

# Customer Agility Capabilities at EuroBank: The Role of ICT and Organizational Routines

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## **Abstract**

Banks, once a stable industry, are increasingly facing fierce competition, volatile markets and changing customer needs and expectations. To successfully operate in such competitive and uncertain market conditions, they need to develop agile operations that quickly detect and respond to market changes. In this paper, we present an explorative case study on how a large European bank (EuroBank) develops its customer agility. The findings show that customer agility requires dynamic capabilities that combine ICT capabilities and organizational routines in harmonious and active ways. Based on the dynamic capabilities approach and the case data analysis, we develop a Customer Agility Capabilities (CAC) framework. It depicts the dynamic capabilities, with their alignment, that are necessary for achieving customer agility and the associated operational agility.

**Keywords** Customer agility, dynamic capability, operational capability, ICT capability, organizational routines, digitalization.

## 1 Introduction

Traditional industries are facing increased competition, shifting customer demands and rapid technological advancement. Sustaining a competitive position under these volatile market conditions is challenging. Therefore, *organizational agility*, i.e. the capability to sense and respond to market demands and opportunities with speed and surprise (Sambamurthy et al. 2003), becomes vital for organizational survival, business success and developing competitive advantage. It involves seizing short-term advantages and market opportunities and shaping situations as they develop (Brown and Eisenhardt 1995; Lengnick-Hall and Wolff 1999). Organizations need to develop agile capabilities in different areas including customer-related, supply chain-related (Braunscheidel and Suresh 2009; Liu et al. 2013) and back-office related operations (Sambamurthy et al. 2003). In this paper we draw attention to the development of *customer-related agility*. By *customer* we refer to the end-consumer of the organization's products and services while *customer agility* is defined as the degree to which a firm is able to sense and respond quickly to consumer-based changing demands and seize opportunities for innovation and competitiveness (Roberts and Grover 2012b). Developing customer agile capabilities allows organizations to capture and respond not only to current customer demands but also to their changing consumption patterns and emerging ideas (McAfee and Brynjolfsson 2008). Customer agile capabilities also present an important source of innovation (Nambisan 2002; Nambisan and Baron 2010).

It is argued that information technology (IT) could play a significant role in achieving customer agility (Roberts and Grover 2012b; Sambamurthy et al. 2003; Pavlou and ElSawy 2011). Hence, organizations are increasingly investing in customer-facing information systems (IS), platforms and tools in the hope of reaping significant market benefits. However, only few studies have examined the role of information and communications technology (ICT) in customer agility (Atapattu et al. 2014; Roberts and Grover 2012a; Roberts and Grover 2012b). We know little regarding how and why IT supports customer agility (Roberts and Grover 2012a; Roberts and Grover 2012b; Sambamurthy et al. 2003). The few studies that examined this topic provided quantitative analyses to confirm the impact of the phenomenon on the competitive advantage of the firm and its antecedents. Specifically, prior research has highlighted the importance of aligning sensing and responding capabilities (Roberts and Grover 2012b, p. 256).

This research responds to this call and aims to answer the research question of “*How do organizations develop dynamic capabilities to achieve customer agility?*” We adopt the dynamic capabilities approach by Pavloy and El Sawy (2011) as the lens to flesh out the role of ICT in achieving customer agility capabilities and particularly in aligning customer sensing and responding capabilities. In this exploratory case study we examine ICT capabilities and organizational routines in a large European banking organization, EuroBank (pseudonym). In the data analysis, we identify the key IS, organizational routines and dynamic capabilities involved in customer-facing and internal customer-related organizational operations. The customer-facing sensing and responding capabilities cannot be aligned without complementary internal organizational capabilities of learning, integrating and coordinating.

The study contributes to the emerging literature on ICT enabling customer agility in three respects. First, we develop a theoretical Customer Agility Capabilities (CAC) framework describing the core dynamic capabilities necessary for achieving customer agility. Second, our study shows that ICT's role in customer agility alignment involves a group of information systems. ICT applied for interacting and sensing customer demands needs to be complemented by analytical capabilities, i.e. a series of back-end information systems and organizational processes and routines enabling organizational learning, integration and coordination. Back-end processes and ICT provide continuous alignment between sensing and responding capabilities to achieve customer agility. Finally, through presenting a detailed case study of organizational customer agility, we provide a more granular understanding of the related ICT and organizational routines that goes beyond the current confirmatory literature. Next, we provide the conceptual foundation for the research by reviewing the literature on customer agility and dynamic capabilities. Then the research methodology and the case analysis are presented. Finally, the findings are discussed and conclusions are drawn.

