that an ambidextrous sales manager positively affects both the sales person’s explorative and exploitative proactive selling behavior compared to non-ambidextrous sales managers: an explorative sales manager negatively influences a sales person’s exploitative proactive selling behavior and an exploitative sales manager doesn’t affect a sales person’s explorative proactive selling behavior. Reallocating a sales manager who has proven to be successful in selling radically new products to a group responsible for selling incrementally innovative products thus might turn out wrong. Caution therefore is advocated when expanding a product manager’s authority scope, as it is not unimaginable that similar effects will hold for product managers as for sales managers. Deliberately planning how new product development projects and their outcomes are managed prevents “oh, please manage this product also, would you?” situations to emerge, for example where Microincasso’s product manager was implicitly assumed to take up on the CM Online business.

7.3. Change management practices for implementing the recommendations

Upon implementing the recommendations presented before, careful consideration should be given to the approach taken for this implementation. Especially the establishment of a marketing function which’ operation is both in parallel with and complementary to sales’ work could result in backlash when not carefully managed, for example because of economic and cultural differences, and distinct activities performed. Managing the change process effectively is crucial in achieving the planned benefits and preventing internal dissonance to affect the team’s performance. An analysis of the academic literature reveals an increasingly growing base of papers covering change management. This paragraph will draw from seminal papers by using key elements of change processes to outline how CM can proceed in implementing the recommendations presented.

Philips (1983) describes four phases of organizational change, subsequently being the creation of a sense of concern, the development of a commitment to change, pushing for major change to take place, and the reinforcement and consolidation of the new course of action. In the initial stage, a “strong and widespread felt need to change” (1983: 189) is to be developed, without necessarily specifying what this change should look like. This aims at creating awareness and understanding of the need for change, for example because of changes in the competitive environment. Typically, there is a core group of people that are committed to building this awareness of the need to change. According to Philips (1983), it is also key to identify the weaknesses of the organization in responding to the identified threats. In the subsequent phase of the change process, the weaknesses of the company with respect to the identified threats must result in a strategic vision which clarifies how the firm positions itself for the future. From this, necessary new competences can be derived, outlining which changes need to be made when and how. In this phase, the strategic vision has to be adopted by the top management’s team, who in term respond with commitment to the change at hand (Philips, 1983). The actions that lead to the change being performed are part of Philips’ (1983) third phase of organizational change. Here, the necessary new competences will be established and become part of the firm’s day-to-day operations. The majority of the managers in an organization
would work in alignment with the firm’s strategic vision. In the last stage of institutionalization, the new way of working becomes embodied in the corporate culture.

The change process as outlined by Philips (1983) is further detailed by Kotter (1995), who describes it in eight steps. His call for establishing a sense of urgency to change, and the subsequent forming of a powerful guiding coalition map with Philips’ (1983) sense of concern for organizational change. The creation of a strategic vision and its communication, the empowerment of employees to act according to the vision and planning and creating short-term wins, and the consolidation of improvements and institutionalization of new approaches are in turn aligned with the three remaining steps of Philips’ (1983) take.

The phased approach as discussed above might suggest that an organizational change is a process with clear boundaries denoting the start and the end of the change. Although this is the case for episodic change, change process that are infrequent, discontinuous and intentional (Weick & Quinn, 1999), its continuous counterpart coined ongoing, evolving and cumulative has less clear boundaries. Rather, it is perceived as a realignment of a previous change process. Continuous change is considered emergent, meaning that it occurs without a priori developed intentions. The bottom line here is that small, but continuous adjustments in organizational processes which occur in parallel across multiple departments of an organization accumulate into significant changes at the organizational level. The focus of continuous change is on long-run adaptability. This intervention process then is described as freeze, rebalance and unfreeze (Weick & Quinn, 1999), which implies that current behavior is captured to build understanding about how one works, before newly interpreting and balancing existing patterns to address opportunities, and the resume learning in action. A change agent’s role is one of creating awareness about and facilitating change to emerge. Oppositely, Weick and Quinn (1999) describe the episodic change case as unfreezing, transition and refreezing, enabling a firm to adapt on the short term. In the first stage awareness about not meeting expectations spreads, which ultimately leads to restructuring beliefs and standards, after which new norms are institutionalized in the refreezing phase. Weick and Quinn (1999) relate episodic change to companies characterized by punctuated equilibrium behavior, where periods of stability are followed by smaller times of significant change before stability sets in again. Under such change approaches, the role of the change agent is one of starting the change, focusing on inertia and seeking leverage.

