Generating Valuable Information from Digital Consumer Interactions
An Organizational Capabilities Perspective

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St. Gallen, May 19, 2015

The President:

Prof. Dr. Thomas Bieger
Acknowledgements

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Special thanks deserve my roommates Chris, Noemi, Sebastian, Irene, and Mirjam for their genuine interest, companionship – and for bearing with me on the last miles. The same goes for Dakota, Phil, and the other computer linguists, who felt like additional roommates in Bloomington at times.

In addition, I wish to pay tribute to my former schoolmates Maggie and Natalie for always being by my side, irrespective of the actual physical distance between us. Another long-time companion to mention is Vassilios. From the very start, he has encouraged me to pursue a route in academia and has also become an important mentor in various other areas.

Last but certainly not least, I owe the deepest gratitude to my family for their continuous and unconditional support as well as their strong belief in me. Thank you, Anja and Stephan, for the motivating postcards from all around the world and for innumerable ‘tschakkas’ (in capital letters, of course). And thank you, Mama and Papa, for celebrating any big or small step with me and for encouraging me to always keep on going. I dedicate my thesis to the two of you!

St. Gallen, August 2015 Kirsten Mrkwicka
Abstract
Interactive digital media, especially social media and mobile media, have facilitated access to rich user-generated content. However, firms often fail to tap the full information potential. Valuable consumer information is not recognized, ignored, or seeps away within the firm. To identify possible managerial and organizational levers, the present study has raised the main research question: How can firms develop their capabilities to best tap digital consumer interactions for valuable information? Prior research, particularly on absorptive capacity, market orientation, interaction orientation, value co-creation, and open innovation, has largely neglected the role of organizational capabilities in information processing and accepted the available information as a given, although firms can influence the information value to certain degrees by soliciting user-generated content.

To determine possible managerial and organizational levers for a firm’s capabilities to tap digital interactions, the present study had to, figuratively, look inside the ‘black box’ of firms. The in-depth analysis of relevant strategic, organizational, and process-related aspects builds on case studies with six diverse firms that are highly interactive in digital media (BMW, EMP, McDonald’s Switzerland, Migros, SWISS, and SBB).

A core finding from the case analyses is that a strong customer focus and open culture promote the strategic relevance of digital interactions in firms. The extent to which firms realize competitive advantages from digital interactions however depends on their organizational model, as it determines the know-how of responsible employees and shapes the internal learning processes. Notably, the case findings identify three dominant organizational models for digital interactions (centralized, collaborative, and integrated), tactics to stimulate valuable digital interactions, specific learning processes, and relevant organizational capabilities. Consolidated with prior research, the empirical findings culminate in a comprehensive conceptual framework and 22 propositions for future research.

Overall, the present study emphasizes the various ways in which firms can use digital interactions as a source of information as well as key levers for adoption. To best tap digital interactions, a firm can try to enhance the information value by soliciting user-generated content. In addition, it has to gradually adapt its organizational model and learning processes.
Zusammenfassung


Die Identifikation möglicher Stellhebel in Management und Organisation erfordert einen Blick in das Innere von Unternehmen. Zur Analyse relevanter strategischer, organisationaler und prozessbezogener Aspekte führt die vorliegende Dissertation Fallstudien mit sechs unterschiedlichen, aber in digitalen Medien äußerst aktiven Firmen durch, namentlich BMW, EMP, McDonald’s Schweiz, Migros, SWISS und SBB.


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## Abbreviations

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<th>Full Form</th>
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<tbody>
<tr>
<td>Adv.</td>
<td>Advanced</td>
</tr>
<tr>
<td>Aug.</td>
<td>August</td>
</tr>
<tr>
<td>BMW</td>
<td>Bayerische Motoren Werke</td>
</tr>
<tr>
<td>CEO</td>
<td>Chief Executive Officer</td>
</tr>
<tr>
<td>Cf.</td>
<td>Compare (Latin: confer)</td>
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<tr>
<td>Com. adv.</td>
<td>Competitive advantages</td>
</tr>
<tr>
<td>Comm.</td>
<td>Communications</td>
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<tr>
<td>Corp. comm.</td>
<td>Corporate communications</td>
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<tr>
<td>CRM</td>
<td>Customer Relationship Management</td>
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<td>Dec.</td>
<td>December</td>
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<td>Dep.</td>
<td>Deputy</td>
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<tr>
<td>Dev.</td>
<td>Development</td>
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<tr>
<td>E.g.</td>
<td>For example (Latin: exempli gratia)</td>
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<tr>
<td>EMP</td>
<td>Exclusive Merchandise Products</td>
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<tr>
<td>Ext.</td>
<td>External</td>
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<td>Feb.</td>
<td>February</td>
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<td>HR</td>
<td>Human resources</td>
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<tr>
<td>I.e.</td>
<td>That is (Latin: id est)</td>
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<tr>
<td>Ind.</td>
<td>Independent</td>
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<tr>
<td>Indiv.</td>
<td>Individual</td>
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<td>Int.</td>
<td>International</td>
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<td>IT</td>
<td>Information Technology</td>
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<td>Jan.</td>
<td>January</td>
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<td>Key inf.</td>
<td>Key informant</td>
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<tr>
<td>LOHAS</td>
<td>Lifestyle of Health and Sustainability</td>
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<td>M</td>
<td>Million</td>
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<td>Mgmt.</td>
<td>Management</td>
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<td>Abbreviation</td>
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<td>Nov.</td>
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<td>Oct.</td>
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<tr>
<td>OEM</td>
<td>Original Equipment Manufacturer</td>
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<tr>
<td>Org.</td>
<td>Organizational</td>
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<tr>
<td>P</td>
<td>Proposition for future research</td>
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<tr>
<td>PR</td>
<td>Public relations</td>
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<tr>
<td>Prop.</td>
<td>Proprietary</td>
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<tr>
<td>R&amp;D</td>
<td>Research and Development</td>
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<td>Reg.</td>
<td>Regular</td>
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<td>Res.</td>
<td>Resources</td>
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<tr>
<td>SBB</td>
<td>Swiss Federal Railways (Schweizerische Bundesbahnen)</td>
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<tr>
<td>SEO</td>
<td>Search Engine Optimization</td>
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<tr>
<td>Sept.</td>
<td>September</td>
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<tr>
<td>Spec.</td>
<td>Special</td>
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<tr>
<td>SWISS</td>
<td>Swiss International Air Lines</td>
</tr>
<tr>
<td>User-gen. content</td>
<td>User-generated content</td>
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</table>
Key terms and definitions

The following table provides an overview of key terms and respective definitions used in the following thesis. Cross-references are marked with arrows (→).

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
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<tbody>
<tr>
<td>Absorptive capacity</td>
<td>Enables a firm to identify, assimilate, and apply valuable information to gain and sustain competitive advantages from user-generated content. As (→) dynamic capability, absorptive capacity is embedded in a firm’s organizational learning processes and functions as an interaction processing funnel (cf. Lane &amp; Klavans, 2005; Lane, Koka, &amp; Pathak, 2006).</td>
</tr>
<tr>
<td>Activity</td>
<td>Rooted in a firm’s (→) capabilities, this is the means by which firms can shape their (→) processes. Activities can be tied to a specific function or managed cross-functionally (Day, 1994b; Hult, 2011).</td>
</tr>
<tr>
<td>Adaptive (→) capabilities</td>
<td>Augment and extend the existing (→) dynamic capabilities so that rapid adjustments can be made (Day, 2011, p. 188).</td>
</tr>
<tr>
<td>Capabilities</td>
<td>Emerge from the “interactions of cultural and structural elements and have as ingredients (→) processes and (→) resources” (Bitar &amp; Hafsi, 2007, p. 407).</td>
</tr>
<tr>
<td>Co-creation</td>
<td>Active collaboration between a firm and its customers to create added value for customers (Prahalad &amp; Ramaswamy, 2000).</td>
</tr>
<tr>
<td>Competencies</td>
<td>Routines of combining different resources to a certain end (Prahalad &amp; Hamel, 1990); term is used interchangeably with (→) capabilities in line with previous research (e.g., Day, 1994b).</td>
</tr>
<tr>
<td>Crowdsourcing</td>
<td>Call for ideas, suggestions, or opinions on a predefined topic, which is directed to a large group (Howe, 2006).</td>
</tr>
<tr>
<td>Digital consumer interaction</td>
<td>Technology-enabled, multi-way communication among coequal senders and receivers (cf. McMillan, 2002). Possible forms of digital interactions are consumer-consumer, consumer-firm, firm-consumer, and consumer-media.</td>
</tr>
<tr>
<td>Dynamic (→) capabilities</td>
<td>Enable firms to “integrate, build, and reconfigure internal and external competencies to address rapidly changing environments” (Teece, Pisano, &amp; Shuen, 1997, p. 516).</td>
</tr>
<tr>
<td>Information</td>
<td>A flow of messages capable of establishing the basis for knowledge creation (Machlup, 1983).</td>
</tr>
<tr>
<td>Information value</td>
<td>Describes volume and quality of (→) user-generated content, which indicate the baseline of valuable information and ease of absorptive capacity processes.</td>
</tr>
<tr>
<td>Insight</td>
<td>Rich and useful truth that may not be immediately apparent (e.g., Sawhney, 2004).</td>
</tr>
<tr>
<td>Interaction (→) strategy</td>
<td>Defines a firm’s key target audiences, touchpoints, and relevance of generating information in interactive digital media.</td>
</tr>
<tr>
<td>Term</td>
<td>Definition</td>
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<tr>
<td>Interactive digital media</td>
<td>Empower users to engage with (almost) anyone anywhere anytime and at the same time, like (→) social media and (→) mobile media.</td>
</tr>
<tr>
<td>Interactivity</td>
<td>Core characteristic of digital interactions, which increases with the bi-directionality, mutual controllability, timeliness, and perceived responsiveness of communication (Downes &amp; McMillan, 2000; McMillan &amp; Hwang, 2002).</td>
</tr>
<tr>
<td>Knowledge</td>
<td>Created and organized by (→) information through individual thinking and interaction processes (Machlup, 1983; Nonaka, 1994).</td>
</tr>
<tr>
<td>Mobile media</td>
<td>Communication vehicles that involve portable and wireless devices that allow ubiquitous connectivity, access to the web, and precisely targeted communication (Shankar, 2012).</td>
</tr>
<tr>
<td>Open innovation</td>
<td>Integration of external stakeholders into a firm’s idea sourcing and commercialization processes (Chesbrough, 2003).</td>
</tr>
<tr>
<td>Organizational model</td>
<td>Defines the diffusion of (digital) responsibilities and level of connectedness among the respective functions (cf. March &amp; Simon, 1958).</td>
</tr>
<tr>
<td>Organizational culture</td>
<td>A firm’s “shared values and beliefs” (Deshpandé &amp; Webster, 1989, p. 4).</td>
</tr>
<tr>
<td>Organizational learning</td>
<td>Development of knowledge that ultimately impacts a firm’s behavior and ideally improves its performance (e.g., Fiol &amp; Lyles, 1985; Levitt &amp; March, 1988).</td>
</tr>
<tr>
<td>Processes</td>
<td>Exercise capabilities by coordinating functional activities (Day, 1994b).</td>
</tr>
<tr>
<td>Resources</td>
<td>Firm-specific tangible or intangible assets, which can be valued and traded over time, e.g., IT tools or skilled employees (Barney, 1991; Dierickx &amp; Cool, 1989; Wernerfelt, 1984).</td>
</tr>
<tr>
<td>Social media</td>
<td>Enable users to easily create and exchange content via web-based tools, e.g., online communities, blogs, or virtual worlds (Kaplan &amp; Haenlein, 2010).</td>
</tr>
<tr>
<td>Solicited user-generated content</td>
<td>Content has been invited or to some degree influenced by a firm, like contributions to crowdsourcing challenges or user comments to brand posts (cf. Hoffman &amp; Novak, 2012a).</td>
</tr>
<tr>
<td>Unsolicited user-generated content</td>
<td>Content traces back to consumer initiative, like product reviews or suggestions for improvement in blogs and online user communities (cf. Hoffman &amp; Novak, 2012a).</td>
</tr>
<tr>
<td>User-generated content</td>
<td>Brand- or firm-related consumer activity in digital interactions, such as comments to blog or video posts. Depending on the level of firm involvement, user-generated content is either (→) solicited or (→) unsolicited (cf. Hoffman &amp; Novak, 2012a).</td>
</tr>
</tbody>
</table>
1 Introduction

Interactive digital media allow firms to gain access to an extensive array of user-generated content (e.g., Bradley & McDonald, 2011; Harrysson, Métayer, & Sarrazin, 2014), but many fail to fully tap the rich information potential. The challenges of incorporating information from digital consumer interactions were revealed in the difficulties that Dell encountered with its open innovation community: Since its launch in 2007, ‘Dell IdeaStorm’ has generated more than 16,000 ideas from end users (Dell, 2014). The massive volume and variance in quality have overwhelmed managers. Especially in the beginning, Dell failed to respond and eventually discouraged or even angered members (Di Gangi & Wasko, 2009). Evidently, proliferating information in interactive digital media, particularly social and mobile media, calls for new organizational forms, resources, and capabilities (e.g., Day, 2011; Di Gangi, Wasko, & Hooker, 2010; Harrysson, Métayer, & Sarrazin, 2012; Mrkwicka, Schögel, & Herhausen, 2013). The question of how firms can increase their capabilities to gain valuable information from digital consumer interactions thus supplies the starting point for this research study.

1.1 Digital consumer interactions as a source of information

By facilitating user activity and connectivity, interactive digital media have ultimately abolished the classical trade-off in communication between reach and richness (cf. Evans & Wurster, 1997; Sawhney, Verona, & Prandelli, 2005). Users can engage with (almost) anyone anywhere anytime in real-time. Notably, social media such as online communities, blogs, and virtual worlds enable users to easily create and exchange content via web-based tools (Kaplan & Haenlein, 2010). Mobile media in the form of applications or services on portable, wireless, and location-based devices allow ubiquitous connectivity and access to the web as well as precisely targeted communication (Shankar, 2012).

With interactive digital media, consumer contact is no longer limited to interpersonal conversations or push communication via mass media. Beyond one-to-one and one-to-many communication, firms now also engage in many-to-many interactions with consumers as coequal senders and receivers (cf. Hoffman & Novak, 1996; Rafaeli & LaRose, 1993). To ensure generalizability of findings in the highly dynamic digital

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media environment, the conceptualization of digital interactions is largely independent of specific devices or platforms in this study (cf. Yadav & Varadarajan, 2005). The core characteristic of digital interactions is of course interactivity, which increases with bi-directionality, mutual controllability, timeliness, and perceived responsiveness of communication (Downes & McMillan, 2000; McMillan & Hwang, 2002). Consumer activity in digital interactions manifests in brand- or firm-related user-generated content (e.g., Doorn et al., 2010).

The active role of consumers has radically transformed marketing practice (e.g., Deighton & Kornfeld, 2009; Fournier & Avery, 2011; Mangold & Faulds, 2009; Schögel & Mrkwicka, 2011). Essentially, interactive digital media represent additional touchpoints while also challenging established firm-consumer relationships and business principles in at least four ways:

1. **Consumer expectations**: User empowerment has raised consumer expectations and changed the buying cycle. Consumers seek out experiences of previous customers and more readily share their own; and they expect active participation and more individual, value-based solutions (e.g., Bernoff & Li, 2008; Simonson & Rosen, 2014; Urban, 2006).

2. **Touchpoints**: Proliferation of digital touchpoints has fragmented the communication market, while consumers expect frictionless experiences across channels (e.g., Dahlström & Edelman, 2013).

3. **Information**: Digital media increase the volume, velocity, and variety of available information. Firms have to integrate and handle this ‘big data’ to generate value (e.g., Brown, Court, & Willmott, 2013a).

4. **Complexity and dynamics**: Continuous digital development increases market complexity and dynamics. To keep up, firms have to rethink their strategy and decision-making (e.g., Day, 2011; Olanrewaju, Smaje, & Willmott, 2014).

Taken together, elevated consumer demands, proliferated contact points, large amounts of data, and accelerating complexity all necessitate enhanced organizational adaptability (Day, 2011).

With readily available user-generated content, interactive digital media create new possibilities for market sensing and exploration (e.g., Day, 2011; Di Gangi et al., 2010; Harrysson et al., 2012). Social and mobile media have enjoyed continued growth and reached critical parts of worldwide consumer markets (e.g., vor dem Esche & Hennig-Thurau, 2014; we are social, 2014). An influential mass phenomenon,
digital interactions mirror expressed, latent, and anticipated consumer needs (cf. Blazevic & Lievens, 2008; Zeithaml et al., 2006), even though only a small proportion of users actively creates or edits content (Arthur, 2006; Moe, Schweidel, & Trusov, 2011). Users share individual product experiences in blog posts, vent their anger in social networks, contribute ideas to crowdsourcing initiatives, or reveal preferences through their online behavior. Not surprisingly, a great proportion of firms have already adopted interactive digital media (e.g., Gottlieb & Willmott, 2014; Vollmer & Premo, 2012; Whipple & Shah, 2013). According to large-scale executive surveys, consumer engagement and access to consumer insights represent key business priorities in interactive digital media (e.g., Brown & Sikes, 2012; Bughin, Chui, & Harrysson, 2015; Gottlieb & Willmott, 2014).

The extent to which firms realize competitive advantages from digital interactions depends on their capabilities to absorb external information (Cohen & Levinthal, 1990). Information is defined as a flow of messages (Machlup, 1983), while knowledge is generated from information through human action and interactions (Nonaka, 1994). Insights are commonly understood as rich and useful but not immediately apparent truths about consumers and, hence, represent a particularly valuable form of knowledge when they arise (e.g., Sawhney, 2004). According to the media richness theory, interactive digital media are ideal information sources. The vast amounts of readily available information and various possibilities for exchange reduce uncertainty and equivocality (Daft & Lengel, 1986).

However, firms often struggle to develop the capabilities necessary to tap the full potential of digital interactions, as exemplified by the abovementioned example of Dell IdeaStorm. In the open innovation community, managers failed to recognize important signals among the noise, allowed information to seep away, or simply did not apply the user feedback. Member participation picked up again only when the computer technology manufacturer hired its most vocal critic and initiated changes to “bridge the customer-company gap” (Johnston cit. in Israel, 2012). The initial challenges have taught Dell that digital interactions require active community management and alignment of internal processes (Bayus, 2013; Di Gangi & Wasko, 2009; Di Gangi et al., 2010; Weinberg, Ruyter, Dellarocas, Buck, & Keeling, 2013).

While Dell specifically invited suggestions on its platform, organizational challenges to identify and act on valuable information are even greater for unsolicited feedback and hidden signals. For instance, French pharmaceutical company Servier reacted late to health risks resulting from one of its drugs, even though online conversations had been indicating issues for years and employees actively participated in the
communities. Apparently, patients’ concerns never reached the responsible managers due to structural constraints or narrow thinking patterns (Conversationnel, 2011; Harrysson et al., 2012). A positive example is Fiber One’s ‘Dessertify’ campaign. Brand managers noticed that users often share recipes for low-calorie desserts on Pinterest. The brand managers picked up the idea and eventually developed a campaign that actively integrates amateur chefs and bloggers.

In summary, evidence from marketing practice suggests that increasing digital interactions can represent a valuable source of information, and that generating valuable information is more critical than ever to keep up with the accelerating market complexity. Yet, the capabilities to tap digital interactions depend on various firm-specific characteristics. This practical challenge raises the main research question:

**How can firms develop their capabilities to best tap digital consumer interactions for valuable information?**

Key research goals are to better understand the determinants of a firm’s capabilities to tap digital interactions and to identify managerial and organizational levers for improvement. Figuratively, the present study looks inside the ‘black box’ of firms to uncover the impact of organizational structure, processes, and other characteristics on stimulation of digital interactions and absorption of valuable information in user-generated content (see Figure 1).

**Figure 1: Firm-specific characteristics define capabilities to tap digital interactions**

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1.2 Research context and guiding research framework

Extant research has already analyzed different aspects of how firms can develop their capabilities to tap digital consumer interactions for valuable information. To review related literature streams, the multifaceted main research question is broken down into its key components: (1) developing firm capabilities, (2) tapping external information, and (3) managing digital interactions. Each of the three components refers to distinct, only partly connected research streams.

**Developing firm capabilities** is at the core of research on resources and capabilities, which aims to explain competitive advantages from an inside-out perspective. **Resources** represent firm-specific tangible or intangible assets, such as IT tools or skilled employees, which can be valued and traded over time (Barney, 1991; Dierickx & Cool, 1989; Wernerfelt, 1984). **Capabilities** describe a firm’s capacity to combine and deploy its available resources purposefully. As a function of available resources, cumulative learning, and tacit knowledge, capabilities are deeply nested in organizational processes and practices, i.e., they are difficult to copy or transfer (Amit & Schoemaker, 1993). For instance, firms can easily acquire analysis tools, but the new resource will add to the analytic capability only if combined with appropriate analytic staff expertise and processes. Accelerating market changes have shifted the research focus to **dynamic and adaptive capabilities**, which enable firms to develop their resources and capabilities reactively or proactively in response to environment changes (e.g., Day, 2011; Eisenhardt & Martin, 2000; Teece et al., 1997; Wang & Ahmed, 2007). The ideal configuration of resources and capabilities depends on a firm’s strategy and organizational structure. Interactive strategies generally require greater firm-wide dispersion of information and decision-making (Day, 1998).

**Tapping external information** relates to the vast literature on organizational learning. Generally speaking, the term **organizational learning** stands for a firm’s knowledge development. Learning effects ultimately impact firm behavior and ideally improve performance (e.g., Fiol & Lyles, 1985; Levitt & March, 1988). Various disciplines have examined the concept from different angles (cf. Crossan, Lane, & White, 1999; Easterby-Smith, Crossan, & Nicolini, 2000; Nonaka, Krogh, & Voelpel, 2006). Key findings include the fact that organizational learning largely follows the process

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3 Closely related to ‘capabilities’ is the concept of ‘competencies’, which are commonly defined as learned routines of combining different resources to a certain end (Prahalad & Hamel, 1990). In line with previous research (e.g., Day, 1994b; Schreyögg & Kliestsch-Eberl, 2007), both terms will be used interchangeably.
sequence of knowledge acquisition, information distribution, information interpretation, and organizational memory (Huber, 1991), and the recognition that these processes occur at the individual, group, and firm levels (Crossan et al., 1999). The combination of organizational structure, resources, and processes determines how individuals are able to share ideas and meanings with one another and how insights consolidate as explicit or tacit knowledge across the firm (e.g., Day, 1994a; Shrivastava, 1983). Therefore, the dominant business logic governs when firms pursue adaptive or generative, frame-breaking learning (Senge, 1990), also termed single- and double-looped learning (Argyris, 1977). Over time, organizational learning processes also shape a firm’s knowledge base, operating routines, and dynamic capabilities (Argote, McEvily, & Reagans, 2003; Zollo & Winter, 2002).

**Digital interactions** refer to technology-enabled, multi-way communication⁴ among coequal senders and receivers (cf. McMillan, 2002). For the concept and usefulness of interactions, research traditions in marketing, communication, sociology, information systems, and other fields have established a rich theoretical foundation. The emergence of the Internet and interactive digital media has revitalized research across all disciplines, including studies on the **electronic marketplace** and **interactivity in new media environments** (cf. McMillan, 2006; Yadav & Pavlou, 2014). Current findings highlight the potential impact of digital interactions on consumers’ perception and behavior (e.g., Alba et al., 1997; Köhler, Rohm, Ruyter, & Wetzels, 2011; Thompson & Sinha, 2008) and point to strategic and tactical marketing implications (e.g., Kitchen & Burgmann, 2010; Ramani & Kumar, 2008; Yadav, Varadarajan, & Shankar, 2008). Yet, a research synthesis by Yadav & Pavlou (2014) concludes that significant gaps persist, notably in regard to firms’ capabilities to manage and exploit available consumer information.

In sum, extensive literature exists on **developing firm capabilities** and **tapping external information** as two aspects of the present study. Publications on the resource-based view, on dynamic capabilities, and organizational learning provide a solid theoretical basis, although the emergence of interactive digital media has prompted calls for further theory development (e.g., Day, 2011; Zammuto, Griffith, Majchrzak, Dougherty, & Faraj, 2007). **Managing digital interactions** as the third aspect of the

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⁴ Broader definitions of ‘interaction’, especially in research on electronic marketplaces, not only subsume communication exchanges but all transactions (cf. Yadav & Varadarajan, 2005). While tapping digital interactions fits in with the communication focus, transaction-related interactions will be disregarded in the present study.
The present study is tied to the emergence of interactive digital media and naturally represents a young research field despite rich interdisciplinary foundations (e.g., Yadav & Pavlou, 2014). To assess existing literature for the purposes of this study, a more detailed look at the intersections of the identified key research streams is helpful, i.e., extant research on (1) firm capabilities to manage digital interactions, (2) firm capabilities to tap external information, and (3) tapping digital interactions (see Figure 2).

Figure 2: Research context of related literature streams

Research on firm capabilities to manage digital interactions has roots in industrial and service marketing (Pergelova, 2010; Wikström, 1996). In buyer-seller relationships, each contact traditionally represents a “moment of truth” (Gummesson, 1987, p. 12), so service marketers stressed the active role of customers early on (Zeithaml, Parasuraman, & Berry, 1985), and industrial marketing scholars aspired to gain an integrated view of all firm-customer exchanges (Håkansson, 1982). Advances in information and communication technologies like databases and the Internet have expanded the relevance of consumer interactions across industries and motivated research on organizational changes (e.g., Day, 1998; Parsons, Zeisser, & Waitman, 1998). The rise of interactive digital media set off another research wave and resulted in innumerable professional reports (e.g., Owyang, 2010; Sayre, Rastogi, Zwillenberg, Visser, & Sheerin, 2012). Scholarly articles on organizational levers for interactive digital media have emerged slowly, but research has gradually recognized the growing
scope of interactions and has called for strategic rethinking (cf. Coviello, Milley, & Marcolin, 2001; Wikström, 1996). Notably, initial studies on organizational interaction orientation find that firm-level commitment to individual customer interactions pays off in terms of relational, financial and/or innovation performance as well as branding assets and/or viral effects (Danzinger, 2010; Foss, Laursen, & Pedersen, 2011; Kumar et al., 2010; Pergelova, 2010; Ramani & Kumar, 2008).

The role of firm capabilities to tap external information has received attention in various contexts. After all, organizational learning establishes knowledge gains and dynamic capabilities, which both lead to competitive advantages (e.g., Grant, 1996; Kogut & Zander, 1992; Teece et al., 1997). Particularly important for this study are tenets of absorptive capacity and market orientation. Absorptive capacity originates from innovation research and is commonly defined as a “firm’s ability to identify, assimilate, and exploit knowledge from the environment” (Cohen & Levinthal, 1989, p. 569). Its key determinants are prior related knowledge of employees, mechanisms for knowledge transfer, and diffusion of expertise across the firm (Cohen & Levinthal, 1990). To date only a few studies have examined organizational antecedents in detail (Lane et al., 2006; Volberda, Foss, & Lyles, 2010). Market orientation describes a firm’s superior skills to sense and respond to market shifts. Key features are the capabilities to process market information (Jaworski & Kohli, 1993, Kohli & Jaworski, 1990), a customer-centered organizational culture (Deshpandé, Farley, & Webster, 1993; Moorman, 1995; Slater & Narver, 1995), and distinct inter-functional collaboration (Kohli, Jaworski, & Kumar, 1993; Narver & Slater, 1990).