## 2 Literature Review

### 2.1 Customer Agility

Overby et al. (2006) maintain that *organizational or enterprise agility* is an organization-wide capability or ability that is enabled by a specific subset of dynamic capabilities. They continue that organizational agility is commonly divided into *sensing and responding capabilities* that allow the organization to sense and respond to change in the markets and the environment. Overby et al. (2006, p. 121) apply Dove's (2001) definitions of sensing - 'knowledge management', "the intellectual ability to find appropriate things to act on" - and responding - 'response ability', "the physical ability to act". *Dynamic capabilities* apply to all firm processes while enterprise agility addresses only processes related to sensing and responding capabilities (Overby et al. 2006). ICT capability and the flexibility of IT infrastructure is proposed to enable agility, which in turn mediates the effect of IT alignment on organizational performance (Tallon and Pinsonneault 2011). Organizational agility is seen to cover different business aspects and could be divided into customer agility, supply chain agility, manufacturing agility and operations agility (Sambamurthy et al. 2003). The literature on agility "has focused on conceptual concerns and, more recently, on the benefits of agility" rather than detailed analysis of how organizations can achieve it (Tallon and Pinsonneault 2011, p. 464).

Atapattu et al. (2014) found that a firm's agility is significantly related to customer satisfaction. They maintain that specifically the alignment between firms' ability to sense their customers' needs and firms' responding capability impacts customer satisfaction. Roberts and Grover (2012b) conducted a quantitative study on the impact of web-based customer IT infrastructure on customer agility. They found that while web-based customer infrastructure has a significant effect on customer-sensing capability, this relationship is mediated by the organization's analytical ability and ability to leverage data and transfer it into relevant knowledge. They also discovered that inter-functional coordination and channel coordination were significantly related to customer-responding capability and IS integration was a catalyst for this positive relationship. Additionally, they found that the alignment between sensing and responding capabilities positively impacted action efficacy. Prior research on customer agility and the related ICT capabilities is limited to either theoretical or confirmatory studies. The need to better understand how ICT enables agility has been identified (Overby et al. 2006).

### 2.2 Dynamic Capabilities

*Capabilities* are collections of high-level *routines*, i.e. learned, patterned, repetitious behaviours (Winter 2003). Routines reflect the repeated patterns of organizational interaction (Becker 2004; Teece and Pisano 1994; Teece et al. 1997). *Operational capabilities* are "the ability to execute day-to-day activities" (Pavlou and ElSawy 2011, p. 242), while *dynamic capabilities*, the concept first introduced by Teece et al. (1997), help "extend, modify and reconfigure their existing operational capabilities into new ones that better match the changing environment" (Pavlou and ElSawy 2011, p. 242). Teece et al. (1997, p. 516) define dynamic capabilities as "the firm's ability to integrate, build, and reconfigure internal and external competences to address rapidly changing environments". The concept of dynamic capabilities typically involves long-term commitments to specialized resources (Winter 2003). It recognizes the key role of managerial and organizational processes in shaping an organization's competitive advantage.

Pavlou and El Sawy (2011) developed a comprehensive conceptual model of dynamic capabilities, i.e. the key tools for renewing existing operational capabilities, and applied it in the new product development (NPD) context. The four dynamic capabilities in the model are *Sensing, Learning, Integrating and Coordinating*. *Sensing* capability involves the ability to detect, interpret and pursue opportunities in the environment, e.g. market needs, competitor moves and new technologies, for staying competitive. Sensing capability addresses three basic routines: generating market intelligence (customer needs, market trends, market opportunities), disseminating market intelligence (interpret, make sense, explore) and responding to market intelligence (plan to capitalize and seize). Sensing capability lays the ground for reconfiguring the existing operational capabilities. *Learning* capability is the ability to revamp the existing operational capabilities with learning, new knowledge and new skills (Teece, 2007; Pavlou and El Sawy, 2011). Learning enables reconfiguration of operational capabilities where four basic routines are included: acquiring (obtain), assimilating (articulate), transforming (ideate, solve) and exploiting (utilize, pursue, seize, revamp) knowledge. Learning enhances sensing and, thus, the relationship between these capabilities is reciprocal. *Integrating* capability is the ability to combine new individual knowledge gained through