Philips (1983) describes three approaches to achieving change, the first being subtle orchestration. This take is based on the deliberate creation of recognition of the need for change by challenging managers to critically reflect on what is going on in the firm’s environment. A substantial group of influential people in the organization in turn approach the top management team, which can shape room for the initiatives developed. Such an approach, according to Philips (1983), is helpful for creating a sense of concern and developing commitment to change, but requires adaptability to change, or an organization that is only moderately institutionalized at maximum, lacking high levels of inertia. In sharp contrast is a classical top-down approach, in which the top management team or one’s representative drives the change process. Although the time needed to create a sense of concern and commitment, there are high risks associated because of unenthusiastic compliance or resistance from lower hierarchical levels. Philips (1983) states an urgent need for change, skilled leadership, and a sound strategic vision as prerequisites for a top-down approach to work, because success is necessary to build support from the organization afterwards. Third is the approach termed internal transformation, which relies on the belief that institutionalized processed are adhered to
unless they do not work anymore. Such a critical and demanding approach would force employees to change to meeting the requirements. Philips (1983) combines this take with changing the internal structure, for example by creating profit centers that are evaluated using performance-based measures. Such restructuration approaches are advocated when adaptability is limited, but the threat of disaster is not immediate (Philips, 1983).

CM is an organization in continuous motion, adjusting and realigning itself where necessary. The flexibility of the smaller SME with its limited degree of institutionalization contributes in being able to do so. Nevertheless, it doesn’t imply that occurring changes are always the right one, are adjusted in time, or touch upon all relevant areas. Although CM is rather agile when it comes down to addressing changes in the competitive environment, and transits into an organization that is driven by strategy rather than by market pull (Van Glabbeek, 2012), the recommendations to the firm as addressed earlier are not part of the ongoing change processes. While discussion about how CM should manage its innovation endeavors shows awareness and commitment of those involved, the need for a marketing function seems to be less observed. It is advocated to adhere to a subtle orchestration approach, which has significant merits as the sales-marketing interface is developed in a bottom-up fashion, limiting the chances of backlash as a result of culture clashes. The firm’s managing director together with key people involved with CM’s portfolio management, e.g. the software development, IT infrastructure and sales managers, can develop a feeling of urgency – why do we need marketing? – and commitment of those, e.g. sales, that will be directly affected. At the same time, as the marketing function in the redesigned organizational structure is assigned a key position within the organization, its contribution in commercial, innovation and technological development activities should be monitored and guided to prevent ineffective interfaces in a living-apart-together approach where complementarity between the different functions is lacking.

Where it comes down to coordination of project teams and the scope of managing innovations at the individual employee level, CM benefits from the fact that both project teams and employee career paths are far from institutionalized. Multidisciplinary teams working on innovation projects did not exist at CM until half a year ago, while managing innovation resided with the top management team. The relatively low age and the agility of the organization, indicative of the low level of institutionalization at CM and commonly observed among SMEs (Tushman & O’Reilly, 1996), therefore should be less of a burden. Contrary to the creation of a formal marketing function, the scope of the latter recommendations also is limited and doesn’t affect the overall organization, but a relatively small sub-group instead. The proposed changes to the organization therefore have implications for a small number of people, mainly the product and project managers, which significantly eases the process.