Possibilities to tap digital interactions have been at the core of research on co-creation and open innovation. Co-creation literature with the service-dominant logic posits that value creation always involves active customer participation (Dixon, 1990; Normann & Ramírez, 1993; Vargo & Lusch, 2004). Interactive digital media have turned consumers into actual sources of competence that not only shape personal experiences but co-create buzz (e.g., Prahalad & Ramaswamy, 2000) and knowledge (e.g., Day, 1998; Gibbert, Leibold, & Probst, 2002). Open innovation research focuses on integration of external stakeholders to accelerate innovation (Chesbrough, 2003). In crowdsourcing challenges, firms call the public for ideas, suggestions, or opinions (Howe, 2006). With innovation toolkits, contests, or online communities, firms try to gain access to consumer knowledge (Hippel, 2005). Organizational change is necessary to overcome possible impediments like the not-invented-here syndrome (cf. Katz & Allen, 1982), to integrate the knowledge, and to sustain user participation.
By and large, the review of related literature streams has located the present study in the broad context of marketing, communication, management, organization, and innovation research. The intersections mark particularly relevant prior research, namely literature on interaction orientation, absorptive capacity, market orientation, co-creation, open innovation, and crowdsourcing. Figure 3 consolidates key lessons into a guiding framework for the present study:

1. A firm’s strategic orientation defines the relevance and focus of its interaction strategy. To tap digital interactions for valuable information, market and customer orientations seem most beneficial because both build on consumer insights.

2. Initial studies on strategic interaction orientation provide empirical evidence that a firm-level commitment to individual customer interactions pays off. Interaction-oriented firms gain higher relational, financial, and innovation performance, which result in competitive advantages (e.g., Ramani & Kumar, 2008).

3. The extent to which firms realize competitive advantages from interactions depends on their interaction-related capabilities as a function of organizational structure, processes, resources, and other firm-specific characteristics. Market orientation research suggests that a firm’s capability to sense and respond to consumer needs combines a strong outside-in focus with internal information and learning processes (Baker & Sinkula, 1999; Day, 1994b; Hurley & Hult, 1998).

4. To understand how firms tap digital interactions, the firm-level perspective is too coarse-grained. For the identification of specific drivers and barriers, analysis has to focus on interactions, i.e., at the interaction level.

5. At the interaction level, digital interactions no longer represent simply a means to gain competitive advantages – they are also an end in themselves (cf. Stewart & Pavlou, 2002). For instance, interaction strategy may aim for high quality in user-generated content.

6. For interaction processing, the concept of absorptive capacity provides a good theoretical basis (Reichwald, Piller, & Ihl, 2009). Absorptive capacity explains the use of external knowledge to realize competitive advantages. A key determinant for absorptive capacity is the level of prior related knowledge, which is primarily defined by a firm’s organizational model (Cohen & Levinthal, 1990), i.e., interaction-level organizational structure, processes, resources, and other firm
characteristics. Tenets of the information processing perspective on market orientation provide additional insights on the absorption of consumer- and competitor-related information (e.g., Sinkula, 1994).

**Figure 3: Guiding framework derived from prior related research**

As the name already indicates, the *guiding framework* (see Figure 3) defines the conceptual starting point and focus of the present study. Subsequent analyses aim to improve understanding of a firm’s capabilities to tap digital interactions by challenging and refining the underlying variables and relationships (cf. Miles, Huberman, & Saldaña, 2014). Therefore, the focus will be on the interaction level.

### 1.3 Research gaps and goals

Widespread practical challenges in leveraging digital interactions have motivated the present study and prompted the main research question: *How can firms develop their capabilities to best tap digital consumer interactions for valuable information?* Review of extant literature streams from various disciplines has provided a guiding research framework while also revealing significant scientific gaps. These shortcomings will set the goals for the present study and define sub-questions to guide the conceptual and empirical research approach. In essence, five important aspects have been inadequately addressed in prior research and require further examination: (1) drivers and barriers of engagement in interactive digital media; possibilities to
(2) influence and (3) assess the information value of user-generated content; and the impact of (4) different forms of user-generated content as well as (5) a firm’s organizational model on its absorptive capacity (see Figure 4).

Figure 4: Research gaps positioned in the guiding framework

Research gap 1: Prior research on interaction orientation has largely focused on the bottom-line consequences of strategic commitment to individual customer interactions (e.g., Ramani & Kumar, 2008) and omitted how firms actually achieve and sustain these performance effects (cf. Bucker, 2013; Thalmann & Brettel, 2012). Essentially, the organizational structure, processes, resources, and other firm characteristics combined all shape a firm’s general capabilities and thus also set the basis for its capabilities to tap digital interactions. To take these contextual factors into account, general drivers and barriers for a firm’s capabilities to tap digital interactions need to be identified.

Research goal 1: Investigate drivers and barriers for firms to develop capabilities to tap digital consumer interactions for valuable information.

Research question 1: How do external and internal factors drive or impede the development of a firm’s capabilities to tap digital consumer interactions for valuable information?
Research gap 2: Interactive digital media have facilitated user activity and increased connectivity, so that consumers more readily share product experiences or give direct feedback. Firms can try to encourage relevant user-generated content – for example, in brand communities or crowdsourcing challenges. However, the focus and extent to which firms actively stimulate digital interactions and solicit user-generated content seem to vary. While prior research has covered all marketing mix elements (cf. Yadav & Pavlou, 2014), specific forms of user integration, and performance effects for individual customer interactions (e.g., Ramani & Kumar, 2008), findings on a firm’s general propensity to solicit user-generated content have remained vague. The same is true for professional reports on organizational determinants (e.g., Owyang, 2010; Sayre et al., 2012; Vollmer & Premo, 2012). To explain firm-specific differences, the strategic role and organizational integration of digital interactions both require deeper investigation.

Research goal 2: Examine the strategic role and organizational integration of digital consumer interactions to better understand a firm’s propensity to solicit user-generated content.

Research question 2: How do a firm’s interaction strategy and organizational model influence its propensity to stimulate digital consumer interactions and solicit user-generated content?

Research gap 3: User empowerment has reduced controllability of digital interactions (e.g., Hoffman & Novak, 2012b; Schögel, Herhausen, & Walter, 2008), so that a firm’s efforts to stimulate digital interactions and solicit user-generated content may only have limited effects. To evaluate the influence possibilities and effective influence, different forms of digital consumer interactions and criteria to assess the information value of user-generated content require further consideration. Open innovation has established a number of evaluation criteria, such as the number or quality of submitted user ideas (e.g., Girotra, Terwiesch, & Ulrich, 2010). However, crowdsourced ideas represent one specific kind of interaction, so that extant conceptualizations have to be scrutinized and generalized.

Research goal 3: Determine a firm’s possibilities to influence different forms of digital consumer interactions and establish criteria to assess the information value of user-generated content.

Research question 3: How does the level of firm influence in digital consumer interactions impact the information value of user-generated content?
Research gap 4: Consumers have long been ignored as a direct source of competence (Gibbert et al., 2002; Prahalad & Ramaswamy, 2000). Accordingly, extant publications pertaining to absorptive capacity and the information processing perspective on market orientation have focused on the integration of knowledge from market research, professional experts, or corporate partnerships (cf. Lane et al., 2006; Sinkula, 1994; Volberda et al., 2010). More current findings relate to benefits of consumer interactions at a firm level (e.g., Foss et al., 2011) or focus on the incorporation of solicited user-generated content, like open innovation research (e.g., Bayus, 2013; Di Gangi et al., 2010; Poetz & Schreier, 2012). The dynamics in digital interactions and specific characteristics of solicited and unsolicited user-generated content (Berger, Möslein, Piller, & Reichwald, 2005; Hoffman & Novak, 2012b), however, warrant greater differentiation in the analysis of interaction processing.

Research goal 4: Specify interaction processing for different forms of digital interactions and user-generated content.

Research question 4: How does interaction processing vary for different forms of digital interactions and user-generated content?

Research gap 5: Although the concept of absorptive capacity highlights the critical role of a firm’s organizational model for prior related knowledge and information processing (Cohen & Levinthal, 1990), academic insights have remained scarce (cf. Lane et al., 2006; Volberda et al., 2010). As interactive digital media level up consumer engagement and interaction processing to firm-wide responsibilities (French, LaBerge, & Magill, 2011), tapping digital interactions requires a holistic organizational perspective. However, to date little research exists on managerial and organizational aspects of digital interactions. Emergent publications on interaction orientation have largely focused on performance effects of individual customer interactions (e.g., Ramani & Kumar, 2008), but neglected other valuable information and aspects of implementation. Extant professional reports lack the necessary theoretical depth to fill this apparent gap and thus remain largely anecdotal. Quite evidently, the effects of a firm’s organizational model on its absorptive capacity require further research:

Research goal 5: Examine the effects of the organizational model on a firm’s absorptive capacity.

Research question 5: How does a firm’s organizational model impact its absorptive capacity?
By addressing these five research gaps, the present study aims to contribute in several important ways to the development of theory regarding management aspects of digital interactions and absorptive capacity:

- Foremost, the present study introduces digital interactions as a source of valuable information. Despite the mounting prevalence and importance of interactive digital media, which have increased reach and richness of interactions (cf. Evans & Wurster, 1997; Sawhney et al., 2005), previous research has ignored or only partly covered the information potential of digital interactions and consumers in general.

- Through in-depth examination of interaction-related functions and processes, the present study aims to define relevant capabilities to tap digital interactions.

- The integrated analysis of interaction processing responds to calls for further research on organizational antecedents of absorptive capacity (cf. Lane et al., 2006; Volberda et al., 2010).

- By considering possibilities for influencing the information value of user-generated content, the present study accounts for the dynamic nature of digital interactions. In contrast, prior research on absorptive capacity and market orientation has largely accepted the respective information as a given.

- Building on a guiding framework that integrates various research disciplines (see Figure 3 in section 1.2), the study aims to develop a comprehensive conceptual model and derive propositions for future research.

The theoretical contributions also hold valuable insights for management practice:

- Consideration of different forms of digital interactions shows opportunities and challenges of solicited and unsolicited user-generated content as an information source.

- A review of possibilities for influencing user-generated content provides guidance on how to activate consumers (more) purposefully.

- Criteria to assess the information value of user-generated content help to compare the information potential at different touchpoints.

- An integrated perspective on interaction processing helps to identify managerial and organizational levers to tap digital interactions more effectively and efficiently.
1.4 Research approach

The major business challenges inherent in tapping digital interactions, along with the research gaps in this area (see section 1.3), call for theory development and suggest an inductive research approach. Although interactive digital media have become standard marketing tools, many firms still struggle with the deeper business integration necessary to capitalize on the increased user activity and connectivity. Current research provides little guidance to meet these challenges. *Inductive field research* is particularly valuable in early stages of knowledge development, because it builds theory from individual observations (Bonoma, 1985; Eisenhardt, 1989). For the present study, the in-depth perspective enables an integrated analysis of different forms of digital interactions, and firm-specific as well as contextual factors involved in a firm’s capabilities to tap digital interactions. Also, related research has often used inductive approaches to better understand determinants and underlying mechanisms of absorptive capacity (e.g., Bosch, Volberda, & Boer, 1999; Gebauer, Worch, & Truffer, 2012).

To integrate the findings from inductive field research with the identified literature streams, the present study follows the *discovery-oriented approach*, which has already helped to enhance the understanding of key organizational issues in marketing (e.g., Kohli & Jaworski, 1990; Morgan, Anderson, & Mittal, 2005; Workman, Homburg, & Gruner, 1998). The discovery-oriented approach uses inductive methods to better understand important concepts and to develop new or refine existing research models and frameworks. By purposefully integrating prior literature, the discovery-oriented approach follows the positivistic paradigm (Workman et al., 1998). In contrast, the alternative interpretative paradigm aims to develop “grounded theory” (Glaser & Strauss, 1967) based on field data only. A key argument for the positivistic interpretation of inductive research is that a-priori specification permits more accurate analysis and in the end more empirically grounded theory development (Barratt, Choi, & Li, 2011; Eisenhardt, 1989; Pan & Tan, 2011; Yin, 2009).

From an epistemological perspective, the discovery-oriented approach ties in with the *reality-oriented research paradigm*, which emphasizes that management research has to tackle actual business challenges (Ulrich, 1981): “*Reality-oriented research tries to describe, explain, and solve practically relevant problems and phenomena by means of theory-based empirical research*” (Tomczak, 1992, p. 83). To ensure practical

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5 Original statement is in German but has been translated and back-translated by the author in line with research practice for scale development. The same is true for all following translations.
relevance throughout the entire research process, theoretical reflection and empirical data analysis ideally follow a continual learning process. Common success measures for rigor and relevance are criticality, verifiability, utility, and clarity (Dossabhoy & Berger, 2002; see also Shrivastava, 1987; Thomas & Tymon, 1982; Varadarajan, 2003).

In line with the reality-oriented research paradigm and discovery-oriented approach, the present study combines literature- and field-based insights iteratively (see Figure 5): The starting basis is the guiding framework, which integrates relevant variables and relationships from various research fields (see section 1.2). To specify key constructs and relationships of developing capabilities to tap digital interactions, the present study uses exploratory observations backed up by a detailed examination of existing literature. Next, multiple in-depth case analyses help to further refine the emerging constructs as well as relationships in their actual context and investigate mechanisms. The subsequent cross-case analysis reveals common mechanisms, patterns, and differences, which provide the empirical basis for conceptualization and identification of managerial levers (cf. Eisenhardt, 1989; Yin, 2009).

**Figure 5: Key steps and milestones in the research approach**
2 Specification of key constructs and relationships

To better understand key constructs and relationships of the guiding framework, a thorough review of extant academic literature and additional professional reports has been conducted. Exploratory observations from a series of six expert interviews on the relevance of interactive digital media and several top management workshops have helped to guide desk research and challenge prior conceptualizations (for details on the exploratory analyses, see Appendix 1).

2.1 Digital interactions

Interactive digital media have enabled and facilitated active user engagement, with the result that the range of possible interaction forms has increased and consumers have gained more control in communication processes (e.g., Hoffman & Novak, 2012a). A firm’s possibilities for influencing digital interactions and especially the information value of user-generated content depend on its interaction strategy. Extant academic research, professional reports, and exploratory observations help to detail different forms of digital interactions, the impact of interaction strategies, and information value of user-generated content.

2.1.1 Forms of digital interactions

While the trade-off between reach and richness originally limited interactions between firms and consumers to the models of ‘one-to-one’ (interpersonal) and ‘one-to-many’ (mass) communication (Evans & Wurster, 1997), enhanced user activity and connectivity in interactive digital media have facilitated direct conversations as well as created the basis for ‘many-to-many’ interactions (Hoffman & Novak, 1996; Iacobucci, 1998; Rafaeli & LaRose, 1993). In communities, blogs, and other interactive digital media, consumers can actively share information with a broad audience and benefit from crowdsourced knowledge. Likewise, marketers have gained the chance to listen, join, and influence user conversations – but effectively they have no control over user-generated content (e.g., Hoffman & Novak, 2012a; Schögel et al., 2008). As definitions of senders and receivers have become more flexible, the range of interaction relationships has broadened (see Figure 6). To structure the innumerable forms of digital interactions, prior research has offered various classification schemes (e.g., Jensen, 2008; Kiousis, 2002; Liu & Shrum, 2002; McMillan, 2006, McMillan, 2002; Stromer-Galley, 2004; Yadav & Varadarajan, 2005). Two key dimensions are the direction of interaction and the level of influence.
Based on the direction of interaction, i.e., the roles of sender and receiver, Yadav & Pavlou (2014) distinguish three basic interaction forms: (1) consumer-consumer, (2) consumer-firm, and (3) firm-consumer interactions. Consumer-consumer interactions typically take place in social networks, where users share experiences with one another and the firm has no defined role. In consumer-firm interactions, consumers actively address the firm – for example, with product feedback or suggestions for improvement. Lastly, firms use firm-consumer interactions to convey information or activate users. Whereas consumer-consumer and consumer-firm interactions naturally represent user-generated content, firm-consumer interactions require a user response (although one can argue that ‘no response’ is a response as well). Another category of digital interactions is (4) consumer-media interactions. Essentially, surf paths, engagement times, and other incidental interaction data all manifest specific user interests and allow insight into consumer thinking and behavior.

The level of firm influence in interactions has generally decreased with consumer empowerment in interactive digital media. However, consumers are willing to trade in some control for improved digital experiences or other benefits (Belz, Schögel, & Arndt, 2008). Hoffman & Novak (2012a) describe this negotiation process as harmonization between personalization and customization. While personalization includes all firm-controlled processes aiming for added user value, customization involves user-controlled processes of individualizing and co-creating content. To

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6 Whereas consumer-consumer, consumer-firm, and firm-consumer interactions are in the tradition of research on interpersonal human-to-human interactivity, consumer-media interactions tie in with human-to-document and human-to-system interactivity. For a comprehensive review of all three research streams, see McMillan (2006).
ideally balance personalization and customization, firms have to build up knowledge on consumers’ preferences and center their interaction strategies on added user value (cf. Belz, Bieger, & Reinecke, 2012; Slater & Narver, 1994; Woodruff, 1997).

Combined, the possible interaction directions and levels of firm influence rooted in added user value establish eight basic forms of digital consumer interactions (see Figure 7): In consumer-consumer interactions, a high perceived added user value enables firms to not only observe but moderate conversations, as in popular brand communities. Similarly, firms are able to enhance consumer-firm interactions if users expect an impact from giving more constructive feedback. Firm-consumer interactions at best represent responsive dialogs, unless firms are able to engage consumers in a mutual discourse. In consumer-media interactions, firms create added user value by not only tracking user behavior but experimenting and iteratively improving experiences with data analytics. The eight forms of digital interactions provide starting points for interaction strategies. Characteristics of user-generated content and data vary, depending on the interaction direction and level of firm influence.

Figure 7: Schematic illustration of basic forms of digital consumer interactions

<table>
<thead>
<tr>
<th>Consumer-consumer</th>
<th>Consumer-firm</th>
<th>Firm-consumer</th>
<th>Consumer-media</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Observation</strong></td>
<td><strong>Feedback</strong></td>
<td><strong>Responsive</strong></td>
<td><strong>Data tracking</strong></td>
</tr>
<tr>
<td><img src="image" alt="Observation" /></td>
<td><img src="image" alt="Feedback" /></td>
<td><img src="image" alt="Responsive" /></td>
<td><img src="image" alt="Data tracking" /></td>
</tr>
<tr>
<td><strong>Moderation</strong></td>
<td><strong>Constructive feedback</strong></td>
<td><strong>Mutual discourse</strong></td>
<td><strong>Data analytics</strong></td>
</tr>
<tr>
<td><img src="image" alt="Moderation" /></td>
<td><img src="image" alt="Constructive feedback" /></td>
<td><img src="image" alt="Mutual discourse" /></td>
<td><img src="image" alt="Data analytics" /></td>
</tr>
</tbody>
</table>

Source: Adapted from McMillan (2002)

2.1.2 Impact of interaction strategies and tactics

A firm’s strategic orientation determines the general role and relevance of digital interactions, which then translate into specific interaction goals, like generating image effects or valuable information. Interaction strategies and tactics map out to what extent and how firms encourage users to give feedback, exchange experiences, or collaborate (Ramani & Kumar, 2008). The success of the applied interaction tactics
manifests in the characteristics of both solicited and unsolicited user-generated content (cf. Hoffman & Novak, 2012a). *Unsolicited user-generated content* traces back to independent consumer initiative, such as product reviews or suggestions for improvement in blogs and online user communities. *Solicited user-generated content* on the other hand has been invited or to some degree influenced by firms, like crowdsourced ideas. Specific tactics to solicit user-generated content have already been analyzed in research on open innovation and brand communities.

*Open innovation* literature has examined interaction strategies and tactics to identify incentives and levers for user participation. To enhance breadth and depth of user-generated content, findings recommend a portfolio approach (e.g., Di Gangi et al., 2010; Nambisan & Baron, 2007; Sawhney et al., 2005). For example, motorcycle producer Ducati and pharmaceutical chemist Eli Lilly employ a diverse set of online tools at different stages of new product development, ranging from lead user online communities to web-based prototyping (Sawhney et al., 2005). For specific interaction tactics to manage and sustain open innovation communities, Di Gangi et al. (2010) and Bayus (2013) have reviewed the initial challenges of Dell’s IdeaStorm platform. Lessons learned highlight the importance of community management and provide specific advice to enhance user ideas and participation.

For *brand communities*, member motives (e.g., Füller, Matzler, & Hoppe, 2008; McAlester, Schouten, & Koenig, 2002; Schau, Muñiz, & Arnould, 2009) and firm tactics (e.g., Muñiz & Schau, 2011; Vries, Gensler, & Leeflang, 2012) stand out as possible levers for user-generated content. Using ethnographic methods, Schau et al. (2009) have disclosed community practices for social networking, impression management, engagement, and brand use. By encouraging or supporting the community practices, firms can foster user engagement and collective value creation. For example, the vampire series ‘Twilight Saga’ has systematically inspired user participation by offering targeted online communities for various groups, suggesting discussion topics, and inviting fans to share their reading experiences. In contrast, Vries et al. (2012) have derived determinants for brand post popularity directly from social networking sites.

Taken together, prior research on open innovation and brand communities underscores the opportunities for firms “to grow, not simply exploit ‘customer competence’” (Schau et al., 2009, p. 41) by offering added user value and playing on the different forms of digital interactions (see Figure 7 in section 2.1.1). In this way, open innovation largely corresponds to firm-consumer interactions, as firms invite users to submit ideas and engage. Brand communities can feature all three forms of interpersonal consumer-consumer, consumer-firm, and firm-consumer interactions.
The various possibilities for influencing digital interactions are particularly important if firms strive for valuable information. By implementing value-adding interaction strategies and tactics, firms gain the chance to actively influence the information value of solicited and unsolicited user-generated content in digital interactions (see Figure 8). Thereby, the information value is contingent on a firm’s specific information needs.

**Figure 8: Locating the impact of interaction strategies in the guiding framework**

2.1.3 **Information value of user-generated content**

Digital interactions grant firms direct access to information from consumers (cf. Day, 1998). However, user-generated content is not a valuable information source per se. The amount of firm- or brand-related chatter in no way indicates the proportion of possibly valuable information, so that the *information value* has to capture both volume and quality of user-generated content (see Figure 9). Combined, the two dimensions not only indicate the baseline of valuable information but also the ease of interaction processing (cf. Daft & Lengel, 1986). A review of extant research helps to discuss specific dimensions and measures of volume and quality in order to further conceptualize information value.

Especially in the brainstorming and innovation literature, evaluation of interactions has been an important method of investigating the productivity of idea generation. The main assumption of brainstorming as a creative technique is that groups achieve higher quantity and quality of idea generation than do individuals (Osborn, 1957). Accordingly, the *brainstorming* literature has typically gauged productivity by the
number, average quality, and total quality of all ideas produced (cf. Diehl & Stroebe, 1987; Mullen, Johnson, & Salas, 1991). To account for uncertainty at the time of evaluation, idea quality is commonly defined as the expected value of the idea assuming optimal further resource allocation (Girotra et al., 2010). It is important to keep in mind that ideas are not only judged objectively – their value is also based on subjective criteria (Sutton & Hargadon, 1996).

Figure 9: Locating information value in the guiding framework

In the context of innovations, the specific information needs define the appropriate measures for volume and quality (e.g., Katila & Ahuja, 2002; March, 1991). For instance, open innovation contests and breakthrough innovations aim only for the best idea, so that published reports have measured the variance in quality rather than the average quality (e.g., Girotra et al., 2010; Singh & Fleming, 2009; Taylor & Greve, 2006). Furthermore, the quality concept has been broken down into more specific subdimensions. To evaluate the creative potential among different user groups, Kristensson, Gustafsson, & Archer (2004) have distinguished among originality (newness of an idea), value (idea solves a perceived problem), realization (ease of turning the idea into a commercialized product), and number of user-generated ideas. Similar categories have been used in other studies on open innovation (e.g., Girotra et al., 2010; Magnusson, 2009; Poetz & Schreier, 2012) and usefulness of research (e.g., Shrivastava, 1987).

The growing importance of digital interactions has also propelled empirical studies on characteristics of user-generated content in marketing research. For example, a number of scholars have investigated personal or situational determinants of the
volume and valence of digital interactions (e.g., Schweidel & Moe, 2014; Toubia & Stephen, 2013). Others have focused on the impact of interaction volume and valence on behavioral and financial outcomes (e.g., Godes & Mayzlin, 2004; Schlosser, 2005; Tirunillai & Tellis, 2012). The dominant operationalization for the *volume* of interactions is the number of user comments in a certain period. *Valence* and other content-specific measures are typically assessed through ratings and manual or computational coding. Yet, valence does not seem important for the present study. Both positive and negative user-generated content can hold valuable information.

The conceptualizations of the brainstorming, innovation, and marketing literature help to define volume and quality as key dimensions for information value (see Figure 10):

- **Volume**: In line with the ideation and marketing literature, ‘volume’ refers to the total amount of firm-, brand-, or product-related user-generated content.

- **Quality**: As an analog to the ideation literature, the ‘quality’ of user-generated content will be understood as the expected value of all valuable information assuming optimal further resource allocation (cf. Girotra et al., 2010). Thereby, the *average quality* and *variance in quality* represent valuable aggregate measures, while the ‘most relevant piece of information’ (as equivalent to the ‘best idea’ in open innovation literature) is only a part of the picture when firms look for solutions to a specific problem. Specific dimensions for information quality are the *feasibility* (ease of realization), *originality* (innovativeness, novelty), and *business potential* (value from user and commercial perspectives combined).

*Figure 10: Dimensions of the information value of user-generated content*

Based on exploratory observations, a tentative classification of the digital interaction forms helps to illustrate expected variations and dynamics in volume and quality of user-generated content (see Figure 11): Consumer-initiated interactions are typically multifaceted (cf. Davenport & Klahr, 1998), so that the ‘average quality’ of information in user-generated content is expected to increase with higher levels of firm influence.
and for firm-consumer interactions. ‘Variance in quality’ on the other hand is expected to decrease with higher levels of firm influence, as user-generated content becomes more homogenous. The impact of firm influence on the volume of user-generated content is more complex. In fact, higher levels of firm influence may even discourage certain user groups and reduce the overall engagement. For consumer-media interactions, higher data volumes seem preferable because they provide a stronger basis for analysis. Higher levels of firm influence are expected to increase the average data quality but decrease the variance in data quality in consumer-media interactions. Overall, the information value depends on the specific information needs.