learning capability for creating collective, shared understanding that leads to new or modified operational capabilities. The three basic routines of integrating capability are contribution (disseminate, collect, combine), representation (visualize, build) and interrelation (act, create routines) from the individual level to the collective firm or unit level. Integration of knowledge is essential for developing dynamic capabilities (Teece 2007). *Coordinating* capability is “the ability to orchestrate and deploy tasks, resources, and activities in the new operational capabilities” (Pavlou and El Sawy, 2011, p. 246). The four basic routines are assignment (recognize, assemble, allocate resources), appointment (people), identification (complementaries, synergies) and orchestration (synchronize). Coordination capability enables the development, implementation and utilization of new and reconfigured operational capabilities. (Pavlou and El Sawy 2011)

Pavlou and El Sawy (2011) depict the four dynamic capabilities as interacting in a sequential logic to reconfigure existing operational capabilities while recognizing that reciprocal relationships exist among these capabilities. Furthermore, organizational learning plays an important role in modifying organizational operating routines in pursuit of improved effectiveness (Zollo and Winter 2002). Deliberate learning can facilitate the development of firms' dynamic capabilities by experience accumulation, knowledge articulation and knowledge codification. This includes “inter-organizational learning” (Teece et al. 1997). The path-dependent nature of dynamic capabilities suggests that incremental learning will guide the evolution of dynamic capabilities, which are therefore difficult to imitate (Eisenhardt and Martin 2000; Zollo and Winter 2002).

### 2.3 Initial Conceptual Framework

We believe that the theoretical lens of dynamic capability could provide a better operational understanding of how an organization could achieve customer agility in practice. Hence, based on the reviewed literature on customer agility and dynamic capabilities and specifically on Pavlou and ElSawy’s (2011) dynamic capability model, we propose an initial Customer Agility Capabilities (CAC) framework (Figure 1) and will use it to guide the analysis of our empirical data. The core idea of our framework is the alignment of the sensing and responding capabilities, which determines customer agility (Roberts and Grover 2012b). Hence, we include responding capability and the alignment between sensing and responding capabilities into our CAC framework. Drawing from the dynamic capabilities perspective, we argue that the sensing and responding capabilities cannot be aligned without the complementary dynamic capabilities of learning, integrating and coordinating (Pavlou and El Sawy 2011). Moreover, we add into the CAC framework ICT capability that both supports and enables an organization to achieve customer agility as well as continuously align the capabilities described. However, this can only happen when ICT capability is combined with changes in organizational routines (Becker 2004; Teece and Pisano 1994; Teece et al. 1997).

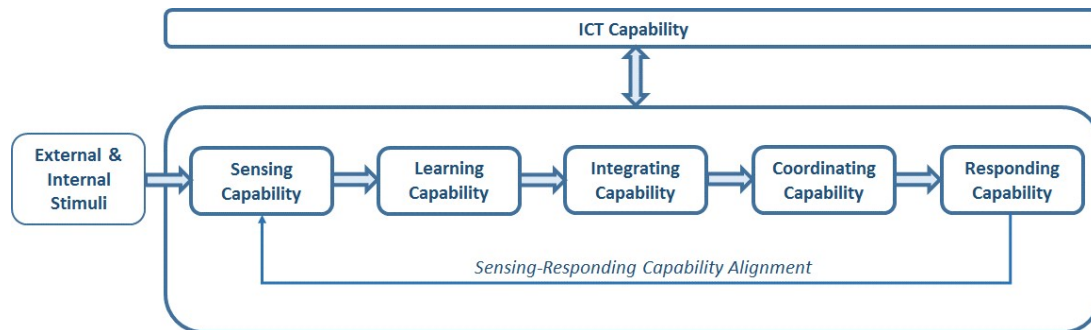


Figure 1. Initial Customer Agility Capabilities (CAC) Framework

## 3 Research Methodology

We adopted an exploratory case study approach to understand *how organizations develop dynamic capabilities to achieve customer agility*. Case study approach is suitable for exploring a phenomenon within its context (Walsham 1995; Yin 2013). We chose EuroBank as the case organization because it represents an organization from a traditional service industry that is currently experiencing the transformation towards increasingly digitized products and services. Data collection was conducted between April 2015 and January 2016. We applied semi-structured thematic interviews as the main data collection method and