7.4. Conclusions

This chapter addressed how CM should resolve the identified barriers to organizational ambidexterity by proposing a redesigned organizational structure that is in accordance with findings from literature and practice. As such, this chapter reflects an advice to CM’s top management team about the future of CM’s organizational design.
CM’s market orientation was found to be hidden and performed only by the firm’s CEO and a limited number of higher-level managers, resulting in a continuously shifting focus during new product development endeavors. At the same time the marketing function will become increasingly important to the firm as CM transforms from a market-pull oriented organization to one driven by its own strategic vision, as outlined by the firm’s CEO. Formalizing the marketing function at CM in a bottom-up approach, facilitated by key people from development, IT infrastructure and sales and the managing director, is advocated to work towards a healthy sales-marketing interface. Marketing then should be positioned in parallel with the firm’s commerce, innovation and technical departments, ensuring that innovation project teams can draw not only from commercial and technical functional fields, but also from increasingly sophisticated market intelligence which is complementary to the firm’s exploitative market knowledge as generated and consumed by sales. With respect to the firm’s strategic orientation, specifically when it comes down to portfolio management and the contribution of radical innovation products, it was advised that CM stays close to its current set of core product categories – SMS service, mobile payments and voice-over-phone – to benefit from operational leverage. The marketing function can heavily contribute to the firm’s portfolio management with its ultimately strategy-driven approach and aids in adhering to a commercially and strategically desirable innovation strategy.

Next, upon discussing the coordination and maturation of the new product development team, it was argued that the currently used, but relatively new-to-the-firm project matrix approach of new product development endeavors could be managed more effectively by consciously building the team, adding and removing resources with different functional backgrounds as the project moves along. Then, the innovation’s project team will remain lean and mean and scarce personnel resources are used most efficiently. Last, while analyzing the current approach of managing innovations at the level of individual product manager, it was found and argued that reallocating staff that has proven to be successful on explorative tasks to exploitative tasks and vice versa should be done with great caution, as empirical findings suggest that such can work out negatively. More detailed recommendations are not presented with respect to this topic, as the knowledge base to date is too limited and calls for further investigation.

It was also found that upon managing the proposed changes to the organization, the formalization of the marketing functions affects CM the most. As the firm is not in immediate danger, a bottom-up change process is advocated to limit the risk of backlash from CM’s sales department, which will be confronted with a functional area close to its own, but with a different culture and scope. Managing the proposed changes with respect to the coordination of CM’s new product development team as well as innovation at the individual employee’s level is perceived as less risky, as the organization is all but institutionalized on both areas and in general can be classified as agile.

The next chapter offers a wrap-up all findings of and recommendations from this master thesis project conducted at CM.
8. Conclusion, discussion and managerial implications

This master thesis research project revolves around the central question how an SME organization like CM can be organized ambidextrously to facilitate exploration of new product-market avenues, while also effectively exploiting its current product portfolio. In order to answer this question, the current and desired levels of explorative and exploitative activities at CM were analyzed, with specific attention being paid to the way in which innovation projects are included in the organization. An evaluation of the firm’s innovative performance over time – how well did earlier innovation projects turn out and why? – combined with an analysis of prerequisites of organizational ambidexterity shed light on the question how CM can improve its organizational design to become truly ambidextrous. This question is relevant to the firm given the changes in the competitive environment, which appear to render CM’s core business obsolete in the not-too-distant future, while the firm’s financial health still largely depends on the revenues that come from exploiting these products. Facilitating exploration and exploitation in parallel is also a relevant competency at CM, because the firm’s product portfolio nowadays is based on three product categories – its original SMS business, micro payments and voice-over-phone applications – all in different stages of maturity. While much of the SMS services CM offers are mature and stable, the product propositions for some of its micropayment solutions, like Microincasso, and voice-over-phone applications are still in the initial stages of the product life cycle, requiring significant levels of opportunity exploration. The Microincasso innovation project then is the most distinctive of its kind as a result of the introduction of a cross-functional project team, shielded from day-to-day operations by dedicated resources, different procedures and targets to be met. Such changes reflect to ongoing learning at CM, which is translated into organizational change as depicted in Figure 1.

Upon analyzing the realization of organizational at CM, it was asked what balance between explorative and exploitative activities was realized now and in the past. A close inspection of the firm’s product portfolio over time reveals that its set of core products now largely resembles its offering halfway during the previous decade. The firm adheres to a three-yearly cycle of idea generation, concept development and new product exploitation, leading to a shifting balance between exploration and exploitation over time. Periods characterized by exploration were identified in 2006/2007 and from 2010 onwards, in the former case when VideoConsult was unsuccessfully developed from a customer-specific product into a business application, while the latter shows some initial success for the three new products Mobile Content Billing, CM Direct and Microincasso. Signs of successful organizational ambidexterity at CM, when the firm succeeds in efficiently and effectively facilitating the exploration of new product concepts alongside the exploitation of its existing businesses, thus are recent. By changing the competitive landscape upon introducing a new pricing strategy for its SMS business in 2008, CM was able to rapidly expand its market share and subsequently build enough critical mass which now enables the firm to house exploration and exploitation successfully alongside each other.