Figure 11: Illustrative variations and dynamics in information value

<table>
<thead>
<tr>
<th>Forms of interaction</th>
<th>Consumer-consumer</th>
<th>Consumer-firm</th>
<th>Firm-consumer</th>
<th>Consumer-media</th>
</tr>
</thead>
<tbody>
<tr>
<td>Volume</td>
<td>+++</td>
<td>++</td>
<td>++</td>
<td>+</td>
</tr>
<tr>
<td>Average quality</td>
<td>O</td>
<td>+</td>
<td>+</td>
<td>+++</td>
</tr>
<tr>
<td>Variance in quality</td>
<td>+++</td>
<td>++</td>
<td>++</td>
<td>+</td>
</tr>
</tbody>
</table>

+++ = very high, ++ = high, + = medium, O = low level
2.2 Organizational integration of digital interactions

The organizational integration of digital interactions is partly determined by the business environment and firm-specific characteristics (cf. Duncan, 1972; Moorman & Rust, 1999; Workman et al., 1998). The organizational integration thus includes functional and activity-based perspectives. While functions relate to all aspects of organizational structuring, activities build on firm-specific capabilities and shape its processes independent of the respective functions (Day, 1994b; Hult, 2011). Extant research complemented by the exploratory observations and professional studies helps to specify the determinants and dimensions of organizational integration. Further information on all cited academic and professional studies is provided in Appendix 2.

2.2.1 Impact of the business environment

Marketing scholars have repeatedly emphasized the influence of competitive and technological changes on organizational dimensions (e.g., Achrol, 1991; Huber, 1984). With interactive digital media, market complexity and technological development have accelerated even further. Proliferation of channels, data floods, and increased market fragmentation affect all firms and eventually lead to a widening “marketing capabilities gap” (Day, 2011, p. 183). The comprehensive effect of interactive digital media is reinforced by the fact that extant studies on interaction orientation have not found any significant effects for different levels of competitive intensity (cf. Danzinger, 2010; Ramani & Kumar, 2008). Nevertheless, empirical observations suggest that some systematic variations exist in adoption and maturity levels of digital interactions. Drawing on Workman et al. (1998), we can note that industry sector, national context, and cultural effects represent critical external impact factors on marketing organization.

Regarding industry sector, existing reports confirm that resources for interactive digital media differ. The comparisons show that digital budget share is highest for information-intensive sectors like financial services, telecommunications, and media, while less information-intensive sectors like producers of consumer packaged goods still rely on traditional channels in advertising and overall business (e.g., Barwise & Farley, 2005; Bucker, 2013; Gottlieb & Willmott, 2014; Sayre et al., 2012). These findings match early research on digital marketing (e.g., Parsons et al., 1998) and industry-specific differences in open innovation (cf. Prandelli, Verona, & Raccagni, 2006). Evidently, budget shares document the degree of digital transformation and competitive pressure within an industry. Technology research suggests that different
levels of enactment persist over time (Orlikowski, 2000). While some firms have to transform their entire business, others will continue to use interactive digital media only as an additional tool or channel (e.g., Brookes, Brodie, Coviello, & Palmer, 2005; Day, 1998). Also professional reports have distinguished different stages of digitization (e.g., Li & Solis, 2013; McDonald, 2012).

In international comparisons, North American firms have the highest investments in digital business initiatives (Brown, Sikes, & Willmott, 2013b; Gottlieb & Willmott, 2014), although the share of interactive digital marketing in advertising budgets has been found to vary little by country or region (Barwise & Farley, 2005). Broader comparisons show that national contexts affect the marketing organization in various ways. For example, Workman et al. (1998) propose different levels of cross-functional dispersion, marketing power, and global orientation but also strategic typologies between German and U.S. firms based on gross domestic income, regulatory levels, cost structures, culture, and education systems. Studies on integrated marketing communication in Asian and Western countries reinforce social, cultural, and institutional differences for client-agency relationships (Kim, Han, & Schultz, 2004).

Overall, the industry sector seems to affect the relevance of interactive digital media and respective maturity level across firms, while the societal context has been found to influence organizational characteristics (see Table 1). These systematic variations suggest that the business environment matters, i.e., the contextual factors influence strategic and organizational aspects at both the firm and interaction level. For a firm’s capabilities to tap digital interactions, industry-specific differences in information intensity require further consideration.

Table 1: Relevant findings on the impact of the business environment

<table>
<thead>
<tr>
<th>Focus</th>
<th>Key findings</th>
<th>Representative publications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industry sector</td>
<td>Current levels of enactment vary across industries and differences are likely to persist over time. Budgets for interactive digital media are highest in information-intensive industries.</td>
<td>Barwise &amp; Farley, 2005</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Bucker, 2013</td>
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<tr>
<td></td>
<td></td>
<td>Gottlieb &amp; Willmott, 2014</td>
</tr>
<tr>
<td></td>
<td></td>
<td>McDonald, 2013c</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Parsons et al., 1998</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sayre et al., 2012</td>
</tr>
<tr>
<td>Societal context</td>
<td>Relevance of interactive digital media seems largely constant internationally, but societal and cultural differences affect the general marketing organization.</td>
<td>Barwise &amp; Farley, 2005</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Brown et al., 2013b</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Gottlieb &amp; Willmott, 2014</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Kim et al., 2004</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Workman et al., 1998</td>
</tr>
</tbody>
</table>
2.2.2 Impact of firm-level characteristics

Workman et al. (1998) have identified the firm size, relatedness of tasks across business units, and strategic focus as key internal determinants of marketing organization. Since digital interactions affect not only the marketing but firm-wide organization (cf. French et al., 2011), these dimensions will be supplemented by determinants of studies on the adoption of social media and customer relationship management (e.g., Reinartz, Krafft, & Hoyer, 2004; Zerfaß & Linke, 2012): strategic fit, firm size, fit with organizational culture, fit with human resources, and fit with existing IT systems (see Figure 12).

Figure 12: Locating firm-level impact factors in the guiding framework

Strategy is a structuring force that defines a firm’s key stakeholders, service offerings, focus in value creation, competencies, and fields of cooperation (Rüegg-Stürm, 2005). For interaction orientation, Ramani & Kumar (2008) embrace the customer concept, which sets the focus on individual customers (cf. Hoekstra, Leeflang, & Wittink, 1999). Other scholars highlight the importance of a complementary market, learning, or technology orientation (e.g., Danzinger, 2010; Pergelova, 2010; Trainor, Rapp, Beitelspacher, & Schillewaert, 2011). Depending on the fit with the general strategic focus, the role and integration of digital interactions will vary. On the same note, the board agenda is often highlighted as a critical success factor. Lack of top management support for interactive digital media limits organizational transformation (e.g., Brown et al., 2013a; Fitzgerald, Kruschwitz, Bonnet, & Welch, 2014).

Firm size is typically operationalized as total revenue or the number of employees. In large-scale surveys, executives of high-revenue firms have reported larger structural issues than did key informants from smaller businesses (e.g., Gottlieb & Willmott, 2014). Frequently cited reasons for the apparent gap are legacy structures and processes that slow down organizational change. Likewise, Danzinger (2010) finds that big firms
have to place particular emphasis on learning processes to benefit from interaction orientation. Based on higher total revenues, large firms typically command more resources than small ones. A review of corporate websites confirms that large firms are in general more likely to integrate users in innovation (cf. Prandelli et al., 2006).

Organizational culture describes a firm’s “shared values and beliefs” (Deshpandé & Webster, 1989, p. 4). Together with interaction strategy and organizational climate, the organizational culture shapes all practices related to tapping digital interactions for valuable information (cf. Deshpandé & Farley, 2004). For interaction orientation, Thalmann & Brettel (2012) find only positive support from entrepreneurial cultures, characterized by high flexibility and open-mindedness. This finding is consistent with calls for a trial-and-learn mindset in interactive digital media. In addition, top managers are often ascribed role-model functions (e.g., Bughin, Chui, & Pollak, 2013; Sayre et al., 2012). Thalmann & Brettel (2012) also show positive effects of participatory and supportive leadership styles for organizational learning.

Human resources determine the available know-how and skill-set for tapping digital interactions. By integrating external partners for specific tasks, firms can expand their available resources. However, outsourcing comes at a price (e.g., Breene & Whipple, 2011; Ramani & Kumar, 2008). Professional reports document a particularly pressing need for talent in analytics (e.g., Gottlieb & Willmott, 2014). To develop a digital mindset, reverse mentoring or executive training have been used successfully (e.g., Fitzgerald et al., 2014; Vollmer & Premo, 2012). Employee incentives represent another effective driver for mental turn-around. However, few firms have included digital transformation in their reward structure yet; and if so it is mostly awards, recognition, or personal advancement, rather than financial rewards (Fitzgerald et al., 2014). Prior academic research has also suggested incentives based on knowledge acquisition and sharing (e.g., Foss et al., 2011; Ramani & Kumar, 2008; Wikström, 1996).

IT systems are challenged by higher connectivity, deluge of data, and increasing speed in interactive digital media. Integration of new IT systems and functions, like monitoring or analytics tools, often requires reinvention or a comprehensive upgrade of legacy IT infrastructure (Andersson & Tuddenham, 2014). Hardly surprising,

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7 Deshpandé & Farley (2004) distinguish four types of organizational culture, which likely mix in business practice: (1) competitive, market culture (emphasis on competitive advantage and market superiority), (2) entrepreneurial, adhocratic culture (focus on innovation and risk-taking), (3) bureaucratic, hierarchic culture (characterized by regulations and formal structures), and (4) consensual, clan cultures (emphasis on loyalty, tradition, and internal maintenance). Compared to the organizational culture, organizational climate focuses more on decision-making processes.
limitations of IT systems are frequently listed among the biggest organizational barriers (e.g., Brown et al., 2013b; Fitzgerald et al., 2014). Thus interactive digital media represent an effective tool for both external and internal communication to achieve immediate response capacity (Bughin et al., 2013). A study by Trainor et al. (2011) highlights the importance of integrated marketing, IT, and other business resources to build up e-marketing capability.

In summary, the review of related academic and professional publications reveals a number of firm-level characteristics that might influence the functional and activity-based organization to tap digital interactions (see Table 2). Nevertheless, the different focal points and definitions of the various studies call for a more thorough assessment. Although professional reports give a good overview of the status quo and possible levers, empirical evidence remains mostly anecdotal or superficial. Scholarly research, which examines underlying mechanisms in-depth and more systematically, is still scarce.

Table 2: Relevant findings on the impact of firm-level characteristics

<table>
<thead>
<tr>
<th>Focus</th>
<th>Key findings</th>
<th>Representative publications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strategic fit</td>
<td>Interaction and market orientation both set the focus on consumers, but digital interactions also call for a distinct learning orientation and top management support.</td>
<td>Brown et al., 2013a</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Danzinger, 2010</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pergelova, 2010</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ramani &amp; Kumar, 2008</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Trainor et al., 2011</td>
</tr>
<tr>
<td>Size of the firm</td>
<td>On the one hand, high numbers of employees tend to slow down digital change processes. On the other hand, large revenues generally involve higher digital budgets for transformation.</td>
<td>Danzinger, 2010</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Gottlieb &amp; Willmott, 2014</td>
</tr>
<tr>
<td>Fit with organizational culture</td>
<td>Entrepreneurial culture creates an open, test-and-learn mindset that supports adoption of interactive digital media as a valid information source.</td>
<td>Sayre et al., 2012</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Thalmann &amp; Brettel, 2012</td>
</tr>
<tr>
<td>Fit with human resources</td>
<td>Digital skills and know-how set the baseline for digital interactions. Firms can expand their resources with training and incentives or by hiring new talent and outsourcing specific tasks.</td>
<td>Breene &amp; Whipple, 2011</td>
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<td></td>
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<td>Fitzgerald et al., 2014</td>
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<td>Foss et al., 2011</td>
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<td>Ramani &amp; Kumar, 2008</td>
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<td></td>
<td></td>
<td>Vollmer &amp; Premo, 2012</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Wikström, 1996</td>
</tr>
<tr>
<td>Fit with existing IT systems</td>
<td>Legacy IT systems often create organizational barriers. To tap the full potential of digital interactions, firms have to align their IT capabilities.</td>
<td>Andersson &amp; Tuddenham, 2014</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Brown et al., 2013b</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Fitzgerald et al., 2014</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Trainor et al., 2011</td>
</tr>
</tbody>
</table>
2.2.3 Functional perspective

To best support continuous consumer interactions in interactive digital media as well as internal knowledge sharing, firms have to scrutinize their organizational structure and frequently create new functions or change existing reporting relationships. For instance, Sawhney et al. (2005) note that Ducati completely transformed its marketing unit during a collaborative innovation project to increase the community focus, improve links with product development processes, and facilitate internal knowledge sharing. Marketing scholars and professionals recognized and discussed the implications of digital media on marketing functions early on (cf. Day, 1998; Parsons et al., 1998). Many organizational questions brought up at that time remain relevant. However, the mounting prevalence of interactive digital media has shifted the focus from ‘if’ to ‘how’ and expanded the scope of application. Following Mintzberg (1979), a firm’s organizational structure is characterized by the levels of centralization, formalization, and specialization, which should align with firm-level characteristics, strategic goals, and environmental factors.

Regarding the level of centralization, early research on digital marketing has already argued for a greater firm-wide dispersion of information and decision-making (e.g., Day, 1998; Parsons et al., 1998). To ensure that consumer information reaches the responsible managers, key personnel have to be involved in the direct contact. Empirical support is provided by Thalmann & Brettel (2012), who find that decentralized structures facilitate the enactment of interaction orientation. However, broad task distribution and cross-functional collaboration often conflict with entrenched silo structures in business practice (e.g., Willmott, 2013).

Owyang (2010) has identified five dominant organizational models for social business with varying levels of centralization (see Figure 13): At early stages, the centralized model can be helpful to drive strategic development and define key principles. Because scalability is limited in the centralized model, digitally more mature firms typically switch to a ‘hub-and-spoke’ model in which the hub coordinates a number of decentralized, functionally integrated digital managers, e.g., in customer support, human resources, or product development. International corporations typically establish ‘multiple hubs’ for different brands or regions (cf. Li & Solis, 2013). In the ‘holistic model’ each employee has digital responsibilities. The high task diffusion requires a particularly open, informal culture, most prevalent in digital-savvy firms like the consumer electronics retailer Best Buy or the online shop Zappos (Owyang, 2010).
Formalization describes the degree to which roles, communications, norms, authority relations, and procedures are defined by rules (Hall, Johnson, & Haas, 1967). Prior research has found that formalized structures in general tend to hinder organizational learning and interaction orientation (e.g., Deshpandé & Zaltman, 1982; Thalmann & Brettel, 2012). However, formal leadership and standardized processes can also promote collaboration and information exchange in specific contexts. For example, brands like Starbucks and McDonald’s have created executive-level ‘chief digital officers’ (cf. Fitzgerald, 2013; McDonald’s, 2013c). Professional reports suggest that a powerful leader is particularly beneficial for firms that need a central authority to catalyze the transformation process (e.g., McDonald, 2013a, McDonald, 2013b).

Specialization relates to the division of tasks (cf. Pugh, Hickson, Hinings, & Turner, 1968) inside the firm but also among the broader network of external partners. Interactive digital media require different skills than traditional marketing and high adaptability to keep up with the dynamic development (Day, 2011). With an open, networked approach, firms gain immediate access to myriad experts, while the internal marketers orchestrate the various partners (Achrol, 1997). Also, the hybrid hub-and-spoke models require a reconfiguration of centralized and decentralized know-how. For example, service agents can answer customer requests in interactive digital media, and the center of excellence has to translate big data into business tools (e.g., BenMark, 2014; Brown, Court, & McGuire, 2014). How a firm best allocates digital responsibilities in-house and among external partners depends on its willingness to invest in potential future capabilities and on the timeframe. For example, outsourcing might be an option for highly specialized tasks as long as collaboration does not cause delays or increase complexity (Parsons et al., 1998).
By and large, no ‘one size fits all’ organizational blueprint seems to exist (Day, 1998; Swaan Arons, van den Driest, & Weed, 2014). While the general trend points toward a formalized (multiple) hub-and-spoke model with a coordinating digital center of excellence (cf. Dahlström & Edelman, 2013; Li & Solis, 2013; Sayre et al., 2012; Zerfaß, Fink, & Linke, 2012), each firm still has to determine the ideal task and power distribution in a probe-and-learning process. The continuous digital development suggests that this probe-and-learning process is in fact open-ended (see Table 3). As the organizational structure defines knowledge diffusion and relationships (Cohen & Levinthal, 1990), functional characteristics also have significant impact on a firm’s capabilities to tap digital interactions. However, extant studies lack the necessary depth to identify specific managerial or organizational levers at the interaction level.

Table 3: Relevant findings pertaining to the functional perspective

<table>
<thead>
<tr>
<th>Focus</th>
<th>Key findings</th>
<th>Representative publications</th>
</tr>
</thead>
</table>
| Centralization | Firms typically aim for a ‘hub-and-spoke’ model with a digital center of excellence to drive and coordinate all firm-wide digital activities. | Li & Solis, 2013  
                 |                                                                               | Owyang, 2010  
                 |                                                                               | Parsons et al., 1998  
                 |                                                                               | Sayre et al., 2012  
                 |                                                                               | Thalmann & Brettel, 2012  
                 |                                                                               | Zerfaß & Linke, 2012  |
| Formalization  | Informal structures facilitate organizational learning, but depending on the internal readiness, a defined central authority and strict rules help to push digital transformation. | Deshpandé & Zaltman, 1982  
                 |                                                                               | McDonald, 2013a, McDonald, 2013b  
                 |                                                                               | Thalmann & Brettel, 2012  |
| Specialization | To ensure digital skills, firms have to decide how they want to build up internal expertise or source external partners. | Day, 2011  
                 |                                                                               | Parsons et al., 1998  |

2.2.4 Activity-based perspective

Digital interactions have created a set of new, highly dynamic activities that blur organizational boundaries. Tasks like consumer engagement or monitoring hardly link to a single function but often involve the entire firm (cf. French et al., 2011). At the same time, job titles like ‘chief digital officer’ or ‘social media manager’ often imply very different task descriptions, depending on other firm-specific characteristics (cf. McDonald, 2013b). By focusing only on distinct tasks, regardless of their allocation, the activity-based perspective complements the functional perspective (see
In this way, the activity-based perspective helps us grasp the full scope of organizational processes and also increases the generalizability of findings (cf. Moorman & Rust, 1999; Workman et al., 1998).

By definition, a firm’s activities are rooted in its capabilities and shape organizational processes (Hult, 2011). Day (1994b) has distinguished three types of marketing capabilities, based on the focus of their defining processes and correspondent activities: outside-in, inside-out, and boundary-spanning capabilities. The use of digital interactions naturally requires superior outside-in capabilities, which shift the focus of all firm processes away from apparent internal resource constraints to external market information and business opportunities. Distinctive capabilities of firms with an outside-in orientation are market sensing, vigilant market learning, customer linking, adaptive experimentation, and open marketing (Day, 1994b; Day, 2011). As these five capabilities enable firms to develop and configure activities in market-driven or adaptive processes, they mark good starting points to explore activities related to tapping digital interactions.

*Market sensing capability* allows firms to systematically scan and process external information. As specific interests initiate and guide the search, the focus is on exploitative learning to refine the current products and services (Day, 1994b; Day, 2011). Digital interactions have amplified the readily available information and facilitated keyword-based access. Specific activities to tap the new information source are monitoring of consumer-initiated interactions and analytics of data streams (consumer-media interactions). For example, Pepsico and Procter & Gamble permanently track trending topics related to their brands and clickstream data to optimize campaigns and consumers’ online experience (cf. Divol, Edelman, & Sarrazin, 2012; Olanrewaju et al., 2014; Ostrow, 2010). Both monitoring and analytics largely tie in with established processes of the information processing perspective on market orientation. Yet, enormous volume and high variance in quality of user-generated content require new analytic skills and knowledge (cf. Bijmolt et al., 2010; Urban & Hauser, 2004). To validate the findings and ensure rapid response, the activities also have to be more closely interlinked with other business processes, such as market research or crisis management (e.g., French, LaBerge, & Magill, 2012).

*Vigilant market learning capability* enables firms to not only sense and respond, but also anticipate and proactively prepare for market shifts. Basic preconditions are an open, exploratory mindset, heightened alertness to weak signals, and willingness to take risks (Day, 2011). For broad exploration of valuable information, vigilant market learning has to include both brand- or product-related as well as peripheral consumer-
initiated interactions. Hence, the key challenge becomes to filter out valuable information, which may hide in micro patterns of big data or random user comments (e.g., Day & Schoemaker, 2004b; Fiol & O'Connor, 2003). Monitoring and analytics activities not only promote market sensing capabilities but can help firms to spot weak signals and abnormalities. Yet, disclosure of valuable information will always require a balancing act between interpretation and unbiased evaluation, as consumers are hardly able to name current, not to mention latent or future needs (cf. Blazevic & Lievens, 2008; Ulwick & Leonard, 2002; Zeithaml et al., 2006). To clarify and probe emergent insights, exploratory monitoring and analytics activities are often complemented by other methods of inquiry (Day, 2011).

Customer linking capability enables firms to cultivate and leverage close customer relationships (Day, 1994b) and, hence, represents a fundamental prerequisite for digital interactions. Two common activities to engage with consumers in interactive digital media are content development and community management (Vollmer & Premo, 2012). Content development aims to attract consumers’ attention and activity with what often resemble publishing techniques, from careful selection and high-end, multimedia-based realization of stories to editorial calendars (e.g., French et al., 2012; Godes et al., 2005; Vollmer & Premo, 2012). Community management on the other hand corresponds to the “art and science of convening and hosting fans” (Vollmer & Premo, 2012, p. 9; see also Fournier & Lee, 2009; Muñiz & Schau, 2011; Nambisan & Baron, 2007). Core proficiencies for community management are listening, curating, and responding skills, with the latter including handling of individual service questions or problems (e.g., BenMark, 2014; Vollmer & Premo, 2012). Both content development and community management preset a defined customer value orientation and range of new marketing and communication skills, such as storytelling or bonding. In addition, the higher speed of digital interactions challenges established market response processes, including inside-out and boundary-spanning skills, capabilities, and processes.

Adaptive market experimentation capability provides the basis for trial-and-error learning (Day, 2011). With fast realization times and immediate feedback, digital interactions support continuous experimentation and iterative development processes. New digital tools are often launched as beta version to speed up innovations, quickly find bugs, and implement user experiences in real-time (e.g., Olanrewaju et al., 2014). Accordingly, strategic development and technological realization of digital interactions typically also follow a probe-and-learning approach – from trial balloons on upcoming platforms to the stepwise optimization of solicitation strategies (e.g., Vollmer & Premo, 2012). To carry out the iterative development and realization
activities, firms have to allow for failures and support close collaboration of the responsible functions (Day, 2011).

*Open marketing capability* enables flexible sourcing of external partners in business processes, like search engine optimizers, viral consultants, or advertising agencies (Day, 2011). In addition, digital interactions extend the network of possible collaborators to end consumers and lead users (cf. Fang, 2008; Poetz & Schreier, 2012). *Consumer integration* in the value creation process may take different forms of firm-consumer interactions, like crowdsourcing challenges for new ideas, open innovation toolkits, or direct invitations for feedback (e.g., Fuchs & Schreier, 2011; Prandelli et al., 2006; Sawhney et al., 2005). To integrate consumers, firms have to develop activation skills to solicit valuable user-generated content (e.g., Bayus, 2013; Di Gangi et al., 2010; Laursen & Salter, 2006).

Overall, the five outside-in capabilities proposed by Day (1994b; 2011) point to seven specific activities to tap digital interactions (see Table 1): Monitoring and analytics support market sensing and vigilant market learning capabilities to identify new insights. Consumer integration extends a firm’s open marketing capabilities by tapping users’ knowledge. Effective content development and community management in turn stimulate user-generated content and enhance customer linking capabilities. Lastly, trial-and-error learning in strategic development and technological realization creates the basis for adaptive market experimentation capabilities. As the seven activities draw on a variety of professional reports and exploratory observations, the list requires further empirical investigation.

<table>
<thead>
<tr>
<th>Focus</th>
<th>Activities in digital media</th>
<th>Representative publications</th>
</tr>
</thead>
</table>
2.3 Interaction processing

While interactive digital media facilitate access to rich user-generated content, a firm’s capabilities to tap digital interactions ultimately depends on capabilities to identify, assimilate, and apply valuable information. Drawing on the concept of absorptive capacity, a key resource to tap digital interactions is a firm’s prior related knowledge (Cohen & Levinthal, 1989). In this line of thinking, the level of prior related knowledge is not only defined by the total knowledge of all employees but also by intraorganizational processes to share, communicate, and transfer knowledge (Cohen & Levinthal, 1990). The direct effect of a firm’s organizational characteristics on its absorptive capacity warrants an integrated perspective on ‘interaction processing’. A review of previous research guided by the exploratory practical observations helps to map out dimensions as well as drivers and barriers of interaction processing.

2.3.1 Dimensions of interaction processing

Formally defined, interaction processing represents a firm’s capabilities to absorb valuable information in user-generated content. Effectiveness and efficiency of interaction processing depend on the interplay between a firm’s organizational model and the constituent learning processes of absorptive capacity. By allocating digital responsibilities to specific functions or external partners, a firm fixes the available breadth and depth of (prior related) knowledge, skills, and level of connectedness among digital functions, at least over the short run. Drawing on Owyang (2010), two extremes in organizational structures are marked by the centralized model, with all digital expertise pooled in one formal, specialized unit, and the holistic model, with responsibilities spread throughout the firm (see section 2.2.3). To better understand how a firm’s organizational characteristics impact absorptive capacity, the two dimensions of interaction processing and their interrelationships have to be further specified.
Based on the definition by Cohen & Levinthal (1990), the development of *absorptive capacity* is domain-specific and path-dependent. Absorptive capacity thus develops cumulatively and manifests in a firm’s knowledge base (Cohen & Levinthal, 1990, Cohen & Levinthal, 1989) as well as in more accurate business forecasts (Cohen & Levinthal, 1994). Subsequent research has emphasized the constituent learning processes and has argued for a reconceptualization as dynamic capability (e.g., Lane et al., 2006; Zahra & George, 2002). In line with these more recent publications, the present study defines absorptive capacity as a dynamic capability: Embedded in a set of organizational learning processes, absorptive capacity enables a firm to identify, assimilate, and apply valuable information from user-generated content to gain and sustain competitive advantages. Thereby, absorptive capacity functions as an interaction processing funnel (Lane & Klavans, 2005; see Figure 14), which is shaped by a firm’s organizational structures and processes (Lane et al., 2006).

**Figure 14: Absorptive capacity as an interaction processing funnel**

*Identifying valuable information* in solicited or unsolicited user-generated content relates to scanning and interpretation processes (Daft & Weick, 1984) as well as exploratory learning processes (Lane et al., 2006). This understanding is consistent with ‘knowledge acquisition’ in organizational learning (Huber, 1991) but is broader than conceptualizations of ‘intelligence generation’ in market orientation (Jaworski & Kohli, 1993) to account for both market sensing and vigilant learning from weak signals (cf. Day, 2011). Based on the importance of prior related knowledge for absorptive capacity, the allocation of scanning, interpretation, and exploratory learning activities is crucial for the identification of valuable information. Individual knowledge and experiences along with openness toward interactive digital media and
customer needs determine whether or not managers spot and pursue valuable information in user-generated content (cf. Cohen & Levinthal, 1990; Menon & Varadarajan, 1992).