the snowballing method to seek for additional interviewees. Altogether, we conducted ten interviews with nine interviewees representing business units (versus ICT units), totalling 15 hours 24 minutes of time and 210 transcript and notes pages (Table 1). The key person, Customer Ombudsman-Director of the Quality Unit, was interviewed twice. Most interviews were face-to-face (two interviews with one participant using Skype and/or telephone) and recorded. The interviewees checked and corrected the interview transcripts. Secondary data were also gathered to support the analyses. We reviewed other data sources, such as the organization's web sites, annual reports, and additional materials received from the interviewees, for complementary information. Additionally, financial sector regulators' web sites, statistics and reports as well as magazines and newspapers gave us information on related rules and regulations, current and future views and visions on the financial sector market situation and the development of Fintech and digitalization. The dynamic capability lens was used as a sensitizing device in the data analysis while we were open for new themes to emerge from the data. Additionally, the literature on customer agility helped us to focus on aspects relevant to customer-centric operations. Memoing, the process of making notes on ideas, questions, statements, and hypotheses emerging during the analysis, was an essential part of the process (Sarker et al. 2000). The researchers continuously discussed the findings and drew initial conceptual frameworks during the data collection process. This helped us to let emerging themes develop during the research process.

<b>Interviewee</b>	<b>Duration</b>	<b>Transcripts # of pages</b>	<b>Level</b>
Customer ombudsman, Quality Unit Director	2 h 15 min*	26**	Strat., Tact. & Oper.
Customer ombudsman, Deputy director of Quality Unit	1 h 18 min	10	Strat., Tact. & Oper.
Nordic Customer Management System Business IT project manager	1 h 52 min	21	Tact.
Area manager, "spokesperson"	0 h 56 min	30	Tact.
Social Media Team leader (esp. Facebook)	1 h 2 min	12	Oper.
Case country Contact Centre Quality manager	1 h 57 min	31	Tact.
Branch manager	1 h 54 min	23	Tact.
Executive Vice president, Deputy head of Banking in the case country	0 h 41 min	12	Strat.
Branch manager	1 h 46 min	23	Tact.
Customer ombudsman, Quality Unit Director	1 h 43 min	22	Strat., Tact. & Oper.
<b>Total</b>	<b>15 h 24 min</b>	<b>210</b>	

Table 1. Summary of Interviews 2015-2016 (\*not recorded \*\* Notes, not a transcript)

## 4 Case EuroBank

### 4.1 Case Background

The case organization, EuroBank, is a multinational financial corporation operating in seven countries in Europe. It is a leading financial services group in its operating area with over 10 million customers internationally. The total number of employees was around 30.000 in 2015, mainly in Private Banking (Annual report, 2015). The company used to be a leader in electronic banking and online services in the 1990s, but lost its edge in the 2000s. Now, with the overall increased digitalization, the company is heavily investing in both organizational and technical development to respond to the demands of the changing marketplace and changing customer needs. Since the financial industry is strongly regulated by local authorities and the European Union, these demands need to be taken into account when developing processes and services. In the last ten years, the organization has strengthened its Quality Unit and the related processes for handling customer feedback and complaints as well as all other customer contacts and

interactions. This unit has also had a major role in creating a new customer-focused culture in the organization. Particularly the director of the unit, the customer ombudsman, has been crucial in establishing the new customer-centric culture. EuroBank has been able to introduce new digital services successfully to customers. The key enabler has been developing customer agility capabilities. Below we describe the customer agility capabilities at EuroBank. We have structured the description under the different capabilities, but it should be noted that the capabilities are often overlapping.