The common viewpoint that exploitation pays for a firm’s exploration efforts (Han et al., 2001) was observed in CM’s history, as the firm was able to invest in exploration as a result of expanding resources by a continuous renewal of its infrastructure, introducing scalability to its SMS products’ propositions. One of the main findings regarding the combined levels of exploration and exploitation at CM is that the firm has seen three stages of organizational ambidexterity. First, exploration
activities constrained to one or a small set of product concepts were performed alongside incremental innovations during a limited time span (2006-2007), after which the focuses returned to exploitation. Next, approximately starting in 2010, exploration became a more constant factor at CM, but with a periodicity within the new product development endeavors. Idea generation, concept development and commercialization of the new product occurred serially rather than in parallel. Only recently, CM appears to have gained enough critical mass to build a continuous pipeline with new product concepts, indicative for a third stage of – full-time – organizational ambidexterity. Figure 4, showing CM’s product launch timeline in parallel with the development of its personnel base and turnover, illustrates this building of critical mass that enables the firm to become fully ambidextrously organized now. In the near future, CM thus can facilitate and manage a continuous stream of new product concepts, which are developed and upon successful commercialization further exploited.

An assessment of CM’s current organizational design alongside antecedents of organizational ambidexterity was done on three levels: the organization as a whole, the department level and the level of the individual employee. This analysis showed positive outcomes on the majority of the predictors of organizational ambidexterity. Among CM’s best scored-on antecedents were its technological orientation, its organizational structure and culture, degree of organization and leadership approach (organization level), its overall coordination of resources (department level) and job design (individual level), while both its strategic and market orientation (organization level), the coordination of its new product teams (department level) and the match between individuals’ traits and job requirements (individual level) offer room for improvement. It was also observed that among the antecedents CM scored on well, a remarkable number also related to the structural approach of organizational ambidexterity. Indeed, CM created task partitioning-based dual structures for its explorative and exploitative activities, illustrated by the resource allocation and requirements posed upon the project team. This counters popular beliefs that dual structure approaches are largely infeasible for SMEs (e.g. Tushman & O’Reilly, 1996). But as shielding Microincasso’s new product team from the rest of the organization was consistently mentioned as beneficial to its performance, hybrid forms consisting of elements of both structural as contextual organizational ambidexterity seem to have their merits also in the SME setting. While common arguments against the feasibility of structural approaches include limited resources (March, 1991; Wiklund & Shepherd, 2003), it might be that the leeway for adjusting job characteristics and carefully matching personality characteristics with job designs or vice versa is equally limited for a small enterprise in a highly competitive environment. The hybrid approach in which the structural and contextual forms complement each other in achieving organizational ambidexterity appears to do the trick for CM.

Four topics for which room for improvement was identified in relation to facilitating the emergence of organizational ambidexterity were further investigated. CM is first and foremost advised to formalize the marketing function, which is now performed solemnly by the firm’s CEO and a limited number of managers, for two reasons. First, as a result of the current, limited approach, critical market information is missing, which in turn led to a continuously shifting focus on product-market combinations during the introduction phase of Microincasso. Second, because CM recently takes on a strategy-driven market orientation rather than a market-pull approach, it is in strong need of market intelligence to ensure an accurate response to changes in the competitive environment. Formalizing the marketing function is the key underlying element of the proposed redesign of the organization, in which it is aligned in parallel with CM’s commercial, innovation and technological
department. To ensure an accurate sales-marketing interface to emerge, and effective and efficient cooperation among the firm’s commerce, innovation and technical departments, CM is advised to use a bottom-up approach by subtly orchestrating the need for an advanced level of marketing competences. Key people from development, IT infrastructure and sales and the managing director can facilitate this process.