Assimilating identified information refers to transformative learning processes (cf. Garud & Nayyar, 1994), i.e., activities of disseminating knowledge, linking acquired with existing knowledge, and also maintaining and reactivating knowledge over time (e.g., Lane et al., 2006). This definition follows Cohen & Levinthal (1990; 1989) instead of Zahra & George (2002) to highlight the fact that absorptive capacity does more than aim for efficiency (Lane et al., 2006). Dispersion of digital responsibilities and level of connectedness determine the need for knowledge transfer and ease of transformative learning. Knowledge transfer will be successful only if sender and receiver speak the same language, i.e., have some knowledge overlap, or if a boundary-spanner translates (e.g., Cohen & Levinthal, 1990; Daft & Lengel, 1986). Formal networks and routines as well as informal alliances or coordination forms help to establish relationships and develop a common understanding among the managers (cf. Jansen, Bosch, & Volberda, 2005; Maltz & Kohli, 1996; Szulanski, 1996). Thus, formal mechanisms tend to be more effective to systematically distribute information and to gather interpretations within the firm, while informal alliances better facilitate idea exchange (e.g., Gunther McGrath, 2001; Lenox & King, 2004).

Application of assimilated information is indicative of exploitative learning processes (Lane et al., 2006). In incorporating and harvesting knowledge from digital interactions, firms may extend their knowledge base, improve current products, develop new ones, or even adapt their business model. Each outcome ideally results in competitive advantages and improved performance. How knowledge from digital interactions is exploited again depends on the dispersion of responsibilities and the level of connectedness. Notably, the involvement of decision makers and hierarchical position of digital managers (cf. Atuahene-Gima, 2003; Tsai, 2001), power relationships (Todorova & Durisin, 2007), and shared mental models among employees (cf. Jansen, 2005) determine the ease and outcomes of exploitative learning processes.

In summary, prior research suggests that absorptive capacity is a dynamic capability embedded in sequential learning processes. Thus, the organizational model seems to influence absorptive capacity differently at each learning stage (e.g., Bosch et al., 1999; Jansen et al., 2005) and create boundaries for absorptive capacity. Consequently, the knowledge diffusion has to be matched by routines and processes to share, communicate, and transfer knowledge (see Figure 15).
The prominent role of prior related knowledge implies recursive effects in developing absorptive capacity. Knowledge and commercial outputs inevitably shape a firm’s future absorptive capacity (e.g., Bosch et al., 1999; Cohen & Levinthal, 1990; Todorova & Durisin, 2007). These feedback loops and the definition as a dynamic capability suggest that absorptive capacity is not only influenced by a firm’s organizational characteristics but also influences them over time. The close interrelationships further emphasize the importance of an integrated perspective for interaction processing. Further in-depth analyses are needed to fully understand the complex mechanisms and impact of specific managerial and organizational levers.

2.3.2 Drivers and barriers of absorptive capacity

As a function of a firm’s organizational model and absorptive capacity, interaction processing is contingent on the various firm-level characteristics and external factors. More specifically, the business environment can create incentives or disincentives for a firm to seek out valuable information and invest in digital resources and capabilities. Firm-level characteristics in turn create boundary conditions for the effectiveness and efficiency of absorptive capacity. Internal drivers and barriers also point to managerial and organizational levers for absorptive capacity.

Prior research indicates that the business environment influences the nature of a firm’s absorptive capacity. In turbulent knowledge environments, firms tend to focus on exploitative learning to optimize the efficiency of their absorptive capacity.
Alternatively, stable knowledge environments encourage exploratory learning (Bosch et al., 1999). Complementarity of exploratory and exploitative learning processes, however, implies that an excessive focus on either one will have negative effects (e.g., Holmqvist, 2004; Lichtenthaler, 2009). Adjustments in absorptive capacity can be triggered by disruptive market events like technological developments or policy changes (Zahra & George, 2002). In addition to market dynamics, consumer and industrial contexts have exhibited differences in market information use in line with the level of customer contact (e.g., Deshpandé & Zaltman, 1987; Homburg & Fürst, 2005). Regarding the societal context, innovation research points to the vital role of appropriability regimes. In weak regimes, firms benefit from high levels of absorptive capacity to quickly imitate and exploit rivals’ innovations (Cohen & Levinthal, 1990). Meanwhile, insufficient knowledge protection will limit investments in exploratory learning (Zahra & George, 2002).

**Firm-level characteristics** naturally delimit absorptive capacity to a certain degree. Foremost, the firm size typically influences the level of complexity. Larger firms have to put more effort into the development of a distinct learning orientation than do small firms to fully tap digital interactions (cf. Danzinger, 2010). Also, a firm’s human resources (e.g., Menon & Varadarajan, 1992), IT systems (e.g., Andersen & Foss, 2005), and internal communication structures (e.g., Gupta & Govindarajan, 2000) can create temporary boundaries. Interactive digital media require specific analysis skills and resources to tackle enormous volume and high variance in quality of the available information (cf. Bijmolt et al., 2010; Urban & Hauser, 2004).

Along with knowledge and skills, the organizational culture matters. The acquisition of external information generally calls for an open market-oriented and entrepreneurial mindset (e.g., Slater & Narver, 1995; Wikström, 1996). However, the openness has to be paralleled by internal cohesiveness to create necessary trust and commitment for information processing (cf. Moorman, 1995). Potential impediments include internal or external power relationships (Todorova & Durisin, 2007) and established ways of thinking or traditions as exemplified by the innovator’s dilemma (Christensen, Johnson, & Rigby, 2002), ‘learning myopia’ (Levinthal & March, 1993), or ‘not invented here’ syndrome (Katz & Allen, 1982).

The influence of the interaction-level organizational model on absorptive capacity implies that **firm-level organizational characteristics** also lead to constraints. In their seminal paper, Cohen & Levinthal (1990) discussed the interrelationships between knowledge diffusion and communication structures in the organization. Centralized gatekeepers or boundary-spanners can help to bridge knowledge gaps and relieve other
functions. Bosch et al. (1999) have investigated the impact of different organizational forms and combinative capabilities on absorptive capacity and conclude that scope, flexibility, and efficiency of knowledge assimilation vary for functional, divisional, and matrix organizations. Other scholars have emphasized the impact of organizational flexibility (e.g., Lane, Salk, & Lyles, 2001), the level of centralization (e.g., Atuahene-Gima, 2003; Tsai, 2001), and formal or informal cross-functional relationships (e.g., Boer, Bosch, & Volberda, 1999; Jansen et al., 2005; Meeus, Oerlemans, & Hage, 2001), as already discussed for the different stages of the learning process.

A firm’s strategic orientation and business goals determine the level and focus of investments in absorptive capacity (Lane et al., 2006). Specific practices to develop absorptive capacity include learning-oriented reward structures (cf. Foss et al., 2011; Jaworski & Kohli, 1993; Wikström, 1996) and internal information campaigns (cf. Lenox & King, 2004). However, campaigns and incentives have limited effects because absorptive capacity is path-dependent and must develop over time. More sustained drivers for absorptive capacity are investments in individual knowledge and skills, close cross-functional relationships, and continuous, systematic efforts to improve learning processes (cf. Sinkula, Baker, & Noordewier, 1997; Szulanski, 1996).

In sum, a firm’s absorptive capacity is contingent on the respective business environment and firm-level characteristics, including organizational constraints as well as strategic orientation and goals (see Table 5). Following configuration theory, combinations of organizational and strategic characteristics are not random. Certain patterns will prevail since only ideal configurations yield superior performance (e.g., Ketchen, Thomas, & Snow, 1993; Meyer, Tsui, & Hinings, 1993; Vorhies & Morgan, 2003). Accordingly, firms have to match their learning processes the current organizational model to develop absorptive capacity and best tap digital interactions.

Table 5: Relevant drivers and barriers to developing absorptive capacity

<table>
<thead>
<tr>
<th>Focus</th>
<th>Key findings</th>
<th>Representative publications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business environment</td>
<td>Level of turbulence in an industry and appropriability in a society influence the focus of absorptive capacity on exploration or exploitation.</td>
<td>Bosch et al., 1999</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Cohen &amp; Levinthal, 1990</td>
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<td></td>
<td></td>
<td>Holmquist, 2004</td>
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<td></td>
<td></td>
<td>Lichtenthaler, 2009</td>
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<tr>
<td></td>
<td></td>
<td>Zahra &amp; George, 2002</td>
</tr>
<tr>
<td>Firm-level characteristics</td>
<td>A firm’s complexity, resource base, and organization culture create temporary or permanent boundary conditions for absorptive capacity.</td>
<td>Andersen &amp; Foss, 2005</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Menon &amp; Varadarajan, 1992</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Moorman, 1995</td>
</tr>
</tbody>
</table>
| Organizational characteristics | Organizational structure and formal or informal cross-functional relationships can create temporary barriers to absorptive capacity. | Boer et al., 1999  
Tsai, 2001  
Bosch et al., 1999  
Jansen et al., 2005 |
|-------------------------------|--------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| Strategic orientation and goals | Strategic orientation and goals set the focus of absorptive capacity. Development requires investments in prior related knowledge and communication structures. | Foss et al., 2011  
Gupta & Govindarajan, 2000  
Lenox & King, 2004  
Sinkula et al., 1997  
Szulanski, 1996  
Todorova & Durisin, 2007 |

2.4 Refining the guiding research framework

Following the discovery-oriented approach, a-priori specification of key constructs and relationships is crucial for empirically grounded theory development in a positivist tradition (Eisenhardt, 1989; Workman et al., 1998). For the present study, the guiding framework from prior research has set the focus on digital interactions, their organizational integration, and interaction processing based on absorptive capacity (see sections 2.1-2.3). To explore key dimensions, drivers, and barriers, findings from different academic fields have been reviewed and integrated, most importantly prior research on interaction orientation, absorptive capacity, market orientation, co-creation, open innovation, and crowdsourcing. In addition, a broad range of professional reports and exploratory observations from a series of expert interviews as well as top management workshops have been consulted to ensure the applicability of prior research findings to the context of interactive digital media. The specification of key constructs and relationships has helped to refine the guiding framework:

- Due to the user empowerment in interactive digital media, digital interactions have transformed and differentiated communication relationships between a firm and its consumers (see section 2.1). To influence user-generated content, firms have to focus their interaction strategies on added user value. The information value of user-generated content is expected to differ for each form of digital interaction. Thereby, information value is defined by the volume, average quality, and variance in quality of user-generated content, with feasibility, originality, and business potential as key quality dimensions.

- The organizational integration of digital interactions (see section 2.2) depends on various external and internal influence factors. A systematic review of existing academic literature and professional reports provides initial insights on key aspects of functional allocation and activities related to tapping digital interactions. The
diffusion of digital responsibilities and level of connectedness among the respective functions define the organizational model at the interaction level.

- **Interaction processing** (see section 2.3) builds on a firm’s absorptive capacity. A key determinant for a firm’s capabilities to identify, assimilate, and apply valuable information from user-generated content is the level of prior related knowledge, as defined by the organizational model.

- Among the various *external and internal factors*, industry type, firm-specific characteristics, and interaction strategies seem to most influence a firm’s capabilities to tap digital interactions for valuable information.

With a focus at the interaction level, Figure 16 integrates the additional insights on key constructs and relationships of tapping digital interactions into the guiding framework:

1. A firm’s *interaction strategy* defines the extent to which and how firms tap digital interactions.

2. To affect *digital interactions*, the *interaction strategy* and tactics have to build on added user value.

3. At the interaction level, a firm’s applied interaction strategy and tactics manifest in the *information value* of *solicited and unsolicited user-generated content*, i.e., its volume and quality.

4. A firm’s *absorptive capacity* determines its capabilities to identify, assimilate, and apply valuable information from *user-generated content*. Thereby, extant research does not differentiate between solicited and unsolicited information, even though the absorptive capacity processes evidently differ.

5. Based on the organizational integration of digital interactions at the firm level, the *organizational model*, as characterized by knowledge diffusion and connectedness, defines the level of prior related knowledge.

6. The level of prior related knowledge, as defined by the *organizational model*, is critical for interaction processing as it influences a firm’s *absorptive capacity*.

In summary, the specification of key constructs and relationships has added detail to the guiding framework. However, the identification of organizational and managerial levers in the initially depicted ‘black box’ of firms requires an even deeper understanding of the underlying mechanisms. For a fine-grained analysis of the various dimensions and their interplay in the context of different firms, multiple case studies will be conducted. The refined guiding framework (see Figure 16) provides a
basic structure for the in-depth case analyses. Yet, it is important to note that both the specified key constructs and relationships are only tentative at this point to ensure necessary openness for the empirical observations (Eisenhardt, 1989; Yin, 2009).

**Figure 16: Refined guiding framework**
3 In-depth case analyses

A firm’s capabilities to tap digital interactions depend on the focus of its interaction strategy, organizational integration of digital interactions, and specific activities and processes at the interaction level. To better understand the interplay of the various influence factors and to identify organizational as well as managerial levers, multiple in-depth case studies have been conducted. The fine-grained perspective helps to capture the complex mechanisms in their actual context and to discern similarities as well as differences as a basis for theory development (cf. Eisenhardt, 1989; Schögel & Tomczak, 2009; Yin, 2009).

3.1 Methodological approach

A key criterion for rigorous case study research is to “talk the walk” (Gibbert & Ruigrok, 2010, p. 726) and carefully describe all research actions taken. Although case studies build on the sensitivity of the researcher and follow an open, flexible process (Corbin & Strauss, 2008), results still have to comply with common reliability and validity standards (e.g., Gibbert & Ruigrok, 2010; Yin, 2009). For case selection, data collection, and analysis, the refined guiding framework (see section 1.2) provides the basic structure.

3.1.1 Case selection

In case study research, theoretical considerations rather than statistical criteria guide sampling needs. Selected cases need to vary across relevant constructs to reveal underlying drivers and relationships (Eisenhardt, 1989; Eisenhardt & Graebner, 2007). As the main research goal of the present study is to learn how firms can develop their capabilities to tap digital interactions, the ideal sample has to be composed of firms with some proficiency in digital interactions but different organizational characteristics. To ensure that the findings are not biased by idiosyncratic effects or external drivers, the selected cases have to represent different industries, firm types, and interaction strategies. These three criteria have emerged from core drivers and barriers for the organizational integration of digital interactions (see sections 2.2.1 & 2.2.2) and absorptive capacity (see section 2.3.2). At the same time, the focus on one societal context helps to control for country-specific and cultural influences on a firm’s capabilities to tap digital interactions (cf. Moorman, 1995; Workman, et al., 1998).
Based on the above search criteria, the selection process for the present study concentrated on firms in Switzerland and Germany as two largely comparable markets. An additional focus was set on business-to-consumer firms based on reported differences in consumer relationships (e.g., Wikström, 1996) and market information use (e.g., Deshpandé & Zaltman, 1987) of business-to-consumer and business-to-business firms. Prime sources to use for identifying highly proficient firms in digital interactions are professional rankings and benchmarking reports (e.g., Best of Swiss Web, 2015; Firegroup, 2012; Güntert, 2013; Socialbakers, 2015). Prior to its selection, each firm was evaluated thoroughly and additional expert opinions were called in to ensure the desired variation of firm types and organizational characteristics. All selected firms were then contacted by mail with a short overview of the research project. The ideal number of cases depends on the point of theoretical saturation, i.e., when incremental learning is minimal (Glaser & Strauss, 1967). Four to ten cases provide a good and still manageable empirical basis for theory-building (cf. Eisenhardt & Brown, 1998).

Overall, the sample for the present study consists of six business-to-consumer firms from Switzerland and Germany that have frequently been referenced or ranked as best practice examples for interactive digital marketing (see Table 6).

**Table 6: Profiles of the firms selected for the in-depth case studies**

<table>
<thead>
<tr>
<th>Firm</th>
<th>Name</th>
<th>Industry</th>
<th>Revenue* ($M)</th>
<th>Staff</th>
<th>Target groups</th>
<th>Reasons selected</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>BMW</td>
<td>Car maker</td>
<td>$95,522M</td>
<td>100,682</td>
<td>Modern upper middle class, Niche interest</td>
<td>- Innovation-oriented, Success in digital media</td>
</tr>
<tr>
<td></td>
<td>EMP</td>
<td>Mail-order retailer</td>
<td>$139M</td>
<td>294</td>
<td>music fans, Young adults and families</td>
<td>- Special interest, Facebook best practice</td>
</tr>
<tr>
<td></td>
<td>McDonald’s Switzerland</td>
<td>Fast-food restaurant</td>
<td>$815M</td>
<td>7,700</td>
<td>Families and LOHAS, Commuters, fun travelers</td>
<td>- Polarizing brand, MyBurger contest</td>
</tr>
<tr>
<td></td>
<td>Migros</td>
<td>Retail (and industry)</td>
<td>$12,800M</td>
<td>63,700</td>
<td>- Public brand, Actively integrate consumers</td>
<td>- Old economy, late start, Fast response</td>
</tr>
<tr>
<td></td>
<td>SBB</td>
<td>Travel services</td>
<td>$3,335M</td>
<td>14,200</td>
<td>- Premium brand</td>
<td>- Social media pioneer</td>
</tr>
<tr>
<td></td>
<td>SWISS</td>
<td>Travel services</td>
<td>$5,751M</td>
<td>8,250</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Information valid for 2013; BMW relates to entire automotive segment, Migros only supermarkets and hypermarkets, SBB only passenger division; conversion rate as of July 19, 2014.
The profiles of the firms selected for in-depth case analysis show that they belong to different industry sectors ranging from travel services to car manufacturing and vary quite substantially in revenue and staff numbers as indicators of firm size. Other tangible features, such as core target group, organizational form, start of social media activities, and observable marketing activities, suggest that the sample also lives up to the desired variation in interaction strategies and organizational characteristics.

3.1.2 Data collection

To gain a comprehensive understanding of each case, data collection has involved several semi-structured interviews combined with researching various other forms of internal (to the firm) and external sources. Triangulation of different sources and perspectives is crucial in case study research to ensure construct validity (e.g., Gibbert & Ruigrok, 2010; Yin, 2009). The personal interviews with managers allowed direct insights into relevant internal information and exchange processes as well as perceived levers and barriers for tapping digital interactions. To include multiple perspectives, informants from different hierarchical levels of the firm were sought out, and different functions were targeted as well (cf. Eisenhardt & Graebner, 2007), notably marketing, communications, social media, product management, market research, web intelligence, and customer service. In addition, a broad range of internal and external information was collected to provide further substance to the personal interview statements. Relevant internal sources included whenever possible confidential reports, training plans, conference presentations, and guidelines, along with publicly accessible press releases, business reports, and website content. Furthermore, the firms’ actual activities in interactive digital media were closely monitored. External sources ranged from case-related information in prior research to media reports.

For each case study, data collection began with the interview of a senior marketing or communications executive. These initial talks offered a general overview of the role of digital interactions in the particular business and the firm’s organizational model. The senior executives also served as important ‘door openers’ to identify and contact additional prospects within the firm (cf. Voss, Tsikriktsis, & Frohlich, 2002). To control for possible biases in this snowball sampling approach (cf. Pan & Tan, 2011) and to ensure integration of all relevant perspectives, subsequent interview partners were also asked to name additional informants. A comprehensive online search on professional networks like LinkedIn and Xing accompanied each case study to protect against systematic distortions.
All interviews were conducted in person or on the phone. The first wave of interviews took place between December 2012 and August 2013. After an initial analysis of the data, a second wave of interviews followed between May and July 2014 to fill gaps and clarify ambiguous issues. Altogether, 26 interviews (3-6 per firm) with 29 managers were conducted, each lasting between 30 and 120 minutes. One additional informant answered the questions by mail (see Table 7 and Appendix 3.1 for further details).

Table 7: Overview of informants per case study

<table>
<thead>
<tr>
<th>Firm</th>
<th>Total interviews</th>
<th>Functions of informants</th>
</tr>
</thead>
<tbody>
<tr>
<td>BMW</td>
<td>4</td>
<td>Head of Online Communication and Web Marketing</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Project Manager Web Analytics</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Program Manager Customer Orientation</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Project Manager Innovation</td>
</tr>
<tr>
<td>EMP</td>
<td>6</td>
<td>Head of Marketing and Sales</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Social Media Managers (2)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Head of Customer Service</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Customer Service Agents (2)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Product Manager*</td>
</tr>
<tr>
<td>McDonald’s Switzerland</td>
<td>3</td>
<td>Marketing and Communications Director</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Manager Consumer Insight and Planning</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Communications Manager</td>
</tr>
<tr>
<td>Migros</td>
<td>4</td>
<td>Head of Corporate Communications</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Head of Customer and Web Intelligence</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Director and Dep. Director Online Communications (2)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Director Digital Marketing</td>
</tr>
<tr>
<td>SBB</td>
<td>5</td>
<td>Head of Passenger Traffic Division</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Director E-Business (Passenger Traffic)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Head of Digital Lab (Passenger Traffic)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Head of Marketing Communication (Passenger Traffic)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Head of Social Media (Corporate Communication)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Crossmedia Expert (Real Estate)</td>
</tr>
<tr>
<td>SWISS</td>
<td>4</td>
<td>Head of Products and Services</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Social Media Manager</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Project Coordinator Core Customer Management</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Head of Customer Services Operations</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Social Media Team Leader</td>
</tr>
<tr>
<td>Total</td>
<td>26</td>
<td>30</td>
</tr>
</tbody>
</table>

* The EMP product manager answered the questions by email and hence is not counted in the total number of interviews.

To ensure that each interview covered all relevant aspects, a general interview guideline was developed based on the refined guiding framework (see section 2.4). The interview guideline grouped key questions into six sections (see Appendix 3.2):
After (1) a short introduction to the research project, all interview partners were asked to (2) give a brief overview of their responsibilities and tasks. Then, the actual interview started with questions on (3) the perceived strategic relevance of interactive digital media, (4) organizational integration and connections between responsible managers, and (5) all interaction-level processes. Finally, each informant was (6) asked to reflect the status quo and given a chance to further comment on the topic. Comprehensibility of all questions and the structure of the guideline were discussed and sufficiently pre-tested with experts from theory and practice. To allow for flexibility in the field, all questions were open-ended and adapted to the individual course of the conversations, e.g., to pick up new aspects or go into further detail. Each interview was preceded by thorough desk research and preparation. Substantive background knowledge enables interviewers to reflect what’s (not) being said and probe informants (cf. Leonard-Barton, 1990; Yin, 1994). For subsequent data analysis, all interviews were recorded and transcribed.

3.1.3 Data analysis

To assess the wealth of information in the interviews and additional sources, an inductive coding approach was used with the software Atlas.ti (Miles et al., 2014; Saldaña, 2013). In line with grounded theory, the coding process started open without a predefined list of constructs to enable discovery of new theories (Corbin & Strauss, 2008). Based on incident-by-incident coding (Charmaz, 2006), data were first split into discrete segments, ranging from a few words to paragraphs with coherent meaning. Then each fragment was briefly summarized in English, titled with a meaningful headline, and either assigned a matching existent code or a new one that better fit its essence. On average, each interview contained over 100 fragments, totaling more than 2,650 quotes for the interview transcripts alone. Conspicuous features (e.g., language, tonality) or coding difficulties were noted along with the summaries for each segment (Corbin & Strauss, 2008). If possible, all quotations were assigned a single code only (Saldaña, 2013).

Iterative development of the coding grid required permanent revisions of prior coding and partial re-coding of data to ensure the overall consistency and homogeneity of individual codes (cf. Miles et al., 2014). Memos for each code helped to keep track of all revisions, such as merger of overlapping codes or split-up of codes that were too broad into several new, more meaningful ones. The most important coding form for the present study has been process coding in order to denote all internal and external activities that shape a firm’s capabilities to tap digital interactions (Charmaz, 2006;
Corbin & Strauss, 2008; Saldaña, 2013). Characteristic for process codes are gerunds to connote the observed actions, like ‘creating awareness through integration’ or ‘gathering information to answer consumers’. During the coding process, relationships between the codes started to emerge as signs for axial coding (Corbin & Strauss, 2008).

Based on Eisenhardt (1989), data were first analyzed for each case individually. Initial within-case analyses allow researchers to gain a deep understanding of firm-specific characteristics and mechanisms prior to generalization of patterns in the subsequent cross-case analysis. For the present study, within-case analyses also helped to reveal ambiguous issues and gaps in the data that were clarified during the second wave of interviews. The structure of the final individual case reports (see sections 3.2-3.7) largely follows the original interview guideline:

- **Firm profile:** Brief introduction to the firm’s background, key figures, products, markets, and strategic orientation to set the context for the case study. Consideration of these general characteristics is important to account for possible internal or external influence factors.

- **Strategic relevance of digital interactions:** Overview of the current role and fit of digital interactions with the business and marketing strategy. In addition, milestones in the digital development and status quo are reviewed to evaluate the firm-specific maturity level.

- **Organizational model:** Functional perspective on the current diffusion of digital responsibilities and level of connectedness. To identify potential levers from previous barriers, the organizational development is also traced back.

- **Processes to tap digital interactions:** Description of all activities to stimulate digital interactions and absorb valuable information in user-generated content.

- **Synthesis:** Integration of all insights from the strategic, organizational, and process analyses to carve out key characteristics and mechanisms of each case.

To identify similarities and differences across the individual cases, the subsequent cross-case comparison has consolidated all findings from the six in-depth case analyses (see Figure 17). To enrich the case narratives, meaningful direct quotes of interview partners have been translated and integrated in the text (cf. Eisenhardt & Graebner, 2007). Direct references from informants are indicated by abbreviations for the interview partner and corresponding number of the paragraph, e.g., ‘AB, 123’ would stand for a statement of informant ‘AB’ in paragraph 123 (for a list of all
3.2 Case 1: BMW

With its tagline ‘The Ultimate Driving Machine’, BMW stands for premium cars of innovative design and dynamic performance (Bräunl, 2009). These brand values transfer to interactive digital media and explain the automaker’s pioneering role in open innovation (cf. Reichwald et al., 2009). Increasing customer orientation has also promoted the relevance of generating consumer information.

3.2.1 Firm profile

As signified by the rotating propeller in the firm’s emblem, BMW started operations as a producer of aircraft engines. Shortly after its formation in 1916, BMW expanded its business from construction of engines to complete vehicles, including motorcycles in 1923 and automobiles in 1928. The breakthrough of the car division started during mass motorization in the 1960s and 1970s. With new product lines that combined vehicles for daily use with high-performance engines and sportive handling, BMW bridged a gap in the market (Kalbfell, 2004). Today, car sales represent the core business of BMW, with 1.66 million units sold worldwide in 2013 (BMW Group, 2014). In addition to its flagship brand, BMW Group is composed of the premium car brands MINI and Rolls-Royce Motor Cars. BMW Motorrad and Financial Services belong to the publicly held corporation. Worldwide production plants, sales network, and research and development centers are all coordinated from the group headquarters.
in Munich, Germany. The automotive revenue totaled US$95.5 million in 2013, and BMW Group was able to set its fourth consecutive sales and production record (BMW Group, 2014).