## **4.2 Case Analysis: EuroBank's Customer Agility Capabilities**

### **4.2.1 ICT Capability**

The customer facing processes are supported and enabled by several information systems helping to attain the organization's ultimate goal of providing excellent customer experiences. Naturally, the Contact Centre operating systems (CCS) are among the core systems for customer service. The key operational systems are the customer management system (CMS), the customer experience management system (CEMS) and the employee community platform (ECOM). CMS contains all customer-related data, including customer feedback. It is the main tool providing for advisors all customer information needed in every customer service situation be it personal or online meetings or Contact Centre communication. The advisors record feedback into CMS whenever they receive it from the customers during phone calls or other personal contacts. In this way, all feedback from customers is forwarded through CMS to relevant parties in the company. CEMS automates instant customer feedback surveys after e.g. phone calls and online meetings. An SMS with a link to a feedback survey form is sent via CEMS soon after the interaction. ECOM is a feedback management and education platform where every employee can report stories about excellent customer service encounters. ECOM enables an internal community for sharing excellent customer experiences and information to learn from others and further improve the organization's service quality.

In addition to these key organizational systems, several information technologies and applications enable Eurobank to engage in direct conversations with customers. These conversational systems and technologies include online meeting systems, instant messaging (online chat) and social media applications (Facebook, Twitter, LinkedIn) as well as more traditional technologies, e.g. phone call, SMS and email in the e-banking system. Youtube is actively used e.g. for customer training. Eurobank has also launched an online Customer Community (CCOM) platform that provides information and articles on banking services in general and for customers e.g. in different life situations. CCOM is also an interactive customer online community for commenting on the information and discussing with other customers on bank-related topics. Moreover, many specific CRM applications, electronic survey tools, e.g. Webropol, and social media analysis tools, e.g. Hootsuite social media marketing and management dashboard, are actively used for sensing and analyzing the market and the environment.

### **4.2.2 Sensing and Responding Capabilities**

Every employee handling customer contacts is required to record all customer feedback, be it positive, negative or neutral, into CMS. It feeds customer data and feedback to all parts of the organization and all relevant parties for customer service, customer management and profiling, product tailoring and last but not least, to service and product development as well as group strategy and vision. In this way, the feedback is recorded in the official corporate-wide systems where it can be followed, analyzed and utilized throughout the organization. To allow a very quick response to customer issues, EuroBank has introduced a monetary compensation that an advisor can give independently to a customer complaining about an unpleasant experience. It should be used to alleviate bad feelings although there had not been any mistake by the organization. The importance of feedback was described as follows:

*"Feedback is a gift." "We want more feedback." (Ombudsmen, area manager).*

*"We want to increase the amount of good quality feedback and reduce complaints and errors." (Area manager)*

EuroBank has found traditional annual customer satisfaction surveys alone insufficient for detecting customers' views and trends. Hence, EuroBank has employed a number of contemporary web-based conversational systems and technologies as described above to improve its services and to gain a better understanding of customer needs and, when possible, to provide a real-time response to customer issues. Many social media sites (see above) are currently important for sensing customer needs and sentiments as well as for responding to general customer queries.

EuroBank has recently been investing heavily in mobile banking services and mobile use of services is becoming the main interaction channel. It is essential for the mobile development unit to get closer to the customers to know and meet their needs and wishes, but the unit does not have direct customer contacts. Contact Centre is in the frontline to hear about customer feedback and feelings. Hence, the Contact Centre, and particularly the social media unit, has started close and regular cooperation to exchange ideas with the mobile service development team that is geographically close to the social media team. Advisors forward the feedback and ideas via CMS. One contact person in every Contact Centre team first gathers the feedback on mobile services. Then the social media team gathers the feedbacks together and sends them to the mobile services development team by email. The social media team and the mobile team discuss the ideas together to determine whether the ideas can be actualized and whether and when they will be implemented. The pace of mobile development is fast and the results will quickly become visible to the customers.