A second set of recommendations links with CM’s internal product and project management. The new product development team for Microincasso was organized in a relatively static fashion, without a phase-wise allocation of different functional knowledge and competencies. By more effectively managing the currently used project matrix approach, a more efficient use of personnel resources can be achieved while the project team is both better equipped for different challenges throughout the new product development endeavor, while also being kept lean and mean. Here it is up to CM’s managing director to closely monitor the competences and knowledge relevant throughout the new product development cycle and pro-actively shape the team. CM should also pay specific attention and deliberately plan the assignment of management tasks to its individual employees. Little is known about the positive and negative effects of managing both explorative and exploitative activities in parallel, while proven success in either of both also doesn’t guarantee high performance in the opposite setting. Research in the sales setting showed positive effects for ambidexterity of sales managers on sales employees. Although research has not been replicated in the product and innovation management setting, it is not unlikely that similar effects emerge, hence the call for cautiously approaching the management tasks’ allocation to individual employees.

Based on the in-depth analysis of CM’s organization along antecedents of organizational ambidexterity, this master’s research project meets its goal of proposing how an SME like CM can be ambidextrously organized based on the structural and contextual approaches to the concept. The relatively smooth inclusion of Microincasso’s radical innovation project shows that CM is already well underway in building the competence to facilitate explorative and exploitative activities within the organization. Market challenges and an internal adjustment towards a strategy-driven approach strengthen the need to facilitate the process of becoming ambidextrously organized, which CM is believed to be better able to do upon implementing the recommendations presented before.

On a general level, this research project provided insights in the process by which CM transformed into an ambidextrous organization since the firm was founded more than a decade ago. Rather than a punctuated equilibrium approach, in which the balance shifts from exploitation to exploration and forth over time, CM behaved ambidextrous in three fashions. First, exploration efforts alongside exploitation were limited in time. Next, exploration became a constant factor, but with sequential rather than parallel performance of idea generation, concept development and commercialization as part of the exploration activities. Third, and describing CM’s current status, exploration is a full-time activity, building a pipeline of new product concepts alongside day-to-day exploitation activities. The literature base to date is blank with respect to this developmental part of the organizational ambidexterity concept, while it is highly relevant for SMEs that face a need to become ambidextrously organized, like CM did. Future process studies in this area are therefore of great interest, both from a scientific as from a practical point of view.
9. Limitations and future research

This case study research has been conducted as final part of the TU/e master study Innovation management, limiting the available amount of time to approximately five months. As a result of this, the scope of the analysis has been narrowed down to fit the available capacity while ensuring sufficient levels of depth in the areas touched upon. The perspective of this case study has been one in which the feasibility of the concept of organizational ambidexterity has been investigated for an SME-characterized firm, CM. While the goal has been to evaluate CM’s current organizational design along a number of prerequisites of organization ambidexterity, and to derive an improved organizational make-up from the outcomes, other topics as the interplay between structural and contextual forms of organizational ambidexterity are not investigated in great detail, although being observed. The analysis showed that a hybrid form, incorporating elements of both organizational ambidexterity approaches, works for CM. An interesting avenue for future research hence is whether and how such hybrid forms of organizational ambidexterity perform compared to either the structural or contextual approach alone. Research-worthy is also to investigate what constitutes the minimal requirement to facilitate organizational ambidexterity. CM appeared to be organized in accordance with a relatively large number of antecedents of organizational ambidexterity, but observations indicate that the process of becoming ambidextrously organized included multiple steps. Exploration endeavors were initially limited to bounded periods of time. In the subsequent phase explorative activities were undertaken continuously, but with a shifting focus over time: three-yearly cycles of idea generation, concept development and commercialization/exploitation. Now, CM gradually appears to be able to continuously maintain a pipeline of new product concepts, effectively being a third stage of organizational ambidexterity. Whether and how this process can be generalized to other SMEs, or organizations in general, is not investigated in this research project, although it is a logical next step in understanding the processes underlying the emergence of organizational ambidexterity.

This research project has also methodological limitations. Given the nature of the case study approach, it is not designed for statistical inference purposes. Rather, it is used to test the theory of organizational ambidexterity in the case of specific firm in a specific context, that of the SME, and hence gives some initial insights into particular topics related to the combination of the concept under study and the setting chosen. Research about organizational ambidexterity is abundant, but almost without exception confined to the setting of larger and often multinational organizations. Questions pertaining to the how and why of organizational ambidexterity as discussed earlier in this chapter call for more qualitative and quantitative research, building understanding about how SME firms specifically can proceed when transforming their organizations according to ambidextrous designs.