Globalization of car sales has *increased marketing and customer focus* in the traditionally technology- and production-driven automotive industry. Based on the brand essence of driving pleasure, BMW cars embody a mix of power, comfort, and functionality, which echoes in all marketing dimensions (Bräunl, 2009; Wiedemann, Oheimb, Schögel, & Jokisch, 2010). Key drivers for the emotional brand values are customer experiences at the point of sale and sports sponsorship (Ganal, 2006). Different sub-brands denote specific market segments. For instance, ‘BMW M’ marks all high-performance models, ‘BMW i’ labels electric vehicles and mobility services, and ‘EfficientDynamics’ stands for fuel-saving technologies (Wiedemann et al., 2010).

The main target group for all BMW models is the modern upper-class adult (usually urban or suburban) with above-average purchasing power (Ganal, 2006).

To secure its premium position for the long term, BMW passed strategy ‘Number ONE’ in 2007. The initiative aims to increase the automaker’s efficiency and success along four strategic lines: grow existing brands, shape the future with new mobility services, increase profitability, and gain access to technologies and customers. An underlying principle is the strengthening of customer value orientation (BMW Group, 2008). Resultant measures encompass technological, structural, and cultural aspects:

> “In the coming years, we want to further increase customer satisfaction [...]. In essence, this means that we will try even harder to see things from the customer’s point of view and to increase points of contact with customers and potential customers” (BMW Group, 2013, p. 52).

Initial steps to boost customer satisfaction have included an internal campaign to catalyze rethinking, expansion of customer surveys, customized trainings for dealers, and facilitation of employee suggestions on the intranet (BMW Group, 2013). A vision of customer-centricity also promotes openness to new customer groups and adoption of interactive digital media. One major initiative is ‘ConnectedDrive’. By linking drivers, vehicles, and their environment, the telematics and online services turn cars into “an integral part of the web” (BMW Group, 2011, p. 24) and promote convenience, infotainment, and safety for drivers. Another strategic initiative centered on interactive digital media is called Future Retail. This sales program reconceives BMW’s touchpoint and channel portfolio, with projects ranging from website re-launch
to direct sales of the new BMW i3 online – previously a taboo within the dealer network (BMW Group, 2012b; BMW Group, 2013; Duhm, Seiwert, & Rees, 2013).

In sum, BMW as a leading manufacturer of premium automobiles has a strong brand and high emotional appeal. Initiatives as part of strategy Number ONE further promote the carmaker’s innovation and customer orientation, which acknowledge the relevance of digital interactions and generating consumer information.

3.2.2 Strategic relevance of digital interactions

More and more prospective car buyers research their information online and reach a preliminary purchase decision prior to their first visit to a local car dealership (e.g., Accenture, 2012). Car owners also increasingly seek direct contact with automakers due to prolonged service intervals and higher technical complexity in vehicles (Braekler, Diehl, & Wortmann, 2003). Due to changing information and communication use patterns, interactive digital media have become increasingly important touchpoints for BMW to create reach and generate leads in relevant markets. Thus, premium brand positioning and innovation orientation result in pioneering applications for digital marketing:

“For a brand like BMW, it is [...] essential in my opinion that the digital perception lives up to the premium expectation. This implies that we have to be a step ahead of other brands and test innovative channels, perhaps also strike new paths in customer contact” (FR, 39).

As part of its early-adoption strategy, BMW set up a task force on emerging media in 2003 (Oheimb, 2012). In various pilot projects, marketing innovation managers explored and evaluated potential fields of activity. For instance, a first podcast on the occasion of the Frankfurt Motor Show 2005 and a vodcast for the Detroit Motor Show 2006 established a foundation for BMW-web.tv to emerge later. Even if the pilots were discontinued, experiences nonetheless influenced later decisions, as exemplified by the learning effects from BMW’s virtual showroom in Second Life (Wiedemann et al., 2010). Unexpected observations from these pilot projects opened up new experimentation fields. For instance, promotion activities for the first blogs initiated an additional task force on search engine marketing. Uniformly, the examples highlight how pilot projects have enabled the company to delineate the relevance and potential of digital interactions for BMW as well as to identify success factors in content development, community management, and direct contact with multipliers (Oheimb, 2012).
Following the initial pilot projects, BMW looked into *possibilities to integrate and combine its interactive digital channels* (Oheimb, 2012). A prime test model represented the BMW X1, a product geared toward a younger demographic. Online, the new compact crossover already attracted substantial attention prior to its first presentation. A digital campaign aimed to use the buzz in pre-communication in order to further increase awareness, activate online discussions, and attract and win new target groups (Douglas, Lorenz, & Oheimb, 2009). Dedicated Facebook and Twitter accounts, videos on BMW-web.tv, YouTube, and iTunes, an information package for bloggers, and a microsite all kept digital users engaged\(^8\). The platforms were selected based on their respective maturity level and popularity among global target groups (Douglas et al., 2009; Häberle, 2010). The campaign’s success in terms of ambient search volume and generated leads has resulted in similar approaches for subsequent launches such as that of the BMW 1 Series M Coupé (Mrkwicka, Resinger, & Schögel, 2012; Segler & Seidler, 2011).

Beyond new product introductions, interactive digital channels have become an *integral part of any sales, marketing, or publicity campaign* at BMW (Wiedemann et al., 2010). The social media strategy and basic conditions for integration were defined at the end of 2010 when the task force handed responsibilities over to line managers. The core mandate for digital interactions today is to intensify the brand experience and promote long-term customer relationships, without expecting immediate sales returns (BMW Group, 2014): “*We want to reach prospective target groups. We want to inspire customers and we want to turn interested persons into fans and – at some later point, mid-term, long-term – convince them to buy*” (FR, 39). To intensify contacts with fans, prospective leads, and current customers, BMW and interested dealers set up an official presence on all relevant third-party platforms\(^9\). These digital presences aim to engage users in their natural environment, then lure them to the BMW website.

In *inbound marketing*, digital media have gained importance and turned into the busiest service channel: While BMW received 170,000 requests via phone, 85,000 via

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mail, and 130,000 via internet in 2002 (Armbrecht, Braekler, & Wortmann, 2004), customer inquiries nearly doubled and the ratio reversed by 2009 with 300,000 calls, 25,000 mails, and 420,000 online requests (Armbrecht, Braekler, & Wortmann, 2009). As of 2007, the so-called Customer Perception Radar prepared the ground for monitoring; its aim was to identify additional customer feedback and early cues to potential technical problems (Oheimb, 2012). The various pilot projects have helped to establish internal acceptance for information from user-generated content. To best integrate monitoring tools as a source of information, the automaker has evaluated different options for organizational and process integration.

Beyond campaigns, BMW has tested consumer integration. In 2003, BMW first tested open innovation using the example of ConnectedDrive\textsuperscript{10}. Amateur developers were asked for new service ideas, and they submitted more than 700 suggestions in three months (BMW Group, 2003). When both creativity and quality of the ideas convinced those evaluating the program of its value, BMW decided to launch a virtual ‘Co-Creation Lab’\textsuperscript{11} for more permanent user integration in ideation processes (BMW Group, 2010). In addition, the carmaker continues to cooperate with external lead-user communities, as exemplified by the ‘Urban Driving Experience Challenge’ with Local Motors\textsuperscript{12} in 2012 (BMW Group, 2012a; BMW Group, 2012c). Direct exchange with lead users also motivated the launch of ‘M Power World’\textsuperscript{13} in 2007, with a core focus on customer relationships. BMW M owners are typically technophile brand enthusiasts and eager to meet like-minded individuals. With exclusive information and direct access to BMW representatives, the online community has strengthened brand loyalty, word-of-mouth, and sales, as well as supported the innovation process (Wiedemann et al., 2010; Wiegandt, 2009).

Overall, BMW’s proactive, learning-oriented culture enabled early experiments in interactive digital media. Based on the positive results of pilot projects and consequent advancement in various task forces, digital interactions have reached firm-wide relevance for direct customer contact and as a source of information.

3.2.3 Organizational model

BMW has a process-oriented structure, so that marketing competencies spread at different firm levels and segments worldwide, from the global brand management to local car dealerships. For a consistent communication across all touchpoints, a centralized group marketing department oversees strategic brand development and produces all means of communication for modular use, amongst others for interactive digital media (cf. Armbrecht et al., 2009; Raff & Grundei, 2002; Wiedemann et al., 2010). To evaluate new marketing trends, BMW temporarily maintained a distinct research and development unit at the group level (Schögel, Koch, Kruthoff, Borbe, & Kumar, 2003), which also initiated all early trials and task forces for interactive digital media (Oheimb, 2012; Wiedemann et al., 2010). Once these shielded experiments proved successful, innovation managers gradually transferred the responsibilities for digital interactions to line managers (Thunig, 2011).

Main responsibilities for interactive digital media have remained at the group marketing level but transferred from the innovation task force in the online communication and web marketing unit (see Figure 18). As one of the centralized market-support maintenance functions, the department had long been maintaining BMW’s worldwide web presence and coordinating regional implementations. To cover the new tasks in interactive digital media, the team had to build up additional resources. By mid-2013, seven online communication managers produced content for the various online channels, while eight web marketers maintained and promoted the branded presences for BMW, BMW i, and BMW M in interactive digital media. In addition, the team includes seven 3-D engineers who produce graphic design and imagery for the online car configurator.

In daily business, the online communication and web marketing team relies on external partners: “Internally, this wouldn’t be feasible in any way” (FR, 131). For viral promotions and technological development, BMW falls back on long-standing agency partners. Cooperation has included several Foursquare trial campaigns and Facebook applications, amongst others (e.g., iCrossing, 2011; iCrossing, 2012). Core responsibilities in content and community management lie with another established partner, who had previously managed retailer websites and online customer service (Grunwald, 2010; Kühnel in Thunig, 2011). While BMW defines the topics, the agency keeps track of the editorial plan and in consultation with the responsible brand manager turns marketing messages into posts. In community management, the agency closely cooperates with BMW’s various internal functions. The internal service agents
have been sensitized and trained for digital dialog, as well: “For them, it really doesn’t matter anymore how requests come in” (FR, 115).

Figure 18: Core functions for digital interactions at BMW

On a regional level, the various market organizations and interested car dealers have built up resources and competencies for digital interactions. Thus, scope and level of professionalization can vary based on firm-level characteristics and individual commitment: “Firm size and business size determine, who takes care of [...] official social media channels and, of course, this can lead all the way from very professional structures down to ‘my son handles this on the side’” (FR, 95). For local dealerships, the national sales organizations provide trainings to ensure common standards at all digital touchpoints. The group-level online communication and web marketing team has defined general guidelines on digital tonality, visual appearance, response times, as well as other dos and don’ts.
Beyond marketing functions, a broad range of other units are involved in digital interactions: Foremost, the corporate communications and human resources units maintain separate digital presences for group- and career-related content. Monitoring competencies as part of strategy Number ONE have been built into quality management. The staff unit has tested listening activities for early detection of technical issues prior to integration in line functions. Thus scanning activities overlap both with the unit for product requirements and with market organizations. The broad application fields for monitoring insights impede a clear allocation, and this has motivated various nonsystematic trials. Lastly, all open innovation projects are pushed and coordinated by the development division but involve cross-functional teams.

Dispersed responsibilities for digital activities across the firm have required some form of coordination: “There are many positions that are somewhere somehow involved, where we don’t even know what they are doing” (PG, 209). To gain an overview of firm-wide activities, the staff unit for quality management initiated a temporary, informal working group in 2012. Therein, senior representatives of the group-level units for quality management, human relations, and online communication and web marketing met to discuss ongoing digital activities. Yet, the working group lacked decision-making power and was only established for the short term, so that need for better firm-wide coordination persists, especially given continuous digital development. An authorized decision-making body or strategic coordinator could provide clear direction and help to further promote the digital mindset.

In performance management, the customer and web analytics unit (a sub-division of the customer relations department) supports all digital managers. While customer analysts mine individual profiles and revisit targeted promotions (Armbrecht et al., 2009), web analysts examine anonymous onsite and offsite tracking data. By identifying usage patterns on the website, on third-party platforms, in mobile apps, or for offline triggers such as QR-codes, web analysts promote understanding of digital effects, help to identify opportunities for improvement, and support decision-making. In addition to ad hoc research, the web analytics team compiles various standard reports and explores abnormalities in the data.

Summing up, BMW Group entered the arena of interactive digital media with a series of experiments under the auspices of marketing innovation managers. Experiences gained from these pilot projects prepared the ground to merge responsibilities into the existing functional structure. To align all activities, a cross-functional working group was temporarily established.
3.2.4 Processes to tap digital interactions

Because digital responsibilities have been widely integrated in the current organizational structure, BMW is largely able to use existing processes to tap digital interactions. Only the interdisciplinary nature of activities challenges firm-wide cooperation.

Stimulating (valuable) digital interactions

BMW’s approach to digital interactions varies across platforms and channels. In independent communities like motor-talk.de, the automaker pursues a rather passive strategy and mainly listens in: “You have to exercise caution, because the user has consciously decided to not get in direct contact with BMW but to first exchange with his peer group” (FR, 47). On official external BMW presences, the content strategy largely depends on the target groups and follows the organizational structure. Whereas group sites maintained by corporate communications update stakeholders on firm-wide issues, marketing channels aim for brand experience and long-term customer relationships. As a result, digital communication follows an information cascade. From global brand via national sales firms to local car dealers, content sharpens to the respective audience and sales come to the fore:\(^{14}\):

“Globally, we would say: ‘The new BMW i3, launched today.’ BMW Germany would say: ‘The new BMW i3, available in Germany as of November.’ The branch Frankfurter Ring would say: ‘The BMW i3. Dealer event including face paints for children on November 20. Stop by and go for a test drive’” (FR, 71).

From a firm perspective, the integrated approach and information cascade facilitate allocation of digital activities. Among users, multiple BMW presences may cause confusion, but from experience most consumers are able to place the different touchpoints: “[Only] in really rare cases do we receive product-related requests on the global account, because by now the user knows that [...] it is faster to directly turn to the retail organization or subsidiary or regular customer service processes” (FR, 71).

To find the ideal content mix and activity level for each channel, BMW has started with a trial-and-error approach (Thunig, 2011). The success shows in the high reach and user activation across interactive digital platforms. For instance, the main BMW

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brand page on Facebook\textsuperscript{15} plays on the emotional appeal of high-quality photos and videos. With more than 16 million fans, posts easily receive several thousand likes, reposts, and comments, which equate to considerable media value (Resinger, 2011). Typical reference points for posts are new car models, motor shows, glimpse into production process, reflections on classic cars, or banalities such as good weather for a joyride. In addition, BMW tries to engage users. For example, the BMW Magazine invited Instagram users to tag photos with #BMWRepost for publication.

While the activation on \textit{third-party communities} mainly aims for awareness and viral effects, BMW switches to \textit{proprietary domains} for deeper interactions. One example is the M Power World community, which offers owners of BMW M models direct access to and contact with engineers. In addition, BMW tries to lure fans to its website for customer relationship management. Onsite, exclusive features like the car configurator or ‘My BMW’ owner community provide incentives for prospective buyers and customers to sign up and provide individual data. That way, BMW is able to recognize repeat visitors, customize content, and follow up on leads. To keep contact barriers low, the registration process has been reduced to a minimum. For instance, site visitors no longer have to provide full contact details to save a personally configured car, but only need user name and password.

\textbf{Identifying valuable information}

\textit{Customer requests} via interactive digital communities follow the standard feedback processes with different escalation levels: General complaints and questions are handled by external service agents. Regular trainings by BMW Group build up all-round expertise and guarantee brand-consistent behavior (Braekler & Wortmann, 2008). If an answer requires expert knowledge, external agents forward the requests to the internal customer care center, where internal automobile technicians and service consultants take over (Braekler & Wortmann, 2008; Thunig, 2011). On further escalation levels, specific contact persons have been defined in all relevant areas, such as products, quality, and communication.

To identify issues and investigate insights in depth, BMW has started to systematically scan user-generated content. Depending on the reporting period, three types of \textit{monitoring} are distinguished (PG, 69): (1) Continuous tracking with daily or weekly reports helps to stay on top of user discussions about pre-defined topics, like ‘seating

\textsuperscript{15} Main brand site on Facebook, cf. www.facebook.com/BMW
comfort’ or ‘start-stop-automation’. (2) As an accompanying tool, monitoring has helped to analyze launch of new car models and customer perception of certain campaigns. For instance, digital feedback on the new BMW 1 Series in 2011 showed that the launch communication failed to convey the newness of the model; target audiences mainly discussed the different product lines. (3) Deepening analyses aim for a better understanding of certain issues. Possible starting points for these investigations are ambiguous observations in customer surveys or interest of a specific unit. In light of public debates on data security, for example, the responsible department wanted to investigate the perceived risks of car-related data. Repeat comments may initiate deeper investigation.

While monitoring insights are not representative, unsolicited feedback is particularly valued for its unbiased view on customer needs as users share their experiences proactively. However, finding the right keywords and reporting mode has challenged BMW. For example, less trending topics and new issues with only a few mentions in a reporting period can easily go unnoticed. As long as the internal evaluation phase for monitoring continues, the staff unit will continue to coordinate all projects and instruct the agencies that perform the actual analysis. Previous monitoring requests primarily originated from the development division, but they may also come from production, marketing, and communication units.

Just like monitoring analysis, **data-based analytics** start with a specific research question (FR in Interone, 2013). The search impetus may come from the web analytics team or result from specific information needs of other departments. Typical research questions include the acceptance of a new online feature or comparison of different campaigns. As the problem definition, actual data analysis, and interpretation of findings require specific competencies, the web analytics team usually accompanies the entire project and also initiates follow-up projects for further iterative improvements.

In **consumer integration**, the lead-user approach guarantees high information value of user-generated content. Besides, direct involvement of product developers facilitates identification of valuable information. For instance, the M Power World community is only open to BMW M owners, who are typically highly technophile. Previous open innovation projects have focused on lead users to ensure relevant expertise. The information value of ideas was highest for early phases of the innovation process (Oheimb, 2012). Previous challenges aimed to generate one or more of the following: a broad spectrum of ideas, input on highly specific expert problems, or rapid feedback (MM, 33). To reach respective experts, BMW regularly teams up with external
communities, such as Local Motors in the Urban Driving Experience Challenge. The cooperation partners typically handle community management, while BMW provides support, gives feedback, and selects the winning idea with a cross-functional team.

**Assimilating the identified valuable information**

To disseminate the identified valuable information, BMW has established *internal workflows*. The customer care center automatically forwards product- or retailer-related requests and complaints to the responsible specialist units, including product management, development, production, and market research (cf. Braekler et al., 2003). The backbone for individual data management is an integrated CRM portal, which unites all available information on prospective and current customers (Bretting, 2013). Every interaction via the website, customer service, or retail organizations helps to update and expand the knowledge base. Beyond individual contact details, the database contains vehicle data, personal information, and service complaints (Braekler et al., 2003). Digital interactions help to expand the database by bringing new and repeat visitors to the website. In addition, BMW explores possibilities for automated data integration.

*Aggregate information* is generally distributed in firm-wide presentations, trainings, direct meetings, or via collaboration software tools (Köster, 2011). In addition, established exchange forums support internal cooperation. For instance, a ‘market’ working group unites market researchers, product managers, and different development units to discuss consumer- and competitor-related trends. Similarly, findings of the Urban Driving Experience Challenge were presented to a larger internal audience and discussed with engineers in several follow-up workshops (MM, 137). The web analytics unit adapts the format of its reports to the expertise of its respective audiences (ML, 143). Experience shows that engineers are generally open to insights from user-generated content, while product managers or market researchers are more skeptical about the validity of individual comments.

For optimal integration, BMW aims to merge acquired information from user-generated content, monitoring, analytics, and open innovation into *existing processes and systems*. In this way, market research utilizes digital interactions as a support function (Köster, 2011). While information from user-generated content can back up strategic decisions, provide orientation on general issues, or help to generate new ideas, they typically require verification through other information sources. Validity of process-generated data, like findings from web analytics, is ranked higher. Yet the identified information is usually also cross-checked to fully understand the data-based
observations. For example, supplementary customer analysis may help to explain specific online usage patterns. Overall, integration of valuable information from digital interactions in current systems and decision-making processes remains one of the biggest challenges.

**Applying the assimilated information**

Whether information from user-generated content needs *immediate action* does not depend on the number of mentions alone. In general, BMW only considers information that applies to a critical part of its target group or customers. Yet, individual comments on technical problems may suffice to prompt further investigation and solution-finding. For instance, BMW first learned about mice invasions in a specific MINI model from digital interactions. The early warning granted engineers a head start on developing a new cover for the engine compartment before media jumped on the topic.

If the acquired information enters BMW’s existing information systems and processes, they influence all *future decision-making*. For instance, analysis of user traffic and popular features in the car configurator can disclose interests of prospective customers and thus help to optimize future product and service design. Likewise, monitoring insights on campaigns should help to iteratively improve future communication. For the application of valuable information from open innovation, key success factors have been the specificity of the task as well as internal customers who are interested in the user ideas and push the project from the start (MM, 65; 169).

### 3.2.5 Synthesis: Integrated model with focus on image, leads, and innovation

As a premium carmaker, BMW has adopted a *pioneering strategy* in interactive digital media. Early on, the automaker initiated pilot projects in online communities and for open innovation. The new touchpoints have increased direct customer contact and complement the innovation- and customer-oriented growth strategy Number ONE, adopted in 2007. *Key goals* in digital interactions are to intensify the brand experience, generate new leads, promote customer relationships, and facilitate user integration. Accordingly, BMW not only maintains *presences on all popular third-party platforms*, it also owns *branded platforms*, such as the exclusive BMW M Power World community for drivers of its high-performance cars, and the Co-Creation Lab for open innovation challenges. In addition to the corporate sites, local market organizations and dealers maintain separate digital presences.
The activities in interactive digital media are distributed throughout the firm and include various external partners (see Figure 19). The strategic responsibility for all interactive digital touchpoints is with the online communication and web marketing team. Based on the corporate brand strategy, the unit also defines the content, while an established partner agency actually develops the content and manages the community, including handling of first-level user requests. More challenging or ambiguous questions are relayed to BMW’s in-house customer care center or defined contact persons in the respective units. The online communication and web marketing team also prepares the content and sets the guidelines for all regional and local activities. In addition, human resources and corporate communications maintain separate digital presences. The responsibilities for open innovation, monitoring, and analytics are rooted in yet other units but typically involve cross-functional teams. Temporarily, a working group has coordinated the various distributed activities.

Content development generally follows an information cascade from the global brand level via the market organizations to local car dealerships. However, the responsible expert units are directly involved in targeted communities or consumer integration projects to stimulate valuable user-generated content. Valuable information is identified in a variety of ways: Urgent information immediately enters defined workflows and escalation processes. In addition, user-generated content is continuously assessed with systematic performance reports and on-site web analytics. Communities and open innovation also promote direct interaction with consumers and lead users. Offsite, BMW tests use of monitoring analyses to gain information. Assimilation and application of information are mainly promoted through cross-functional project teams and regular personal meetings, and also via internal presentations or workshops for a larger audience. While some of the projects, like monitoring or open innovation, are still in an exploratory phase and coordinated by a central function, BMW’s ultimate goal is to merge information from user-generated content into extant information processes and systems for regular use.

In short, BMW aims to integrate digital interactions into its existing functions and processes. To promote cross-functional exchange among the various distributed actors, informal working group have existed but an actual coordinating unit is missing. The core focus in digital interactions is on image effects, lead generation, and innovation.
Figure 19: Integrated organizational perspective at BMW
3.3 Case 2: EMP

Heavy metal music unites an active, dedicated scene, who is loyal to its idols and community-oriented. Fans regularly meet at festivals but also like to discuss music and trends in interactive digital media (Singer, 2013; Steer, 2013). As a merchandising producer, EMP builds on the enthusiasm of the fan community. Information on trending bands or accessories is critical for the product portfolio design.

3.3.1 Firm profile

EMP started operations in 1986 after the founder, a heavy metal fan himself, had searched in vain for disc records and merchandising articles of his favorite bands in Germany. At first, he imported the articles for personal use only, but he soon began buying for like-minded friends and acquaintances. In 1987, an ad in the music magazine Metalhammer announced the new mail-order firm to a wider audience and initiated the breakthrough of the business (Bößl, 2003). In response to popular demand and to fill the market niche, EMP gradually acquired exclusive merchandising rights for some bands. Today EMP employs about 294 people full-time (EMP, 2015) and ships more than 6,000 packages per average day (EMP, 2012a). In 2007, the German music record associations honored the mail-order firm with the Echo award as ‘Commercial Partner of the Year’ for its product range as well as presentation, personnel qualification, marketing activities, and general management (EMP, 2007).

To fight off new competitors and ongoing diversification in the highly competitive online retail market, EMP puts strategic focus on customer orientation, quality standards, and reliability (EMP, 2015). Germany continues to represent the most important selling market, but the growth strategy focuses on other European countries and further international expansion (EMP, 2015). By 2012, the headquarters in Lingen and regional affiliates in the Netherlands, Belgium, Italy, and the United Kingdom had served orders from 76 countries (Borchers, 2012). For diversification, EMP holds shares in a number of other mail-order firms that target different niche markets. The revenue of the entire EMP group totaled US$139 million in 2013 (EMP, 2015).

Because heavy metal fans share the same musical taste and similar lifestyle and fashion preferences, EMP has broadened its product portfolio from disc records and band merchandising to more than 30,000 articles, including street wear, accessories, movies, books, posters, and fun products. For more rapid response to market developments, the mail-order firm announced that it would start its own clothing line in 2013 (Piatscheck, 2013). The main target group of EMP is 14- to 30-year-olds and
heavy metal fans who have stayed young at heart. 55% of customers are male and 45% female (EMP, 2012a). To promote customer retention, EMP maintains a bonus program. Customers earn bonus points\textsuperscript{16} for every purchase that may be redeemed with subsequent orders. In addition, customers can become members of a so-called backstage club\textsuperscript{17} for a small annual premium and then benefit from additional services, such as free shipping, bonus articles, and exclusive information.

In sales, EMP has shifted from being a classical mail-order company to a \textit{multi-channel retailer}. Since 1987, a print catalog has advertised the full product assortment and reached cult status among customers. More than 880,000 print copies are still circulated quarterly (Lethmate, 2013). The vast majority of sales, however, have shifted from phone and mail orders to the online store (RL, 101). Launched in 1998, the web shop tallied more than 60,000 visits per day in 2013, and annual online revenue totaled a medium seven-digit figure – more than half of the total revenue (Lethmate, 2013). However, competition has intensified with new online retailers and increased market fragmentation (EMP, 2015). Beyond distance selling, EMP is testing new ways of distribution and has opened several brick-and-mortar brand stores.

In short, EMP is a multi-channel retailer for heavy metal and hard rock fans, a niche market with comparatively young buyers. The mail-order firm not only produces fan articles but enjoys high popularity itself. E-commerce has become the most important source of revenue and suggests a high strategic relevance of digital interactions.