#### **4.2.3 Learning Capability**

At Eurobank, management focus has been changed from leading by rules and numbers to coaching employees to discover and try out new solutions to emerging problems. Particularly young new employees have been recognized to be an invaluable resource of new ideas because of their understanding of the digital culture. Many branch managers are very active in trying out new solutions to customer-related issues and if the solutions were successful, they would be disseminated to other branches. Top management strongly encourages this kind of 'internal entrepreneurship'. According to the new organizational culture, it is okay to fail sometimes with these trials. A failure is always a learning experience. The importance of customer feedback as a source for learning has been emphasized at Eurobank. Customer advisors have been encouraged to always ask for feedback in service situations. The goal has been to continuously increase the quantity of customer feedback as the Contact Centre quality manager, among others, explained:

*"We have strongly emphasized the importance of increasing the quantity of customer feedback. It is much better that the negative things will surface and we can reach to them, rather than the customers being unhappy and talking about it without us knowing about it. We have talked about this a lot."*

The ECOM system provides a community tool for all employees to record and share stories about excellent customer service experiences. These stories provide intelligence on customer feelings, needs and behaviour, enhancing learning from others and benefiting product and service development. Everyone has access to the stories as well as educational materials on ECOM. To facilitate learning, branch managers must have become active in giving feedback to their subordinates and also in receiving feedback from them. Processes have been developed for this new practice as explained by a Business IT project manager:

*"One way for the employees to receive direct feedback is that the supervisors must attend a customer meeting once a month and to give feedback to the advisor."*

The advisors also learn by analyzing customer service recordings together with their supervisor and the Contact Centre manager. The recordings are first listened and then analyzed and discussed together regarding how the encounter went, what was good and where to improve.

#### **4.2.4 Integrating Capability**

The customer ombudsman (director of the Quality Unit) has engaged in a lot of training for the customer service personnel. She frequently travels to regional branches to give workshops about customer service and feedback management. The workshops include practical training and simulations of the interaction with customers. The employees take the roles of the customer and the advisor and a third employee is observing the customer service situation. There is also a written guidebook on the organization's intranet focusing on customer sentiments in service situations. Every three months the ombudsman also prepares a video shared in the intranet where she highlights stories about customer interaction and experiences. The creation of customer agility capabilities has required a significant cultural change at Eurobank. The ECOM system has played an important role in propagating the new customer-oriented culture in the organization. Moreover, all new employees are introduced to the corporate values including the customer focus principles. This change in culture has required creating a unified management culture. This has been reached by coaching the supervisors and making sure that all new supervisors go through a training. A Contact Centre quality manager described the basic principles at Eurobank:

*"People are respected. Feedback is given in a respectful way and the issues are those that can be improved."*

#### 4.2.5 Coordinating Capability

There has been a lot of training on how to ask for feedback from the customers. It has also been important to practice how to receive feedback. Training how to deal with feedback has been essential for the staff to understand the customers' feelings when they give feedback. The training has aimed at learning to live through the customer experience and feelings, according to a Contact Centre quality manager:

*“When dealing with feedback, emotions are always strongly present.”*

The branch managers are also trained frequently about the importance of feedback and customer experience. The trainings include videos, discussion on the internal processes and simulating how to handle reclamations. Supervisors have also had to develop skills not only for giving feedback to but also for taking feedback from their employees as explained by a Contact Centre quality manager:

*“It is not always easy to give feedback, but we work hard to become better in giving feedback. Feedback should always strengthen the good properties and develop or actually help realize where one could improve. Those are the most important things.”*

Area managers have also had an important role in facilitating the adoption of the new operational capabilities. The area managers have taken a much more active role than before in addressing reclamations and in that way provided an example of taking care of customers. This effectively has resulted in gaining staff support for the change process. At the branch level, all personnel needs to be familiar with e.g. the new mobile applications to be able to educate customers on the use of the applications. New applications are always discussed in daily team meetings in branches.

#### 4.2.6 Case Analysis Summary

Our case analysis on EuroBank's customer agility capabilities is summarized in Table 2. The dynamic capabilities are composed of several organizational routines and ICT applications.