The threat of retrospective bias when using participant observations to build understanding of phenomena afterwards was tackled in this project’s data collection processes in multiple ways. First, it was actively addressed by focusing on factual elements rather than on subjective interpretations when interviewing employees of CM. Second, CM’s open culture and the intrinsic motivation of individual employees to contribute to the research project limited to chance of giving answers in a way favorable to the employee. Cross-validation also aided in decreasing this threat.
Appendix
1. **Interview protocols**

*Questions related to the balance between explorative and exploitative activities*

1. Welke bijdrage van het Microincasso-project verwacht jij voor de organisatie? Maak een onderscheid tussen de korte en lange termijn.

2. Hoe zou in jouw ogen de rolverdeling tussen research & development aan de ene zijde en de marktgerichte afdelingen aan de andere zijde eruit moeten zien om innovatie te faciliteren? Moet R&D de marktontwikkelingen volgen of pro-actief een rol spelen in het samen met marketing bedenken van nieuwe producten?

3. Een deel van het productportfolio van CM kan met elkaar concurreren (Premium SMS, Microincasso). Op basis waarvan wil je tussen de concurrerende producten een balans aanhouden?

4. CM zet nu in op drie productgroepen: SMS, voice en micro-payments, waarbij SMS, en micro-payments deels (MCB) nu de core business zijn. Hoe zie je de verhoudingen tussen die drie categorieën zich ontwikkelen in de komende vijf tot tien jaar?

5. Op welke manier verwacht je dat de verhoudingen tussen de drie productcategorieën gaan veranderen? Liggen daar externe of interne factoren aan ten grondslag?

*Questions related to the barriers to and success factors of organizational ambidexterity*

1. Kun je aangeven wat volgens jou het meest innovatieve product is geweest dat CM in zijn bestaan heeft ontwikkeld en waarom?

   >> aim: identifying growth strategies according to the Ansoff-matrix

   

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<tr>
<th>Markets</th>
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<td>New</td>
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<td>Diversification</td>
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2. Is er een innovatief product of zijn er meerdere innovatieve producten ontwikkeld door CM dat/die geen succes is/zijn geworden? Was de ontwikkeling of de marktintroductie geen succes?
3. Kun je de volgende producten verdelen in drie categorieën op basis van hoe het ontwikkeltraject is verlopen: heel succesvol, in enige mate succesvol, niet succesvol?

4. Kun je de resultaten van deze indeling verklaren?

5. Waardoor is de innovatie geen succes geworden?

>> aim: identifying a possible correlation between growth strategy pursued and product launch success and failure

6. In welke mate zaten de innovatieprojecten verweven in de dagelijkse routine/processen?

7. Waar zie jij in de praktijk knelpunten die productontwikkeling in het algemeen hinderen, waardoor de resultaten - bijvoorbeeld prestaties, tijdig uitleveren – suboptimaal zijn?

8. Wat zijn volgens jou de meest kritieke punten om een radicaal innovatieproject als Microincasso succesvol binnen de organisatie te kunnen ontwikkelen naast producten die sterk of efficiency georiënteerd zijn?

9. CM is pas de voorbije jaren flink gegroeid voor wat betreft het personeelsbestand waardoor productgroepen en productteams een recent fenomeen binnen CM zijn. Zie jij een verschil wie innovatieprojecten oppakt?

Questions related to changes occurring within the organization

1. Stel dat SMS sneller dan gedacht ‘uit’ raakt, in hoeverre denk je dan dat CM in staat is om door middel van innovatie haar huidige omzet en grootte te behouden en/of uit te bouwen? Waar moet de extra omzet dan vandaan komen en in hoeverre kan de organisatie daar snel op overschakelen?

2. Wat zijn volgens jou de meest kritieke punten om een radicaal innovatieproject als Microincasso succesvol binnen de organisatie te kunnen ontwikkelen naast producten die sterk op efficiency georiënteerd zijn? Kun je meer vertellen over de recent ingezette focus op product ownership en het onderscheid tussen project- en productmanagement?
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