3.3.2 Strategic relevance of digital interactions

The quarterly print product catalog, sponsorship activities, and classical advertising campaigns have traditionally defined EMP’s marketing mix. However, the mail-order firm has gradually expanded its touchpoint portfolio and reinforced \textit{community marketing} to make better use of the unique market knowledge and to differentiate from emerging competitors (EMP, 2015). Evidence of community focus includes various live events and enhanced content strategy. For example, EMP has crossed the product catalog over to a ‘magalog’ with exclusive band interviews and music reviews (Bößl, 2003; Singer, 2013); it also publishes a monthly online music magazine and seasonal style catalogs. Similarly, all online, social, and mobile activities focus on community building and direct customer contact (EMP, 2015). Core goals are emotional bonding

\textsuperscript{16} EMP bonus points, cf. http://www.emp-online.ch/htm_.bonuspoints

\textsuperscript{17} EMP backstage club, cf. http://www.emp-online.ch/backstageclub
and customer service (AR & MI, 89-109), while product scouting and innovation have comparatively low relevance (RL, 36).

EMP’s digital activities primarily focus on Facebook. A senior marketing manager set up the fan page in August 2009 without further consultation: “He thought that this would be a good thing for the firm and knew exactly that if he asked ‘Do we want to do this for EMP?’ [...] it would have been denied” (MI, 679-685). The CEO at that time admits initial doubts: “At first, I was skeptical. Facebook is primarily about private, not business matters. I was afraid that we could do more wrong than right” (Janetzky in Kern, 2012). However, the first sales effects quickly appeased the management and guaranteed internal support: “After initial successes set in, everyone seemed to calm down. You simply noticed it [the positive impact]” (RL, 54).

At the start, the Facebook page mainly featured sales promotions: “At first, no one knew what to do with it and where to go. Therefore, we just posted products two to three times a day” (MI, 65). By trial and error, EMP learned that fans are mainly interested in news and entertainment, so that the content strategy now centers on music videos and funny pictures, with only casual references to the web shop or special deals. Testimonies to the success of EMP’s content strategy are the great numbers of fans and high interaction rate. Facebook even invited the mail-order firm to become an official best practice example (Singer, 2013). The user-centered content strategy has also paid off in sales. From January to June 2013 alone, Facebook increased the user traffic in its web shop by 15% and mobile shop 100% (Lethmate, 2013). Select customers also use the Facebook fan page for service questions, though phone and e-mail requests still have significantly higher frequencies (BR, 21; K, 136).

Based on the success of its Facebook fan page, EMP has gradually expanded its digital activities. On Facebook, EMP added further sites for its sub-brands. For instance, the new local stores have each received fan pages to announce new product arrivals and to advertise special deals. In addition, the mail-order firm has added touchpoints on YouTube, Twitter, Instagram, and Pinterest. YouTube has strategic relevance for EMP’s young target audience (RL, 128). To reach out to users, the firm offers several

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channels\textsuperscript{21} on YouTube: ‘EMP Rockinvasion’ continues a former TV show aired on DMAX, and the specifically developed comic series ‘Heavy Metal Maniacs’ portrays the rise of a stereotypical heavy metal band. Both YouTube channels aim to increase customer proximity with only implicit sales messages (AR, 251). Lastly, EMP offers a corporate blog\textsuperscript{22} with music updates, style tips, behind-the-scenes reports, and product reviews to lure new visitors to the website.

Overall, interactive digital media have created important new touchpoints for EMP to connect with its customers and the heavy metal community at large. With original content, the merchandiser obtains high interaction rates on Facebook and YouTube. At the same time, the platforms have become major sales drivers and popular contact points for service requests.

\subsection*{3.3.3 Organizational model}

The initiator of EMP’s informal start on Facebook was a senior marketing manager, but early on a team of four product managers and music editors provided content ideas. Step by step, one of the product managers took on additional tasks and eventually became the first full-time social media manager. A second social media manager was added soon after based on prior editorial and moderating experience on the website. The formation of the social media duo was paralleled by the appointment of a new head of marketing and sales. With the additional board-level position, all marketing functions were pooled, so that the social media managers became part of the new marketing and sales unit (see Figure 20). The reorganization has increased the internal relevance of all marketing activities and particularly digital interactions. Still under the age of 30 and with a background in information systems, the new head of marketing and sales has pushed EMP’s digital activities decisively.

The main tasks of the social media duo are strategic development of new activities and community management. While one has the lead for all Facebook and YouTube activities, the other manages Twitter, Pinterest, and the corporate blog. In daily business, the two closely cooperate and are able to substitute for each other. With the growing scope of activities, organizational expenses have increased: “\textit{Everything that we need for social media, including ancillary projects, we have to fully plan...}"


\footnote{\textsuperscript{22} Blog, cf. http://www.emp.de/blog (2012)}
ourselves” (AR, 869). Owing to the limited resources, the social media managers focus their attention on select platforms and also source content from freelance journalists. The two have already started to look for potential successors or additional team members: “Someday we will no longer be able to do this because we are not relevant to the target audience anymore” (MI, 189). Ideal candidates would be young heavy metal fans with strong writing skills.

Figure 20: Core functions for digital interactions at EMP

As the growing popularity of EMP’s Facebook page increased the number of service-related inquiries, integration of the in-house customer service was suggested for these highly specific questions. EMP employs 38 service agents, who handle the sales process and all customer requests. Due to overlaps with logistics, the service center reports to the chief of operations but is also in regular contact with product and quality managers. Integration of Facebook as a new service channel in November 2009 required some internal persuading, and not all agents felt comfortable with digital interactions: “Telephone is still different from casual slang conversations with customers [in social media]” (RL, 60). Eventually, four service agents volunteered and received an introduction to dos and don’ts for digital interactions by the two social media managers.

During core business hours, the personnel planners try to ensure that one of the four Facebook-trained service agents is always present to answer requests in the specified response time. However, other channels still take priority. In case of work overload, unexpected staff shortages, or urgent customer requests on the weekends, the two
social media managers jump in. Cooperation between customer service and social media managers is well-defined and rehearsed. In addition, a proprietary community-management tool supports handling of Facebook requests. Key features include automated netiquette checks, tracking of individual questions, and matching of user profiles with existing customer data and history. Yet, the current IT systems are only partly integrated, and a new CRM database is still under development.

*Product and sales management* are not directly involved in content development, but these department members suggest two to three promotional products every week. The social media managers formulate and schedule the posts independently. Yet, unfamiliar planning routines and communication styles in interactive digital media have already caused internal discussions: “*They [product managers] often tell us ‘Please do it this way and send us the text for prior approval.’ But then we get something back, which is a typical advertising text’*” (MI, 1257). Continued cooperation has helped to enhance the digital mindset. Nevertheless, the social media team doubts that all employees have fully acknowledged the relevance of interactive digital media: “*Some don’t take us seriously, because they only see the fun postings*” (AR, 186).

The digital activities also require close cooperation with other units, which sometimes creates bottleneck effects. For example, an in-house advertising agency produces all graphics, and website changes always require IT assistance. However, the medium size of the firm and short distances at its headquarters generally facilitate cooperation. The international affiliates operate largely independently, but they regularly consult with the headquarters. External partners come into play for know-how transfer in new fields, as exemplified by the expansion on YouTube. Over the medium term, EMP always tries to build up competencies internally.

In summary, two social media managers oversee EMP’s digital activities. For the handling of requests via Facebook, the duo receives help from four service agents. The continued success in interactive digital media has helped to increase digital awareness, although the responsibilities have remained centralized.

### 3.3.4 Processes to tap digital interactions

EMP’s high reach and interaction rates in digital media, especially on Facebook, create a rich basis for information. However, responsibilities are largely concentrated in the social media team, so that broader effects require close collaboration with other units.
Stimulating (valuable) digital interactions

For digital interactions, EMP mainly focuses on Facebook and has defined interaction rate along with reach as key target variables. Experimentation has helped to identify ideal number, times, and content of posts and to optimize user activation: In 2013, 15 to 20% of the fans liked or commented on EMP’s posts every week – a multiple of interaction rates generated by competitors like Amazon or Otto (cf. EMP, 2012b). On other platforms, like Twitter, user activation is kept down deliberately: “You really notice: When we become active on Twitter, more questions come in. [...] But I try to not answer service requests [on Twitter], because I couldn’t handle that by myself” (AR, 1019; 1023). Accordingly, a welcome note refers Twitter users to Facebook for any service requests.

To develop content, the social media managers get together about once a month but also make sure to leave enough room for spontaneous ideas. Beyond direct input from sales and product managers, the web shop and the magalog provide content inspiration. Thus the team does not look for products but rather story ideas: “We always try to tell little stories. I don’t know, ‘My dog ate my pants, I need new pants! Here are pants...’ – something like that” (MI, 149). To appeal to the entire community, content gears toward heavy metal mainstream. More extreme sub-genres are interspersed only selectively. Also, product postings require some caution – some well-known street-wear brands invite controversy: “If we posted brands like Nike [...] the community would take us apart” (MI, 347).

EMP’s general communication style builds on authenticity and personalization. The two social media managers aim to establish a direct bond with the user community. Consequently, all Facebook posts contain the name of the sender and often relate to first-person experiences or include personal images: “People have to start [...] liking someone directly. And as soon as they like you, they click a lot more” (AR, 175). Bonding and habituation effects with the moderators also show in the slightly different audiences that the social media managers reach, as well as user inquiries for any changes from the usual posting routine. Another driver for authenticity is colloquial style. While top management first opposed the use of cuss words, non-conformist language appeals to the target audience: “Sometimes it’s like we take the words right out of their mouths. They would like to say it, but they can’t. And then, we just say it” (AR, 661).

As part of its digital strategy, EMP tries to actively integrate users. At the most basic level, posts simply ask for feedback or include a voting opportunity. Questions may
range from “Which song are you currently listening to?” to “Should we have an exclusive contest for Facebook users?”. A higher level of activity is required in contests. For instance, users can send in photos of their children to become ‘metal kid of the month’ or showcase their new outfits on the weblog with promise of a gift certificate. Furthermore, the casts for advertising spots have been recruited from EMP’s digital community, and the mail-order firm has repeatedly appealed to its community for additional clicks or likes before major thresholds. For instance, the Facebook page rewarded fans with a poster of user profile pictures for surpassing 400,000, a party for 500,000, and 75% reductions on select articles for 750,000 fans.

Regarding product innovations, direct user integration has been limited to polls, like voting on a specific product design. Occasionally product managers have specifically asked for feedback on new trends such as galaxy-print clothes. Alternatively, the social media team may take the initiative and – following an internal feasibility check – put products to the vote: “Then we post [...] ‘This sure looks killer. Do you also want this in our shop?’ And then (most of the times you already have a hunch that something will work) everyone will scream: ‘Yes, we absolutely want this!’, ‘When will it finally be available?’ and so on” (MI, 1187). However, novelty of insights is rather low due to careful pre-selection of products. User integration mainly serves confirmation and later promotion.

Identifying valuable information

Since all digital interactions are handled by the social media team and select service agents, they are in charge of filtering out valuable information. Focus on Facebook helps to channel incoming feedback. Approximately 60 to 70% of the inquiries on Facebook are service-related, with seasonal increases when a new catalog comes out or before holidays. Compared to traditional service channels like telephone or e-mail, requests on Facebook are generally less order-focused but provide more open, constructive feedback: “Most of the times, upstairs on the phone are orders or complaints. And wishes are rather voiced on Facebook or generally in social media” (MI, 1401). The spectrum ranges from feedback on specific products or packaging to trending bands that should be added to the merchandising portfolio.

The breadth of digital requests affects requirements and mode of operation for service agents: “I gain more background knowledge. Not all of those [digital interactions] are just pure service requests; [I also] have more contact with other colleagues in-house, for example procurement managers” (UR, 61-65). The multifaceted questions require broader background knowledge. Yet, all four Facebook service agents can draw on
rich experiences and a large internal network from many years in customer service. Requests that require additional information are forwarded to the quality and product managers. Most common examples include questions about textile attributes and availability that require access to the procurement system or actual product checks in the adjacent warehouse. For specific requests, like questions on the DVD assortment, service agents may contact the responsible manager directly.

Beyond EMP’s own website and presences on other platforms, a regular monitoring of user-generated content does not take place. However, the SEO manager warns the social media team if he discovers critical references to the mail-order firm through Google alerts. Critical issues may initiate more systematic screening. For instance, the magalog cover featuring ‘Frei.Wild’, a hard rock band often associated with right-wing politics, provoked outcries in parts of the heavy metal community. To closely monitor the community reactions, EMP assigned an assistant to collect and aggregate new posts in daily reports.

**Assimilating the identified valuable information**

To inform product managers about merchandising requests, service agents collect all suggestions in an *alphabetical Excel list* and circulate updated versions every few weeks. The list contains specific band and brand names as well as more general remarks such as demand for larger sizes in clothes. However, the lists force feedback into a specific format and cannot fully substitute for direct contact. Whether the product managers read through the Excel list or check Facebook streams directly is in their own hands.

Beyond the Excel list of merchandising requests, the service center and social media team do not generate any standardized reports. Accumulating complaints and other stand-out requests or comments are only forwarded ad hoc, such as pictures of broken deliveries. Response from product management usually takes one to three days depending on the current workload. To forward the answer to users as soon as possible, Facebook service agents try to keep each other in the loop and copy the entire team in mails to product management. The internal processing software helps to keep track of open questions and previous requests. If profiles have been matched, user requests on Facebook will show in EMP’s customer profile. However, deeper analyses are difficult as the system stands alone, and a comprehensive CRM database is still missing.
Applying the assimilated information

The regularly updated list of merchandising requests gives the product managers a *better sense of customer needs and trends*. Product managers appreciate the direct customer feedback on the current product portfolio and consult the lists in their decision-making. For example, if suppliers suggest merchandising products for a new band, previous requests allow a first estimate of the prospective demand. As the assimilated information from user-generated content has mostly indirect but not immediate effects, the *whereabouts of the suggestions* are difficult to evaluate. Service agents and social media managers generally do not receive feedback on the lists but only learn about the effects of user suggestions after specific inquiry or changes in the product portfolio.

Known success stories show the broad range of feedback. For instance, user-generated content brought to the surface persistent confusion on EMP’s return policy and initiated a simplification of the return notes. Also, the merchandiser expanded its assortment of patches in response to frequent user requests. Lastly, alert reaction to user complaints about a sale in one of the local stores helped to increase sales: “*I just took a screenshot of the sale graphic [...] and said: ‘You want an online sale? Here is the online sale!’ And they all totally lost it: ‘Cool, that’s customer proximity, how fast you managed that’ and they purchased like crazy*” (AR, 299). Overall, fast reactions and back reference to original user requests have been found crucial for the community to actually take note of EMP’s response.

3.3.5 Synthesis: Centralized model with focus on user engagement

As a mail-order company for heavy metal and hard rock merchandising, EMP targets a niche market with similar music, lifestyle, and fashion interests. Despite the traditionally strong *community orientation*, the company’s top management approved a start in interactive digital media in mid-2009 only retrospectively. However, the constantly growing fan base, high interaction rates, and increasing importance as traffic driver for the web shop have increased internal support and provided more financial leeway. The *key digital platform is Facebook* with five daily posts. In addition, EMP maintains a number of channels on YouTube, a blog, and several further presences on mainstream platforms. The primary goal of all digital activities is to *strengthen emotional bonds* with the heavy metal community. Consequently, EMP focuses on user engagement, while sales promotions play only a secondary, implicit role. High growth and interaction rates attest to the value-added content.
The responsibilities for all digital activities and interactions are largely centralized in the marketing and sales unit (see Figure 21), where two social media managers handle strategic development, content development, community management, and customer integration across all digital platforms. Only the handling of customer requests on Facebook has been passed on to four trained service agents as the volume of digital interactions kept increasing. As the nucleus of all digital activities, the social media managers closely cooperate with various other internal functions, e.g., sales managers for content input or an in-house advertising agency for visualization. Important partners and beneficiaries of information from user-generated content are the product managers. However, product management has no direct digital responsibilities and does not take a proactive role. The market representatives manage the international digital activities independently but in close exchange with the main social media team.

Figure 21: Integrated organizational perspective at EMP

In line with the centralized organization of digital interactions and the strategic focus on user engagement, acquired information mostly represents a by-product. The majority of EMP’s content aims for high interaction rates, not necessarily for more in-depth feedback. Digital interactions are primarily stimulated by the social media
managers. For identification of valuable information, customer service also has a key role with handling of user requests or questions on Facebook. Compared to other touchpoints, unsolicited user-generated content is significantly richer: “I don’t think that people will detail on the phone what they would like to have. They’d rather do that on Facebook” (MI, 1391). Product managers receive information from user-generated content ad hoc or in aggregate format for consideration in product and portfolio decisions, e.g., enlisting of new bands. More systematic user activation may help to further increase the information value of user-generated content.

3.4 Case 3: McDonald’s Switzerland

McDonald’s is the world’s leading food service retailer and one of the most valuable global brands (Interbrand, 2013). In day-to-day business, each country operates largely independently (Rohleder, 2006). Sales promotions and image campaigns dominate marketing activities but with an increasing share of interactive digital media.

3.4.1 Firm profile

In 1940, the first McDonald’s drive-in opened in California. The actual breakthrough of the restaurant started when founders Richard and Maurice McDonald developed a new fast-food concept based on a limited, standardized product portfolio, quick self-service, and cheap prices (Rohleder & Hirzel, 2006). Intrigued by the concept’s success, salesman Ray Croc took over management from the founding brothers in 1955, professionalized their franchising model, created McDonald’s Corporation, and set off national expansion. Upon full penetration of the US market, internationalization started with entrance into the Swiss market in 1976 (Schneider, 2007). Continued growth let McDonald’s Switzerland surpass all other service retailers and become the industry leader by 2009 (Pfannschmidt-Wahl, 2013). In 2013, its 157 restaurants served more than 106 million guests and realized an annual turnover of US$815 million (McDonald’s, 2014).

To realize its growth strategy, McDonald’s has relied heavily on promotions and, hence, regularly topped the list of product advertising budgets in Switzerland (cf. Media Focus, 2013). The license contract requires franchisees to spend at least 5% of their net earnings on marketing activities, the majority of which the headquarters invests in nationwide campaigns and sports sponsorship (Schneider, 2007). In this way, McDonald’s has been trying to get away from its “market crier image” (TT in N. N., 2010) to fight public criticism and stagnating profits. The international ‘i’m
lovin’ it™ campaign in 2003 marked the first step of the repositioning as a locally based lifestyle brand. Reforms have spanned all marketing domains and led to expansion of the product range with more healthy options. In addition, McDonald’s has started a transparency offensive, which provides thorough information about its products and literally opens doors with guided tours through restaurants (Schneider, 2007).

In advertising, frequently alternating sales promotions aim to lure customers into restaurants. Main target groups are children, young adults, and families (Schneider, 2007). The short campaign times create the need for high innovation frequency and consumer insights (Laporte in publisuisse, 2003). Extensive market research precedes, accompanies, and follows each promotion: “Testing, learning, and scaling is actually the quintessence of Marketing at McDonald’s. I am constantly thinking what we could do better or different in order to exceed the previous year’s results” (Schepper, 2012). Franchisees are important sources of insights since they have direct customer contact. Especially in development of new products and processes, bottom-up ideas complement activities of the global innovation center (Schneider, 2007).

Overall, campaigns define the McDonald’s marketing agenda and are paralleled by a strong culture of experimentation and analysis to continuously improve marketing effects. In addition to alternating campaigns, the ongoing transparency initiative creates opportunities for use of digital interactions.

### 3.4.2 Strategic relevance of digital interactions

To reach high awareness levels in promotions, television and billboards traditionally represent the most valuable media for McDonald’s (publisuisse, 2003), though digital interactions have gained importance. By default, the fast-food chain integrates interactive digital media in all campaigns to reinforce brand messages and customer relationships. Due to the local marketing approach, McDonald’s digital activities differ in every country (cf. Würtz, 2005). McDonald’s Switzerland engages on all well-established social media platforms: In October 2010, local management started a Facebook page, about a year later channels on Twitter and YouTube, and on the occasion of a new premium product line also Instagram. In addition, the fast-food chain offers mobile coupons through the app ‘samy4me’ (McDonald's, 2011a).

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Apart from sales promotions, digital interactions lend themselves to McDonald’s for its *transparency offensive* and *proactive crisis communication*. On the one hand, digital touchpoints allow for authentic inside views of the firm in order to convey a more personal image. On the other hand, individual interactions help to build up customer confidence and reduce risk of escalation. The firm’s high susceptibility to crises is best exemplified by a Twitter attack in the USA, where critics hijacked the campaign hashtag #McDStories to unleash hostile messages instead of the desired positive experiences. Luckily for the US branch, a contingency plan allowed quick reaction to the misled campaign (Wion in Bradshaw & Rappeport, 2012).

As part of the transparency offensive, McDonald’s initiated a corporate blog24 at the beginning of 2012 that features regular reports from behind the scenes (Rösch, 2012). In September 2013, the #AskMcDo campaign25 followed, aiming to dispel “*popular myths and prejudices about the quality of our food*” (TT in McDonald's, 2013b). An interaction and knowledge platform on the website invites consumers to ask questions about the brand and its products as well as to look through previous answers. The idea originated in Canada where the theme ‘Our food. Your questions.’ had already proven highly successful and let McDonald’s dethrone Starbucks as “*most social company*” in the Northern American restaurant industry (cf. DigitalCoCo, 2012; Shaughnessy, 2013). Because alternating product-offerings create a sustained need for discussion, the #AskMcDo campaign is designed for the longer term (AS in Jörg, 2013).

User activation has also been at the heart of the *crowdsourcing campaign ‘MyBurger’*. In autumn 2012, McDonald’s Switzerland invited consumers to create their own burgers from a list of 71 ingredients (McDonald's, 2012). Among the 22,500 submitted ideas, the user community and an expert panel then selected their favorite recipes. The four winning burger combinations were each offered in restaurants for a week and broadly advertised (McDonald's, 2013a). Communication in interactive digital media accompanied the entire crowdsourcing project and thereby created additional reach for the promotion (Reichen, 2012). Yet, the campaign’s success carried a high workload, not least because all suggested burger names had to be checked for compliance. Another edition of the MyBurger campaign would need a new format, which enables deeper consumer integration.

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Importance of digital interactions will further rise with rollout of a new cashier system. Combined with a planned mobile ordering app or alternative loyalty program, the software will enable tracking of individual transactions. Customer data are expected to reveal personal preferences as well as open up possibilities for one-to-one communication with app users. So far, the firm’s legacy IT systems have slowed down progress in digital interactions: “We would like to be more agile but are partly captivated in our systems” (TT, 504). For instance, more individual dialog has been postponed until full roll-out of the new cashier system and CRM.

In the development of its digital activities, McDonald’s Switzerland does not follow a pioneering strategy but rather plays safe. On the one hand, the polarizing image has cautioned the brand and, on the other hand, size effects apply: “We can’t catch every wave. [...] We try to stay innovative but we are [...] a big tanker and it is challenging to steer a big tanker into a new direction” (MT, 21). While the decentralized strategy and lean headquarters increase operational flexibility, coordination with franchisees and other national affiliates creates internal barriers. Inspiration for new digital activities predominantly comes from external benchmarks and internally developed future scenarios. In addition, the other national affiliates represent fruitful sources for new campaign ideas, as exemplified by MyBurger and #AskMcDo.

By and large, McDonald’s Switzerland ascribes high relevance to digital interactions and continues to extend the digital share of its promotion and branding activities. The high potential for user activation has been illustrated in the MyBurger and #AskMcDo campaigns, although generated information represented only a by-product. Individual interactions will gain further importance with introduction of a new planned cashier system and loyalty program.

3.4.3 Organizational model

For an integrated marketing and communications approach, all responsible managers at McDonald’s Switzerland have some overlap with interactive digital media. Yet, the increasing scope and relevance of digital interactions necessitated additional resources and a dedicated manager: “We simply realized that we have to meet that new situation and that we can’t just do it as a hobby on top” (TT, 167). To create the necessary backbone, McDonald’s Switzerland appointed a digital lead among the marketing managers and added a social media community manager to the communications team (see Figure 22).
The marketing team includes three managers for food promotions and another three for audience-specific, non-food promotions. For each campaign, the respective project leader determines the appropriate media mix, so that the entire team needs to have “a good sense for social media – and not just for commercial handling […] but also to create a dialog” (TT, 227). Uncoupled from daily business, the appointed digital lead oversees the development of new apps, the website, and other digital innovations. Strategic development is essentially always a team effort in close cooperation with the department head and other colleagues.

The first social media community manager took up employment in March 2011. Key triggers for the new position were the need for a permanent community manager and availability of a former student assistant. The candidate’s knowledge of the firm as well as relevant academic and digital expertise provided an ideal skill set. Later, McDonald’s refilled the position with an experienced social media marketer from another industry. The responsibilities of the community manager include postings, user interactions, and monitoring across all platforms, as well as strategic development and controlling of digital activities (Reichen, 2012; Reichen, 2015). The workload in community management has increased with every new platform and growing success. All popular platforms are checked at least four times a day in order to prevent netiquette violations. On the weekends and during busy times or holidays, managers take turns and occasionally fall back on a long-standing communications agency.
Internally, the social media community manager closely cooperates with the other managers of the marketing and communications department. Inspired by newsrooms of media outlets, the entire team shares an open-plan office with the community manager seated in the middle. Short distances have been enforced to ensure quick collaboration and information exchange: “[The social media community manager] needs very quick access to the people, [...] always needs to know what is happening and also quick access to me [marketing and communications director] and the managing director, if necessary” (TT, 284). Important cooperation partners in daily business are customer service and the responsible manager for consumer insight and planning. Customer service is a part-time position to handle all requests via telephone, website, mail, and on digital platforms. The manager of consumer insight and planning oversees all market research studies while also using monitoring and analytics to generate additional information.

Depending on the topic, managers from other departments are called in as experts: “We try to be very transparent as a firm and, then, you just need expert knowledge” (TT, 316). For instance, the corporate blog is maintained by a cross-functional team of digital-minded employees. The remaining staff is encouraged to participate. With about 80 employees in the headquarters, short distances guarantee close inter-departmental cooperation. Looking ahead, further direct integration of other departments is planned. For instance, human resources personnel are supposed to handle all employer-related questions. Digital empowerment requires a strong digital mindset and skills. At McDonald’s, regular internal updates aim to reduce anxieties and create a common ground.

Critical internal stakeholders for decision-making at McDonald’s are the franchisees. In monthly meetings, the headquarters staff discusses current and future developments with a committee of the restaurant owners. Marketing campaigns, like MyBurger and #AskMcDo, require prior consent of the franchisee representatives (Reichen, 2013). As independent entrepreneurs, the restaurant owners are free to set up their own digital touchpoints. Yet, McDonald’s Switzerland has advised franchisees against regional activities due to the considerable responsibilities and risks associated with community management. In order to offer each restaurant a platform in interactive digital media, a Facebook app features regional promotions on the national fan page. In contrast, McDonald’s USA has promoted local usage of social media and put together guidelines (Baer, 2012). By March 2013, more than 90 franchise cooperatives ran Twitter handles (Mulready, 2013).
On a global level, a chief digital officer was named in October 2013 to “lead a more coordinated and comprehensive digital strategy for our global organization as we deepen our connection with our customers” (Easterbrook in McDonald's, 2013c).