Dynamic capability	Organizational processes, routines and ICT capabilities
<b>Sensing and Responding</b>	<p><b>Customer feedback and experience management processes</b> supported and enabled by CMS, CEMS and CCS that provide means for gathering, storing and disseminating customer related data, including feedback, throughout the organization.</p> <p><b>Annual customer satisfaction surveys and instant feedback surveys</b> on encounters supported by electronic survey tools, e.g. Webropol.</p> <p><b>Sharing and awarding for excellent customer service</b> Customer encounter stories shared on ECOM provide intelligence on customer feelings, needs and behaviour. Monthly award granted for the best, most fabulous customer service stories on ECOM in the form of highlighting them in the intranet and ECOM.</p> <p><b>Dedicated personnel and processes</b> implemented for handling posts via different channels, e.g. Contact Centre's social media team and processes. The Quality Unit interacts continuously with authorities, regulators and competitors both officially and unofficially. CCOM platform for an interactive customer online community. Tools, e.g. Hootsuite social media marketing and management dashboard used for analyzing social media and the financial market in general.</p> <p><b>Informal, unofficial, regular, abundant collaboration</b> between e.g. mobile development and Contact Centre's customer service teams enable real time information exchange on current and future customer needs and forthcoming novelties.</p> <p><b>Employee empowerment</b> to be active and make decisions independently within their operating limits (e.g. compensation for bad feelings, loans). CMS is the key IS for all customer interactions and decisions.</p>
<b>Learning</b>	<p><b>Quality management reports</b> monthly, quarterly and annually by Quality Unit on all feedback. Reporting supported by CMS that collects all customer feedback.</p> <p><b>Coaching</b> used to encourage employees to be active and find and suggest solutions independently. Excellent service experience depends on many factors. Coaching is the key tool for keeping the advisors' motivation high despite the repetitive daily work and improving the overall quality of service encounters.</p>



	<b>Customer interaction stories</b> discussed at regular unit/team meetings and applied to daily routines. All employees have access to ECOM, where stories on customer interactions and new ideas based on either customer feedback or employees' ideas recorded and shared.
<b>Integrating</b>	<b>Training</b> workshops and service encounter simulations following coaching principles organized to motivate employees and learn from others' experiences. ECOM used for sharing educational materials and stories of customer interaction situations. Organisation's values taught to new employees. <b>Organizational communication</b> Quarterly the ombudsman prepares and shares in the intranet a video that highlights stories about customer interaction and experiences. The intranet and ECOM are the key media for organizational communication.
<b>Coordinating</b>	<b>Internal feedback</b> as important as external feedback for improving customer experience and employee satisfaction. Employee-supervisor feedback meetings and team feedback meetings held weekly or monthly. CMS for recording and sharing customer feedback. <b>Skills development</b> Coaching for increasing employees' skills and capabilities to ask for feedback, to meet the customers as human beings with their feelings and attitudes and to get motivated to routine tasks over and over again. ECOM system provides educational materials in addition to sharing recorded customer experiences. <b>Specific roles</b> , e.g. a dedicated social media team for handling social media interactions. Every interaction channel requires different type of responding and specific employees' skills.

Table 2. Dynamic Capabilities, Organizational Processes and Routines, and ICT capabilities

## 5 Findings, Discussion and Conclusion

Based on our case analysis, we present our revised Customer Agility Capabilities (CAC) framework (Figure 2) to understand how organizations can create strong sensing and responding capabilities, including their alignment, the cornerstones for customer agility. The framework development is informed by the literature on customer agility and dynamic capabilities and Pavlou and ElSawy's dynamic capability model (2011). We suggest that customer agility could be seen as a specific dynamic capability where the organization focuses on sensing and responding to customer demands and ideas and external and internal stimuli.

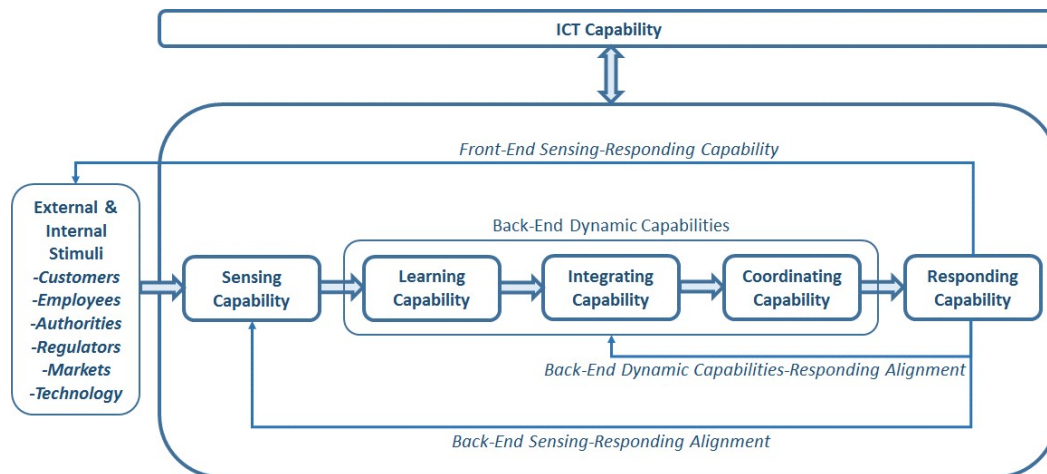


Figure 2. Revised Customer Agility Capabilities (CAC) Framework

The CAC model shows the building blocks, i.e. dynamic capabilities, of customer agility and their relationships. Our results show that these capabilities can be divided into front-end and back-end capabilities. Sensing and responding capabilities form the customer facing front-end of customer agility and are supported and enabled by ICT and the back-end capabilities of learning, integrating, coordinating and responding. Responding is enacted at three levels. First, sensing, learning, integrating and coordinating inform the front-end responding to the source of external and internal stimuli, e.g. customers' needs and demands (feedback) and regulation (reports, statistics). Second, according to Roberts and Grover (2012a, 2012b), sensing and responding capabilities must be aligned in order to facilitate optimal competitive action for a company. Our findings confirm this alignment, e.g. changing the processes and tools for sensing

existing and new stimuli. Finally, our findings resonate with Tallon (2008) and add details to the view that managerial and technical capabilities affect agility. In our case organization, the back-end dynamic capabilities are developed in a sequential fashion to reach an improved response capability. Sensing and responding capabilities are directly enacted in daily customer facing situations. Customer agility that does not yet initiate the organizational capability building processes is made possible through empowering the employees and nurturing a culture that allows to experiment and make mistakes to find new solutions. Once a new effective practice is identified, it will be shared with the rest of the organization to initiate the back-end capability building process.

Several ICT systems both supported and enabled the dynamic capabilities and their alignment in the case organization. Sensing capability is formed through collecting customer related information from different channels including face-to-face conversations, telephone, social media, online chats, Youtube and LinkedIn and recording them into CMS. CMS provides the backbone to disseminate customer-related information, feedback and ideas throughout the organization. The ECOM platform is another system in place that enables the organizational back-end capabilities (learning, integrating and coordinating) and provides a foundation for an organizational online community focused on delivering and making visible excellent customer experiences. ECOM is used in workshops where stories about excellent customer interaction are analyzed, which can support both learning and integrating capabilities. ECOM is also used for disseminating information, which supports integrating and coordinating capabilities. Additionally, ECOM has a central role in fostering an organizational culture geared towards excellent customer experiences, experimenting and learning. In this way, ECOM also supports a strong responding capability. ICT does not only support processes, but has become an integral part of the creation of the new customer-centric culture. ICT also plays an important role in the process of building the back-end dynamic capabilities.

The study contributes to the emerging literature on ICT enabling customer agility in three respects. First, we develop the CAC framework describing the core dynamic capabilities necessary for achieving customer agility. Second, our study shows that ICT's role in customer agility alignment involves a group of systems. ICT applied for interacting and sensing customer demands needs to be complemented by analytical capabilities, i.e. a series of back-end information systems and organizational routines that transform the acquired customer data into knowledge for organizational learning, integration and coordination. Back-end organizational processes and ICT provide continuous alignment between sensing and responding capabilities to achieve customer agility. Finally, through presenting a detailed case study of organizational customer agility, we provide a more granular understanding on the enabling role of ICT and organizational routines that complements and goes beyond the current confirmatory literature. Focusing on a single case study allowed us to conduct an in-depth analysis of a specific case context that other organizations can benefit from when developing their customer agility and dynamic capabilities. In conclusion, our findings show that customer agility is a process that could be achieved through the development of different dynamic capabilities, both customer facing (sensing, responding) and internal organizational capabilities of learning, integrating, coordinating and ICT.

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