Before, international coordination had mostly been limited to crises, while each country organization worked largely independently. For instance, McDonald’s Canada informed the other national affiliates about the start of ‘Our food. Your questions.’ only shortly before go-live. Among other examples, international crisis management has been forced to intervene when an outdated website angered worldwide labor activists in 2013. For substantial IT projects, like a new cashier system and adjunct customer database, McDonald’s Switzerland has already joined forces with other national affiliates on a more regular basis to realize synergies.

The lean structure of the Swiss headquarters requires regular use of external know-how and resources in marketing and communications. Beyond individual advertising campaigns and community management during off-hours, McDonald’s Switzerland may draw on agency partners for new projects. For instance, a digital consultancy trained the blogging team, adapted the MyBurger campaign for the Swiss market, and set up a monitoring system (Goldbach Interactive, 2014).

By and large, digital responsibilities have largely merged into the existent marketing and communications structure with a marketing manager as digital lead and newly appointed social media community manager. Other units are not specifically involved, but franchisees have a say at monthly committee meetings. At the international level, the appointment of a chief digital officer will likely pick up the pace of exchange with affiliates.

3.4.4 Processes to tap digital interactions

The frequent promotions and ongoing transparency offensive of McDonald’s offer many possibilities to stimulate digital interactions, and the test-and-learn marketing culture has sensitized employees to consumer insights. However, in the effort to tap the full information potential of digital interactions, the focus on campaigns and the centralized organizational model could create barriers.

Stimulating (valuable) digital interactions

On its social media presences, McDonald’s Switzerland regularly points to ongoing promotions, provides inside views, and asks brand-related trivia questions. Content mix has promoted organic growth and a lively dialog. The highest interaction rate is on
the Facebook page with mostly teenage fans. MyBurger and #AskMcDo have also reached older brand enthusiasts, who are more interested in background information. The language across all digital platforms is largely informal and personal. On the corporate blog, which features behind-the-scenes reports, contributors from different units are specifically encouraged to write posts in their own style instead of marketing speak: “One should notice that there are individuals behind it – not a somehow anonymous firm once born in the USA” (TT, 328). Despite this emphasis, blog posts, answers on #AskMcDo, and if possible other platforms are cross-checked to ensure correct information and language.

In campaigns, McDonald’s tries to actively promote digital interactions and to create buzz by reaching out to bloggers. Participation in the MyBurger competition was even promoted with online and offline advertising. However, the campaign aimed for reach rather than to generate valuable information, and thus interaction barriers were deliberately kept low. Besides, the comparatively low customer involvement with fast-food products limits user activation: “Other brands simply have a higher relevance” (TT, 51).

Overall, efforts to solicit product feedback or new ideas have been limited. Only the launch campaign for the new premium ‘Signature Line’ included a hashtag and evaluation site26 to promote customer reactions. Potential domains for deeper user integration include brainstorming for new products, flash tests of advertisements, and restaurant reviews. Digital touchpoints could help to recruit product testers. Any burger has to pass customer tests of look and taste prior to its market launch. Currently, these tests are conducted with random visitors in restaurants (Bringold, 2013; McDonald's, 2011b).

Identifying valuable information

In May 2014, McDonald’s Switzerland registered about 7,000 mentions on Facebook and an additional 228 on Twitter. The communications team continuously tracks digital interactions and redirects most complaints to a generic e-mail address. Direct contact enables personal follow-up and helps to sort out non-serious comments. From global experience, many customers just want to vent their anger and be heard (Baer, 2012). Inbound service complaints or questions enter established feedback processes. For example, customer service forwards food- or service-related criticism to the

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To keep track of public sentiment, McDonald’s Switzerland adopted a monitoring tool in 2010 that scans all digital conversations in German, French, and Italian. In addition, managers try to keep an eye on worldwide discussions to identify potential issues before they spill over to Switzerland. However, the total volume of user-generated comments is enormous, with 2.5 to 3 million monthly mentions in the US market alone for 2013 (eMarketer, 2013). To handle the sheer volume, trends are watched on a macro level, and only striking topics are studied in greater depth. For all monitoring activities, the social media community manager has the lead and compiles monthly as well as campaign-specific reports with statistics on user involvement and reactions to posts. The manager of consumer insight and planning as well as other communications and marketing officers also have access to some of the analysis tools for campaign optimizations.

On #AskMcDo, McDonald’s received about 2,000 questions in the first six months, ranging from product origin and ingredients to highly specific inquiries such as maximum hourly capacity of deep-fryers. An automated search helps to reduce repetitions. For any typed keyword, the algorithm shows related previous answers (McDonald's, 2013b). The social media community manager and a communications manager check #AskMcDo on a daily basis to answer all questions within three days. For recurring standard topics, the two advance-prepared 300 answers prior to the site launch. In the first months, about 60-70% of the inquiries directly related to this predefined catalogue. For the remaining questions, the responsible manager simply checks back with the respective colleagues. Overall, user inquiries have been “really interesting” (AS, 158) and pointed to prevalent concerns as well as information needs. In the MyBurger campaign, the predetermined list of ingredients ultimately limited the room to gain information. Only the frequency of combinations allowed some inferences on the popularity, such as continued predominance of beef over chicken or vegetarian patties.

Despite initial monitoring efforts and user integration, the majority of insights continue to originate from classical market research. The information value of unsolicited user-generated content has generally been low, with only limited possibilities to ask idea contributors for further detail. Besides, the generated information is only valid in the respective community. For instance, the new ‘Prime burger’ received negative comments from teenage Facebook users but sold well in the target audience.
Assimilating the identified valuable information

To retain internal flexibility, McDonald’s Switzerland has not defined marketing and communication processes nor has it fixed the exchange of valuable information. The *lean structure* of the headquarters and *high level of inter-functional cooperation* ensure transfer and integration of valuable information. Typically, the social media community manager and the manager of consumer insight and planning simply forward relevant user comments and other findings to the responsible units ad hoc, e.g., operations, culinary, HR, or restaurants. For franchisee representatives only, a monthly exchange forum exists to discuss current and future developments. New product development is a joint team effort of quality, purchasing, operations, and marketing managers to bring in consumer insights.

The *new cashier system* will for the first time enable McDonald’s to collect individual transaction data and learn more about customers’ needs and preferences based on their actual purchasing behavior. A new central database will integrate and store customer data from all touchpoints. With these individual profiles, McDonald’s Switzerland will be able to perform data analytics, better target promotions, and interact with users on a more personal basis.

Applying the assimilated information

Application of assimilated information from user-generated content depends on different *constraints*, notably their relevance across target groups, brand fit, and operational limitations. First, McDonald’s will not pursue findings that apply only to a specific niche. All products have to appeal to the mass market, which may have different needs from those of the users of a specific digital community. Accordingly, all generated information is verified in other channels and through traditional market research. Even the winning recipes of the MyBurger competition were fine-tuned by professional chefs and had to be put through all regular test cycles to fit popular taste. Second, the gained information has to comply with the brand image of McDonald’s. Irrespective of its expanding product portfolio, McDonald’s continues to be perceived as burger joint, so that not every food item will sell in restaurants. Third, development processes for fast food are very complex and subject to preparation standards, existing kitchen equipment, and available ingredients.

Whether *individual managers* act on valuable information from user-generated content or not is on their own authority: “*The people have to grow into it and should discover on their own, intrinsically, that it’s beneficial to stay up-to-date and incorporate input*” (TT, 416). Interaction-related goals are specified only for employees with direct
customer contact. For the remaining staff, digital interactions represent but one source among others to achieve individual target goals. Initial trials have been particularly helpful for ‘feeling the pulse’ of consumers, i.e., getting a better idea of where they stand on various issues.

3.4.5 Synthesis: Centralized model with focus on image and promotion

McDonald’s primarily uses interactive digital media to enhance its alternating product campaigns. In addition, interactive digital media support the firm’s ongoing transparency initiatives and branding efforts. To these ends, the fast-food chain maintains presences on all popular social media platforms, and it launched a corporate blog with behind-the-scenes reports and also the interactive platform #AskMcDo for brand- and product-related questions. Consumer insights have traditionally been a foundation of optimizing all marketing efforts and establishing a probe-and-learn culture. Yet, for McDonald’s, information is relevant only if it applies to the mass market and, thus, warrants verification through traditional market research. Besides, consumer integration in new product development is bound to narrow production and cost structures. In addition to solicited feedback, McDonald’s has found that unsolicited user-generated content has picked up, e.g., when consumers demand (re-)introduction of seasonal or international burgers, and when unsatisfied customers vent their anger. Individual customer information may gain importance with a new cashier system that enables tracking of purchases and personalized marketing.

Because interactive digital media represent a regular communication channel in campaigns, all marketing and communications managers at McDonald’s Switzerland have some digital responsibilities. When the increasing volume of digital interactions created a need for formalization, a social media community manager was added to the communications team. Core tasks of the community manager include content development, community management, and monitoring in close collaboration with other communications and marketing managers. Characteristic of the coordinating function is the central desk position in the open-plan office. The community manager depends on regular content input from the communications and marketing officers, relays service-related requests to the customer service agent, and cooperates with the manager of consumer insight and planning in the analysis of monitoring and behavioral data. The strategic development represents another joint effort whereby one of the marketing managers has the digital lead and represents the main interface with the global chief digital officer and external agencies, e.g., for the development of new mobile apps. Consumer integration for the MyBurger campaign was headed by the
marketing manager responsible for product development. Lastly, the *franchisees* represent important stakeholders and have a say in all investments (see Figure 23).

**Figure 23: Integrated organizational perspective at McDonald’s Switzerland**

Due to the key role of marketing campaigns, McDonald’s is constantly on the lookout for consumer insights. In addition, the fast-food chain has to stay alert to weak signals of potential crises. This *high sensitivity to external information* combined with the probe-and-learn culture creates good conditions for interaction processing, along with the fact that the marketing and communications team closely collaborates with other units on a project basis and invites individual employees to engage on the corporate blog. Digital activities by franchisees or restaurant owners, on the other hand, are discouraged. Control remains centralized in the headquarters to ensure professional
management of all digital interactions. Restaurants receive relevant user comments through *established feedback channels*. In the headquarters, the *lean structure and cross-functional projects* facilitate integration of acquired information. Primary *fields of application* are marketing and communications, e.g., questions on #AskMcDo have brought to the surface prevalent concerns and information needs. Product- and restaurant-related information has mostly conceptual value and needs to be verified for the mass market.

In short, McDonald’s has fully integrated interactive digital media in marketing and communications and created the new position of social media community manager as well as named a digital lead. Consumer interactions are solicited as part of campaigns and the fast-food chain’s transparency initiatives. In addition, lower contact barriers have increased unsolicited interactions.

### 3.5 Case 4: Migros

The largest retailer in Switzerland, Migros is part of the cooperative Migros Group, which is ultimately held by its employees and customers. Based on its organizational form, Migros cultivates an open, community-oriented culture (Migros Group, 2014c), a stance that also applies to interactive digital media.

#### 3.5.1 Firm profile

With the aim to provide “*the best value for the money*” (Migros Group, 2014a, p. 5), Gottlieb Duttweiler founded Migros in 1925. By offering goods directly from producers to customers in mobile retail shops, he cut intermediate margins and was able to underprice competitors. The first stationary store opened in Zurich one year after incorporation (Migros Group, 2014d). Because the economy-oriented business model trimmed the margins of suppliers and did not encourage their participation, however, Migros was forced to build up its own manufacturing lines. Today, 21 industrial subsidiaries form part of the group (M-Industry, 2014), and private labels account for more than 80% of the product assortment (Hollenstein, 2014).

From a managerial perspective, conversion from a stock firm into a *cooperative group* in 1941 marked a major milestone for Migros. As a result, all business responsibilities have been split among regional, largely independent cooperatives and a common umbrella organization headquartered in Zurich. While the central federation of Migros cooperatives controls overlapping functions such as marketing, IT, and strategic development for the entire group, the ten regional cooperatives with overall 2.1 million
members manage the branch network of 639 retail stores throughout Switzerland. The total income of the Migros Group in 2013 was US$29.7 billion, of which $12.8 billion came from sales in supermarkets and hypermarkets (Migros Group, 2014c). In addition to food retailing and manufacturing industries, Migros Group includes a number of specialist stores, department stores, restaurants, petrol stations, financial services, and travel offerings.

The corporate strategy aims to maintain the early principles of founder Gottlieb Duttweiler, who formulated the ethos that Migros serves the public good as it pursues its own business goals (cf. Migros Group, 2014b). Applied to marketing dimensions, this ethic is apparent in the cooperative group’s commitment to provide good quality at reasonable prices while also adhering to high transparency and sustainability standards. Evidence of this pledge is the campaign ‘Generation M’ with its tangible promises to the next generation (Migros Group, 2012a). Separate of the campaign, 1% of the annual revenue is dedicated to social and cultural activities for the community at large (Spiegel, 2013). Migros’ omnipresence across all areas of life and nonprofit commitment has strengthened the brand, as certified by its top spot in the Brand Asset Valuator (Migros Group, 2013; Y&R Group Switzerland, 2013). In addition, constant rivalry with main competitor Coop has contributed to high identification rates of Migros customers that even pass down family generations (so-called ‘Migros children’).

To secure customer retention, Migros has established the M-Cumulus card, which grants bonus points for every purchase (e.g., Bruhn, Hess, & List, 2002). Analysis of promotions and transaction data has provided the basis for demand-oriented consumer segmentation (Bartels, Büren, & Hribar, 2008). Migros uses customer intelligence for targeted marketing and communication. For instance, the so-called ‘Famigros club’ sends out special offers, gifts, and information to families registered in M-Cumulus. Meanwhile, segment-specific promotions regularly try to create purchase incentives. For instance, the ‘mania’ campaign series rewards shopping trips with changing collectible toys such as dominos, spinning tops, or miniature products. Based on the long customer relationships, not only Migros but also many of its products have attained cult status, such as the private-label iced tea and ice cream (Gisiger, 2012).

Overall, the cooperative organization form of Migros involves high customer orientation but at the same time challenges internal cooperation. Both characteristics affect the strategic relevance as well as ongoing integration of interactive digital media in the organizational model.
3.5.2 Strategic relevance of digital interactions

As a cooperative group, Migros commits to an “open and diverse dialog with its customers” (Migros Group, 2014c, p. 11). More or less the entire Swiss population comprises the target customer group of Migros with families and environmentally conscious consumers being the most important target audiences from a marketing perspective. Traditionally, printed publications have been the main means of communication (Bauer, 2008). In 2013, the various magazines issued by the retailer reached more than three million readers every week (Migros Group, 2014c), equaling almost 40% of the Swiss population. For service requests, Migros has installed the central M-Infoline, which handles all feedback by telephone, mail, website, and increasingly email. On average 145,000 customers get in touch with M-Infoline per year (Migros Group, 2014c). Compared to 38,000 contacts in 2000, considerably more customers use service channels today, predominantly to obtain product or service information (66%), voice criticism (27%), make suggestions (4%), or give kudos (3%) (Belz & Schagen, 2011).

To promote customer contact, the cooperative group embraced interactive digital media early on. Official kick-off was a board presentation of the social media strategy in 2010 (SM, 827) with top management approval to “start into the adventure of social media” (Mare, 2011, p. 16). Migros had already joined Facebook27 shortly before but subsequently expanded and professionalized its activities, launching further Facebook pages for specific brands, campaigns, and fan articles28 as well as accounts on Google+ and Twitter29. In 2013, Migros was one of the introduction firms for YouTube30 in Switzerland (Hutter, 2013) but had already uploaded its first clip in 2007. The only regional cooperative to maintain separate Twitter and Facebook accounts is Migros Aare31. In June 2010, Migros introduced Migipedia32, an independent online community for customer feedback and integration. On the platform, 13,000 products are listed for customers to evaluate (about half of Migros’

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28 Sub-brands on Facebook, e.g., http://www.facebook.com/nbudget (2009),
30 YouTube channel, cf. http://www.youtube.com/user/MigrosTVSpots
31 Regional activities in social media, cf. http://twitter.com/MigrosAare (2010),
full product assortment). Other digital tools include the mobile shopping assistant ‘M-Go’ (Migros Group, 2011).

To ease user access, Migros introduced the single login ‘M-Connect’ for all its digital services. At the same time, the unified database allows Migros to track online visitors across all its sites: “How do the users navigate? […] Does someone talk about potato soup (‘this recipe is really good!’) and, then, look for comments and ideas related to potatoes on Migipedia?” (DI, 225). Data from M-Connect is also connected to the loyalty program M-Cumulus but only in anonymized form. Current privacy policies prohibit direct link between transaction data and user profiles. At any rate, the service center M-Infoline still operates a separate information system. However, a planned new cashier system will set the basis for deeper integration that will simultaneously allow more effective mobile communication.

Strategic development is the responsibility of marketing and communications, with some input from external agencies, as exemplified by the original idea for Migipedia. Thus new projects require the consent of different stakeholders within the cooperative group. Migros top management is overall supportive of interactive digital media and open to trial-and-error methods. Depending on the field of application, marketing and communications managers also have to take retailers, industry representatives, product managers, and category managers on board to secure relevant budgets or other resources. On the upside, the complex coordination processes ensure strategic fit of digital activities and reliable support. On the downside, rallying for support slows down digital development so that keeping up with more agile competitors represents a permanent challenge (Proske in Hotz, 2013).

To kick off an internal digital mind shift, personal initiative and continuous efforts of persuasion have been decisive. Especially in the beginning, digital managers relied on showcases to create awareness. For instance, the fortunate coincidence of Migipedia’s start with the planned introduction of a new bottled iced tea offered a safe bet to create buzz for both the line extension and the new crowdsourcing initiative. The boosted initial success story was promoted extensively within and outside the firm to illustrate benefits of Migipedia and has helped to build up internal support: “We have communicated it [the bottled iced tea case] like crazy – that means repetitively and across all channels […]. Suddenly, people lined up because they felt confident to receive backslapping from above” (SM, 517). Since then, continued successes of crowdsourcing and other digital initiatives have helped to silence remaining critics.
Migros’ focus on digital interactions has already left its mark in marketing and communications and turned the “dialog significantly more interactive over the past years” (Migros Group, 2014c, p. 11). While interactive digital media are not yet on a par with other channels, they continue to catch up. The main assets of interactive digital media are seen in their potential reach and precision. To make full use of these strengths, however, online content has to appeal to the target audience, and managers have to see digital channels as an integral part of the media mix rather than an add-on. Rethinking toward a digital mindset is still in progress but is actively promoted by a training program in cooperation with brand marketing, amongst other measures.

Specifically for social media, Migros Group has defined four targets: 1) strengthen credibility, 2) understand the customer (even) better, 3) answer customers’ requests where they raise them, and 4) support customers during the entire buying process (cf. Glisenti, 2012). The goals of promoting understanding and supporting customers establish a high relevance for stimulating and processing interactions. As users share their experiences and opinion on their own initiative without bias of market research studies, user comments have earned standing as the “most valuable feedback you can imagine” (DI, 61). Focus on image- and innovation-related goals relaxes direct selling pressure in digital interactions, even though sales remain the core objective.

To promote the internal acceptance of digital activities, performance indicators such as sales or media outcomes of previous digital activities have proven to be important instruments. With firm-wide digital professionalization, the need for sound arguments has increased rather than decreased: “[...] in the past, we would simply say ‘It has to be that way!’ because no one really had the faintest idea of the whole thing. Now we have to explain more and conduct classic performance marketing” (SM, 723). As a result, accepted success measures largely correspond to corporate and campaign targets, namely website traffic, user involvement, generated sales, or image effects. Additional, more specific indexes include reach, tonality, media effects, answering times, and fan development in a specific segment (SM in Mondel, 2012).

Beyond marketing and communications, Migros values digital media as a building block for its future business growth and has assigned the new channels top priority to secure its market leader position (Migros Group, 2014c). The group launched its original web shop in 1998 (Migros Group, 2014d). By 2015, online revenues are expected to reach 1.5 billion Swiss francs, substantively adding to core business (Barmettler, 2013). To realize its digital growth targets, Migros has already experimented with social commerce (e.g., Glisenti, 2012). Initial pilots, such as Facebook coupons for chocolate Easter bunnies or free samples, had low turnouts but
experimentation continues. Because the majority of customers still purchase offline (Glisenti, 2012), the group also considers possibilities to better integrate digital activities and aspects of social commerce at the point of sale.

In sum, Migros’ pioneering strategy and high community orientation have driven the retailer’s digital activities. In line with the founding principles, Migipedia and all presences in external communities create a direct link between the cooperative group and its customers. The strategic fit and initial successes helped to boost perceived relevance of digital interactions and internal support for its uses.

3.5.3 Organizational model

To ensure cohesive integration and consistent customer experiences, interactive digital media essentially represent a firm-wide responsibility at Migros. Core responsibilities are shared by digital marketing (strategic development) and corporate communications staff (community and content management). In addition, all digital activities rely on close collaboration with a newly created customer and web intelligence unit, M-Infoline, brand communication, as well as category and product management (see Figure 24).

Migros’ marketing unit is largely organized along product categories with marketing communication as a central support function (Büren, Matter, Proske, & Schuster, 2006). In 2012, an additional competence center for e-commerce was set up to bundle all online and cross-channel responsibilities at the corporate level (Migros Group, 2012b). As part of the new e-commerce division, the digital marketing team includes seven permanent employees and three to five additional freelancers on a project-basis. Main responsibilities are digital implementation of campaigns for marketing communication and development of all online, social, and mobile platforms from the specification of features to the basic content strategy.

Content development and community management are responsibilities of an online communications team in corporate communications. Positioning in the staff unit allows a holistic perspective and increases its internal relevance. To professionalize digital interactions, Migros management approved the appointment of a community manager as part of its social media strategy in 2010. The new position was designed to ensure a coherent presentation across digital touchpoints and, simultaneously, unite marketing, communication, and customer service functions (Mare, 2011). In the beginning, Migros relied on the expertise and resources of several agencies. A certifying test for the external assistants guaranteed consistent conduct as well as language. In 2012, Migros decided to back-source community management to increase
the interaction quality, pool digital know-how in-house, and reduce costs. At this point, the cooperative group had begun to see direct customer dialog as an important resource: “After all, we have to know the customers, not [the agency]” (YM, 317). The role of external partners is now limited to taking the edge off peak times and helping out in technical realization. Previous experiences have helped Migros to build up necessary expertise for consumer integration in-house, so that the original provider Atizo is no longer involved in the entire process but only in specific development tasks.

**Figure 24: Core functions for digital interactions at Migros**

By mid-2013, Migros employed five full-time online communications managers. The newly created positions as part of the back-sourcing have been filled with both internal and external candidates. The selection process aimed for an optimal know-how mix of digital and journalistic experiences to master the miscellaneous tasks in online communications. Beyond community management, the team advances the firm’s
digital communication strategy and assumes a conceptual or advisory role in related projects. While the superordinate tasks are the responsibility of the two department heads, the other online communications managers are in charge of different consumer segments, namely families, sustainability- and health-oriented consumers (LOHAS), and cult fans. The focus allows managers to build up specialist knowledge and handle the wide range of subjects. In addition, platform owners have been defined to keep track of new developments on the various external communities.

The task distribution between digital marketing and online communications has already changed several times. Evidently, *organizational flexibility* represents a critical asset. For example, Migipedia started out with one project manager, whose responsibilities were first split between existing positions, then partly re-bundled to facilitate processes. Regular collaboration between the two units has gradually refined the roles. Joint projects continue to guarantee regular exchange, even though the managers are not located in the same building. Furthermore, interactive digital media have influenced relationships with other units. For instance, marketing communication has come to integrate online communications as an editorial partner not only for press releases but throughout campaigns: *“We can achieve a large reach. They have realized that. Consequently, we do not have to beg for updates anymore”* (SM, 609).

In the case of new commercials, trigger spots and content have already helped to attract attention and improve overall advertising effects. Community management also overlaps with the customer contact center M-Infoline. Amongst other techniques, the service agents use a generic profile on Migipedia to answer product-related questions.

Product-related activities rely on collaboration with responsible *product and category managers* as well as *industries*. For instance, activities might include providing free samples to activate the digital community or helping to answer difficult user questions from assortment decisions to production formulas. Cooperation has gained further importance with the launch of Migipedia. Steady feedback on the online platform allows responsible managers to better attune product strategies to customer needs. Crowdsourcing projects integrate users directly into product development. In these projects, the digital marketing team has the lead and coordinates the various partners involved: Online communications is responsible for user engagement; product and category managers accompany the entire process to control feasibility; and finally Migros-owned industry partners realize the winning ideas (Maurer, 2013). At first, product and category managers eyed user intrusion into their traditional domains skeptically. Successful realization of initial projects, however, has increased internal support: *“By now, all product managers are on the track – receiving feedback for free, 
without having to do anything, plus being able to also promote products, being able to
develop products with customers (that always exceed sales expectations many times
over) – that has increased acceptance enormously” (DI, 65).

In its effort to reach business targets, Migros founded the *competence center for
customer and web intelligence* at the end of 2009 (Demuth, 2010). The staff unit
directly reports to the CEO; it employed 60 analysts by mid-2013. Main tasks include
providing strategic advice on digital tools, development of web solutions, and data
analytics. In addition, the staff unit has the mandate to experiment with emerging
technologies and trends such as big data, so that Migros can live up to its pioneering
strategy and image. The results of trial projects greatly influence the internal
marketability of an idea. As the profit center, the intelligence unit has to sell its
services to other departments. Main clients are product and category managers, who
use the analysis tools for better-informed decisions. Openness to data-based
intelligence depends on an individual manager’s attitude as well as the current market
position of the respective department.

Application of the data-generated information, however, presupposes *customer-oriented
thinking and an analytic mindset*. Foremost, marketers have to understand that
algorithms may sometimes better fine-tune digital campaigns than their own instinct.
Within Migros, the customer and web intelligence unit tries to promote the power of
analytics through trainings and by presenting the novel information. Cooperation is
usually on a project basis with business account managers serving as intermediates
between customer and web intelligence and commissioners. One partner is the digital
marketing unit, which uses web analytics and reports to optimize usability and
campaigns amongst others. In contrast, online communications with its focus on
individual dialog has less use for anonymous quantitative assessment. To embed data-
based information in marketing decisions, the head of customer and web intelligence
envisions a network of divisional and central intelligence managers throughout the
organization.

With its online communications, digital marketing, and customer and web intelligence
teams, Migros maintains three competence centers that advance the retailer’s digital
activities in different areas. Organizational flexibility and comprehensive cooperation
on a project basis generally enhance firm-wide rethinking to tapping digital
interactions.
3.5.4 Processes to tap digital interactions

With the various activities on Migipedia and other mainstream platforms, Migros cultivates digital interactions and has gained broad access to solicited user-generated content. However, the absorptive capacity ultimately determines how effectively the cooperative group utilizes that information.

Stimulating (valuable) digital interactions

Across its digital communities, Migros addresses a wide variety of topics from current campaigns, corporate news, background information, and competitions to product recalls. To specifically trigger user feedback on products or services, the cooperative group actively raises issues or distributes free samples. Previous occasions for so-called “try-vertisings” (SM, 221) have been new product introductions, awards, or simply promotion interests of the responsible manager. For a consistent and appropriate appearance across all digital touchpoints, Migros has developed specific communication guidelines. For instance, language is supposed to be less formal compared to other channels, and the predefined answering times aim for prompt updates on service requests (Summa & Mare in Hutter, 2010).

As the online communications team is responsible for community management, digital content is not strictly geared toward sales but also tries to follow editorial standards and to provide added value to the users. The basic rationale is that only relevant content will create the necessary attention for advertising messages. For a better understanding of user expectations and motivations in digital interactions, Migros conducts annual surveys on Migipedia. The segment-specific approach to digital media as exemplified by Migros’ multiple Facebook pages facilitates alignment of content and customer interests. In line with differentiation, information has been found to vary with the dominant user group. For instance, the Twitter community is most technophile, thus app-related feedback usually pops up there first.

On Migipedia, Migros permanently solicits feedback on its assortment of goods. Customers may leave a comment or evaluate taste, value for money, and packaging of each product. To promote the platform, a campaign and competition for new product ideas accompanied the launch (Migros Group, 2010); and an incentive scheme encourages registration and participation. While guest comments are generally welcome in the community, only active members can earn bonus points, virtual badges, and sponsor status for their favorite products. By 2014, 60,000 users had registered on Migipedia and shared 70,000 product comments and evaluations (Migros Group, 2014e). In general, quantity has been found less important than the feedback
quality, especially considering that potential reach for a retailer-specific platform on consumer goods is limited in Switzerland (Schwede, 2011): “With Migipedia, we create a community that is truly interested in Migros, in its products. That specific feedback of course by far outweighs for example a [random] Twitter user” (MS, 261). The range of comments goes from suggestions for better packaging designs to quality complaints.

Regular crowdsourcing initiatives draw additional attention to Migipedia. In the form of competitions, Migros invites its online community to participate in early and late phases of the innovation process (see Figure 25), e.g., to produce ideas for new goods, vote on different variants, or suggest names for innovations (Maurer, 2013). Realized ideas include mojito-flavored toothpaste and limited jam editions, amongst other innovations. In addition, Migros has asked for service-related input, such as new Migipedia features, a more efficient supply chain, and loyalty measures for its Famigros program. Overall, users have suggested over 20,000 ideas (Migros Group, 2014e). As in any community, activity concentrates on select (heavy) users but also varies with the product at stake: “If I want to develop a new baby toy, I will have a totally, totally different participation from other users than if the goal is to develop a barbecue sauce” (DI, 113). Based on the previous successes, the interest of product and category managers in crowdsourcing initiatives regularly exceeds capacity, so that digital marketers are able to pick the six to eight tasks that promise the highest user engagement and also public effect. Brand enthusiasm and a broad user spectrum generally qualify the Migipedia community for idea generation in all product categories. Only for more complex tasks will Migros include the crowdsourcing platform Atizo with semi-professional developers.

Figure 25: Cross-functional cooperation for crowdsourcing on Migipedia

Source: Maurer (2013)
Identifying valuable information

With its wide range of business activities, Migros offers almost unlimited potential for discussion: “Product-related, a sustainability question could come in. It could be a question on the assortment; it could be the question ‘Am I allowed giving this to my child?’” (YM, 451). In addition to product-related questions, diverse stakeholder groups may pick up economic and societal topics, inquire about nonprofit commitment, seek further information on customer magazines, or provide feedback on local stores, employees, and availabilities (Belz & Schagen, 2011). To keep track of all issues raised and follow up on them, the online communications team uses a basic monitoring tool. The software scans all digital interactions for new related content, ranks search results based on the number of readers, and is able to identify key multipliers. Given that the online communications team spends the majority of its workday in interactive digital media, and users usually have vested interest in advertising their original content, Migros-related comments hardly go unnoticed. Besides, employees from other departments also keep their eyes open and report relevant unsolicited user-generated content.

For challenging user questions, community managers ask specialists for help. Expert for all service-related issues is M-Infoline, which maintains a ticketing system and database of text modules (Belz & Schagen, 2011). In case of repeat comments, online communications officers try to personally look into critiques and check with responsible managers. Internal allocation of topics requires firm-wide overview and networking, particularly with regard to the broad variety of subjects. A positive side effect of the internal exchange is that the person in charge learns about the feedback, as well as the customer. If room to maneuver is limited, inquiries will at least surface limitations and ideally help to ease critics. Prior to any changes, Migros generally verifies information from user-generated content with additional market research.

On Migipedia, product-specific websites and crowdsourcing initiatives direct user comments and thereby facilitate the identification of valuable information. An algorithm automatically forwards user feedback to the responsible marketer per mail, when three comments pick up a similar issue. The threshold ensures recognition of critical issues, even if product or category managers do not check the platform at their own initiative. Besides, targeted reports are more effective than standardized, regular updates. The actual response remains the responsibility of the online communications managers. A deeper integration of other specialist managers in user dialog would require active interest on their part as well as comprehensive trainings.
In addition to user-generated content, Migros tries to tap into accruing data to learn about customer needs. Data analysis generally has high relevance in the retail industry, given the frequent promotions and accompanying market research. With intensified competition of discounters and web shops, relevance of data-based information has further increased. Establishment of a customer and web intelligence unit accounts for the higher data relevance and availability, plus it fosters necessary analytics skills and resources. The analytics process usually involves responsible managers as internal client, project partner, or prospectively trained analyst with direct access.

**Assimilating the identified valuable information**

Migros’ standing commitment to open dialog as well as the group’s targeted marketing approach have established *knowledge transfer and learning mechanisms* that provide a basis for assimilation of information from user-generated content. In general, relevant inbound questions, suggestions, or complaints are forwarded to responsible managers ad hoc, who then evaluate options and decide on further handling. In knowledge circulation, individual openness to external information in general and to information from user-generated content in particular is decisive:

“[Product developers] see themselves as specialists that deal with [... innovation] day in and day out. And now they are supposed to accept three-line comments that someone in some emotional state has typed at some point in time – it’s really not that simple” (MS, 685).

Based on their experience, senior top managers and young employees often have the greatest interest in information from user-generated content. However, prior personal connections and the mode of dissemination also influence the *level of acceptance*. For a look at user feedback beyond ad hoc updates, M-Infoline sends out weekly and monthly *overviews of dominant issues* to top management (Belz & Schagen, 2011). In contrast, monitoring findings are not yet reported systematically. In crowdsourcing initiatives, continuous involvement of responsible internal partners ensures feasibility of the winning ideas as well as long-term effects. Initially discarded suggestions may still inspire later innovations or implicitly enhance consumer understanding.

As the current privacy policy prohibits a direct link between M-Connect user profiles and individual customer data in the M-Cumulus database, web and customer analytics are not fully integrated. However, Migros aims to *integrate internal and external databases* wherever applicable to better leverage existent knowledge. Increased data availability has already brought about a certain mind-shift in performance management. For instance, random experiments increasingly come into use to directly
compare outcomes of different advertising measures. The customer and web intelligence unit supports incorporation of available data through direct access tools.

**Applying the assimilated information**

Migros mainly uses information from digital interactions to better align its products and portfolio to consumers’ needs (Mare, 2011). The high proportion of private labels and captive industry generally facilitate response to customer suggestions. However, to a large extent successful application still depends on individual commitment of product or category managers: “*It really needs a project leader that turns it into a business case and makes sure that it works*” (SM, 103). Particularly when sales are at stake, internal resistance tends to be high. For instance, a user campaign for a delay in Christmas promotions (cf. Hutter, 2012) prompted Migros to weigh the looming ‘shit storm’ against customer churn. To safeguard external validity, information from user-generated content is usually confirmed with additional market research.

Evidence for the successful application of information from user-generated content includes the *crowdsourced products* on the shelves and their sales. Among all the innovations that hit the stores every week, the co-developed goods stand out: “*We create singular products that have a story to tell […]. And precisely this attention benefits the product*” (SM, 835). To promote and use the buzz around crowdsourcing initiatives, Migros constantly keeps its customers in the loop and publicly advertises intermediate steps. The majority of the crowdsourced products have sold over budget with a total annual turnover of 60 million Swiss francs by mid-2013. Put into perspective, however, joint product developments currently account for only a small part of all innovations.

Also independent of crowdsourcing initiatives, digital propaganda has influenced *strategic product decisions*. Such unsolicited user-generated content typically surfaces issues faster than sales data. For instance, M-Budget toilet paper was changed back to its old quality after Migros received 480 negative comments about a new formulation within the first ten days (Maurer, 2013). Likewise, re-listings of various products such as vanilla Coke or prepared polenta rolls can be traced back to popular demand. In stores, contributions of solicited and unsolicited user-generated content show in specific product labels (‘developed by customers’ or ‘desired by customers’).
3.5.5 Synthesis: Collaborative model with focus on user participation

Migros embraced interactive digital media early on to enhance direct customer contact. The cooperative group is not only present in all popular digital communities but also maintains Migipedia, a branded community where consumers can evaluate a large part of Migros’ product assortment and participate in regular crowdsourcing challenges. In consumer integration, the retailer benefits from the high ratio of private labels produced by its industrial subsidiaries. While product and category managers remained skeptical at first, the repeated success of crowdsourced products along with internal campaigns have secured support for Migipedia and established cross-functional coordination processes. Goals in digital interactions include sales and image effects, as well as the generation of valuable information and innovation.

Responsibilities for digital interactions are split: On the one hand, a digital marketing team in the e-commerce division oversees strategic development, realizes campaigns, and coordinates the crowdsourcing projects with all internal and external partners. On the other hand, an online communication team is in charge of community management, content development, and monitoring. Internal resources have been built up and back-sourced from external agencies to fully benefit from direct user dialog. The central position of content development and community management in the corporate communications staff unit ensures an editorial rather than sales focus. In daily business, digital marketers and online communications closely cooperate. In this way, tasks and processes have developed dynamically. Relations with other units also call for organizational flexibility and permanent adaptation as interactive digital media gain in relevance. For instance, marketing communication and online communications explore possibilities to increase the reach of classical advertising through community marketing. Expertise in data analytics is pooled in the competence center for customer and web intelligence (see Figure 26).

The main focus for generating information is Migipedia. Because the online community unites all brand enthusiasts and helps to channel feedback to individual product sites, the quality of user-generated content is particularly high. When comments hit a certain threshold, product and category managers are automatically notified, so that they can decide on further actions. In crowdsourcing projects, responsible managers are involved from the start to ensure feasibility of the winning idea as well as broader learning effects. Identification of valuable information in unsolicited user-generated content primarily relies on monitoring tools and handling by either the online communications team or service agents. Topics cover a broad range, from notification about labeling errors to questions about certain ingredients.
Utilization of analytics is pushed by the center for customer and web intelligence. A team of business account managers provides firm-wide support for exploratory and exploitative data analyses, but ultimately aims to increase direct access of decision-makers.

Overall, Migros uses digital interactions as regular means for consumer integration. Relevant information from its branded community Migipedia help to optimize product assortment, facilitated by the high proportion of self-produced products. Besides, interactive digital media reinforce the cooperative group’s contact with its target audience, who to a large part also represent shareholders.

Figure 26: Integrated organizational perspective at Migros
3.6 Case 5: Swiss Federal Railways (SBB)

Rails account for a quarter of all motorized traffic in Switzerland and make the local residents world champions in terms of train rides (SBB, 2014a). As the national railway company, SBB serves the majority of the rail network and thus plays a significant economic and societal role in the country. Interactive digital media open new interaction and sales channels for the passenger division.

3.6.1 Firm profile

Following a referendum, SBB Group emerged from multiple railway ventures in 1902. Nationalization aimed for strategic rail development driven by economic and societal goals instead of particular business interests and fierce competition. Coordinated efforts promoted gradual electrification, modernization, and expansion of the railway network and eventually created the world’s most dense and frequented railway system (Bieger, Gross, & Laesser, 2011; Summermatter, Laesser, & Gross, 2012). In response to a multilateral agreement with the European Union to open up the railway network, operations of infrastructure, real estate, cargo, and passenger traffic were separated into independent business units in 1999. As part of the reforms, SBB became a special stock corporation with all shares held by the Swiss confederation (BAV, 2014).

Despite partial liberalization, about one third of SBB’s current operating revenue still comes from the government (SBB, 2014a). The level of regulations and subsidies differs for each unit. While infrastructure and passenger traffic receive some public grants to ensure nationwide mobility, logistics and real estate operate on more of a market basis (Bieger et al., 2011). As the national operator, SBB runs the majority of all passenger services. Only select regional connections have been licensed to smaller local networks, most of which are publicly owned by the cantons (Silvester, 2011). To integrate all mobility services in Switzerland, SBB has to synchronize its timetables as well as product range, ticketing, and marketing activities with 248 other public transport operators. Coordination requires careful balancing of fragmented economic and political interests (Bieger et al., 2011; Silvester, 2011).

In 2013, SBB transported more than a million customers a day, resulting in total revenue of US$3.335 million for its passenger division. Continuing passenger growth challenges the rail network, especially during peak hours, and threatens satisfaction rates (Summermatter et al., 2012). Furthermore, the spectrum of individual needs has broadened with commuters, business travelers, tourists, and shoppers at the train stations (SBB, 2014b). To learn about the different customer needs and to track
sentiments, SBB conducts regular satisfaction surveys. In addition, a customer advisory council was set up in 2009. The panel members help to ensure customer focus in decision-making by providing feedback on current issues as well as innovations. For instance, past meetings have dealt with service mentality or requirements for electronic sales (SBB, 2011a; SBB, 2014a).

As public support is critical for the national railway operator, customer satisfaction has been stepped up to a top priority over the last years. Since 2012, the emphasis on customer and service orientation projects has been brought to the fore in a new umbrella campaign entitled ‘at home on the move’ (SBB, 2012a). In addition, SBB revised its mission statement and officially strives for a top position in benchmark comparisons until 2016 (SBB, 2014a). Reorientation toward customer satisfaction has already effected various internal changes, including information and consumer interaction practices. For instance, the railway operator has announced that it will equip all employees with mobile devices and revisit its communication channels to better inform customers in the event of service disruptions (JP in Hettinger & Wild, 2013; SBB, 2013a).

In brief, SBB belongs to the old economy and regulations, and the complexity of public transport threatens agility. Yet, a satisfaction initiative in 2012 triggered a rethinking that also provides ground for digital interactions to become part of the firm’s vision and operation.

3.6.2 Strategic relevance of digital interactions

In line with the strategic aim to become a customer-centric service provider and its umbrella campaign ‘at home on the move’, SBB has focused its marketing activities on customer proximity. Digital media fit in with the newly specified corporate goals to enhance customer satisfaction and improve corporate image, but they are ultimately expected to increase efficiency and performance (Tschudi, 2013). In line with the high prevalence of online and mobile channels for trip planning and booking in rail services (Accenture, 2013), SBB has already actively promoted electronic sales channels over the past decade to increase the self-service rate (Baumann, 2013). With more than 10 million monthly visits in 2013, the corporate website is among the three most frequented portals in Switzerland. The ‘SBB Mobile’ app premiered in 2008 (SBB, 2008) and was downloaded more than 4.5 million times by June 2014 (SBB, 2014d). Overall, 40,000 electronic tickets are issued per day, representing about 13% of all
sales. Total online and mobile revenue was 430 million Swiss francs in 2013 and continues to grow (Bula in Lang, 2014; SBB, 2014a).

In interactive digital media, SBB gained initial experience with experiments for specific sub-brands. A first opportunity to test new marketing approaches provided the ‘supersaver tickets’, an online special for selected connections. Given the limited advertising budget for the discount tickets and strategic fit, social media offered a low-cost alternative to reach the target audience (CO in Hartinger, 2009). For instance, a Facebook page invited users to vote on destinations for the reduced rate (SBB, 2010b). Further pilot projects have been realized for ‘Track 7’ as a service for young travelers. To reach the target group of 16- to 25-year-olds, SBB introduced an online community33 and the ‘Entertrainment’ mobile app as almost exclusive means of communication with support of an agency.

In addition to early community engagement, several guerrilla-style activities pushed SBB’s digital activities. A prominent example is the service of free beverages and snacks to Apple fans waiting in line for the start of sales of the new iPhone 4S in October 2011. The service utilized public attention to successfully create noise in both digital and traditional mass media (Comboeuf, 2011). These experiments largely followed a trial-and-error approach with little prior consultation: “If you ask too many involved persons [...] you will never get anything done. Funny, but many of our successes resulted from us simply doing things” (CO, 53). By creating facts, proactive strategy often ignored potential barriers of an old-economy firm: “That’s the advantage of an inertial organization. Until they get up and organize to stop us […] we have already moved on to the next job” (CO, 303-305). Industry awards for the e-commerce strategy and online campaigns (cf. e.g., SBB, 2012b; IAB Switzerland, 2011; SBB, 2010a; Goldbach Group, 2011) have helped to justify certain solo attempts and build up the necessary top management support.

The first Twitter account @RailService34 traces back to a private initiative. When three employees noticed frequent user comments on SBB and train rides in general, they decided to help out travelers on their own account (Leduc in Luchsinger, 2009). In 2009, the group began to provide information on delays and disruptions or simply wished train travelers a safe trip. The voluntary commitment caused some internal controversy. On the one hand, SBB feared failure to comply with service standards,

particularly because the account used its official logo. On the other hand, the media and public praised the alleged progressive SBB service (Luchsinger, 2009). Eventually both sides reached an agreement (Hogenkamp, 2009), and SBB officially took over the Twitter service account in June 2013 (Tschudi, 2013).

At the *corporate level*, management approved a social media engagement in March 2012 (Tschudi, 2013). Increasing relevance among the target audience required commitment beyond self-contained trials and a more far-reaching integration. The launch of three Facebook pages\(^{35}\) four months later marked the official starting point in social media (Schwarz, 2012). Gradually, accounts on Twitter, YouTube, Google+, Instagram, Pinterest, and Vimeo were set up\(^{36}\). Overall, SBB aims to provide a mix of entertainment and service in digital media (Tschudi, 2014), but content strategies differ for the various channels. For instance, the brand site on Facebook mainly features entertainment and campaign-related activities, while the CEO uses his public Facebook profile to comment on current developments and his daily work (Tschudi, 2013). For career-related updates and questions, separate accounts\(^{37}\) exist.

In addition to its activities on third-party platforms, SBB built up proprietary portals. The first addition was a *corporate blog*\(^ {38}\) that went live in October 2012 (Comboeuf, 2012). True to the campaign slogan ‘at home on the move’, posts feature stories from regular commuters, reports from behind the scenes, experiences of train conductors, and travel tips. Within the first year, a total of 200 blog posts were published that reached 50,000 visitors and resulted in 500 user comments (Tschudi, 2013). Since December 2012, the additional *mobile app SBB.Connect*\(^ {39}\) has been available, which allows travelers to check in and collect points while traveling, chat with friends or other passengers on the same train, and collect badges for avoiding peak hours, long journeys, and frequent train changes (Rüetschli, 2012). Six months after its launch the application counted 30,000 users (SBB, 2013b).


Following the initial build-up and experimentation phase, SBB has focused on *integration of its digital activities*. While select solo attempts helped to overcome the inertia of an old-economy company, enhanced maturity and relevance of digital media call for a more consolidated approach: “*Today we have activities that are completely uncoupled from the strategic orientation of the firm. With the increasing relevance of these channels, that’s of course deadly*” (RM, 182). For instance, mobile hype resulted in myriad additional apps from various divisions – including travel ideas, games, and a much criticized app to collect bonus points (e.g., Nellen, 2013). A mobile strategy aims to merge all of these services and to establish comprehensive quality standards (Bula in Lang, 2014).

In the channel mix, the relevance of interactive digital media varies depending on the respective goals and target groups. The focus of *marketing activities* is on sales promotion, where digital channels are currently still perceived as less effective than traditional advertising formats for the mass market. Yet, the potential of digital interactions and integration has been discovered for image-related activities. For instance, customers were invited to share photos of their ‘at home on the move’ moment in the second phase of the umbrella campaign (Persönlich, 2014). Among *service requests*, the digital share amounted to 12.7% in 2013. The regular contact center handled about 8,800 serious requests on Facebook and Twitter on top of 60,300 contacts through other service channels (Tschudi, 2014). The majority of feedback concerned punctuality issues, service disruptions, technical problems of an app, and criticism on new rate regulations (SBB, 2014a). Given the daily passenger numbers and ongoing improvements in on-board connectivity, digital requests are expected to further increase and are given high relevance with regard to the customer satisfaction initiative.

In digital development, the importance of *experimentation* is uncontested (SBB, 2014b). Yet, staying up-to-date represents a permanent challenge for an infrastructure-dependent firm like SBB with standardized authorization and finance processes (Bula in Lang, 2014). Long planning cycles in core business and multiple stakeholders have also affected internal processes and thinking in marketing. To promote relevant business and technology innovations in the fields of new media, mobile commerce, e-commerce, digital payment, and big data, a *start-up program* has been initiated. Cooperation with entrepreneurs helps SBB to build up know-how, benefit from

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40 SBB Start-up program, cf. http://www.sbb.ch/startup
synergies, and expand its services (Meier, 2014; Millischer & Wittwer, 2013). For instance, the pilot project ‘GoodBox’\textsuperscript{41} offers passengers the option of ordering groceries or other services via a mobile app that directs deliveries to centrally located delivery boxes at selected train stations (Raths, 2013).

Overall, SBB regards interactive digital media as an important future touchpoint to promote customer satisfaction, dialog, and efficiency. Several mobile and social media showcases as well as the corporate mandate provide the basis for a more comprehensive integration: “We are no longer at the start [...]. We have taken the first two, three steps” (JP, 257-261).

### 3.6.3 Organizational model

SBB’s management decision to engage in social media has not only increased the relevance of digital interactions but also stepped up responsibility to the corporate level. Based on the official mandate, a new head of social media was introduced in the corporate communication unit to coordinate strategic development and implementation in each division. Both proximity to the management and firm-wide responsibility of the new corporate-level position have provided the necessary decision-making power and speed. Yet, each division remains responsible for its specific digital strategy and activities to ensure direct business integration. To promote the experience exchange and coordination between corporate-level and divisional digital managers, a social media board has been initiated that meets every two to three months.

In passenger traffic, the e-business unit has been the major driving force and still accounts for most strategic and operative tasks. One of the few exceptions is community management, which has been placed in the contact center. Yet, ongoing integration of digital media necessitates closer links to other parts of the passenger division such as marketing communication and all operating units. Likewise, consumer dialog calls for coordination with the remaining divisions, such as real estate for the train stations or other service partners along the travel chain. Most passengers perceive SBB as one organizational entity and do not differentiate among the different divisions (see Figure 27).

\textsuperscript{41} SBB GoodBox, cf. http://www.sbb.ch/bahnhof-services/am-bahnhof/dienstleistungen-am-bahnhof/sbb-goodbox.html
The *e-business unit* dates back to 2006, when the passenger division decided to pool its digital know-how and transfer all responsibilities for the up-and-coming new sales channels into a line function. By mid-2013, the e-business team had grown from its original 11 to 46 employees. Activities of the sales sub-unit fall into five core areas: 1) digital lab with the new start-up relations, 2) e-business strategy and planning including channel development, 3) e-commerce management, 4) portal management, and 5) coordination of advertising and partnerships for all SBB-owned sites. Essentially, responsibilities of the e-business team cover the entire digital lifecycle, from each new idea to a commercialization phase, so that employees need creative as
well as entrepreneurial skills. A key target in all new digital projects is to develop a business case for later process integration. Yet, a necessary out-of-the-box approach and the dynamic of digital pioneers do not align directly with existing processes and have already caused some internal tensions with other units.

In e-business, *portal management* takes a special position. As a shared service function for all divisions, the sub-unit maintains the website sbb.ch as well as all brand-related digital presences. Proximity between the website and social media editors in the portal management unit promotes fast and consistent communication, especially in the event of crises. Other units such as marketing communication can suggest content through an IT-tool. All unsolicited user requests are handled by the *contact center* in Brig. The service agents fulfill customer service for the entire passenger traffic, i.e., they help customers plan trips, sell tickets, issue travel cards, and provide assistance for passengers with disabilities (SBB, 2011b). Integration of the contact center ensured the necessary organizational backbone for the expansion of digital touchpoints and represented a precondition for the start. Given SBB’s public position, managers expected high media attention and user traffic right from the start. Drawing on experiences from previous pilot projects, the e-business team prepared 20 service agents for digital interactions (Güntert, 2013; Schwarz, 2012). As all service agents had rail and service know-how, trainings focused on moderation skills and dry runs for critical user comments.

An internal awareness campaign prepared the remaining *SBB workforce* for the start of social media engagement. Via internal newsfeed, all employees were informed about the new touchpoints and invited to complete an e-learning module. The training taught basic dos and don’ts in interactive digital media. Employees who had completed the e-training course received access to all popular social media communities at their work stations. However, as 90% of the staff works in operations, not all employees have access to electronic information, and digital know-how naturally differs. To bridge the digital divide and improve internal information exchange, SBB (2014c) has announced that it will invest 5 million Swiss francs in mobile devices. Also, *performance reports* are regularly circulated to showcase performance effects and increase internal credibility.

Overlaps between the e-business and *marketing communication units* thus far have largely been limited to select projects and weekly coordination meetings. Marketing communication is positioned in the long-distance services unit but essentially plans and realizes campaigns for the entire passenger traffic division. Previous campaigns have largely focused on push communication via traditional mass media. For deeper integration of digital interactions, rethinking has to start in the conceptualization
phase. However, the different strategic focuses and separate organizational positions have impeded closer cooperation and necessary knowledge transfer between marketing communication and the e-business units: “If you have a nerd that manages social media and only sits two desks away, you automatically learn one or the other. But if they are – like in our case – above, on a different floor, you don’t see anything [...] so that we lose a lot of know-how” (RM, 198). Private relations have helped to reduce organizational barriers to some degree but in effect are not able to fully bridge them.

To update project partners and interested employees, the e-business unit has already initiated a seminar series and newsletter with information on benchmarks and trends. Top management is generally open to digital media, and some even use platforms for direct customer contact, as exemplified by the public CEO Facebook profile, various Twitter channels, and blog posts by the head of the passenger division. More critical than digital mindset is organizational inertia, which results from long planning cycles of the infrastructure-dependent firm and multiple stakeholders. To overcome organizational barriers and improve process consistency, an internal project has started to review the positioning of marketing and communication units. Thereby, consolidation of all channels in a single division represents one possible scenario: “If we speak of integrated and cross media, then we will also have to mirror that organizationally. Until then [...] very big barriers exist that have to be torn down for everything to work somehow” (RM, 162).

In its IT support structure, SBB struggles with long planning cycles and outdated back-end systems. Past investments focused on the core business, so IT infrastructure is up to 20 years old and costs as well as complexity of developments are high. Yet, the recent strategic customer satisfaction initiative provided investments in new IT systems and analytic resources. In addition to an updated infrastructure, interactive digital media require rethinking in IT development. The trial-and-error approach relies on rapid realization times rather than perfect integration. Accordingly, the e-business team enforced social login for SBB.Connect against internal objections in order to save development costs and time.

In sum, interactive digital media are anchored at the corporate level with a coordinating head of social media, but the responsibilities and activities are in effect managed by the four divisions. For passenger traffic, the e-business team unites most responsibilities and also oversees the firm-wide portal management, including the website and all touchpoints for digital interactions. Only the handling of unsolicited user requests has been passed on to the regular customer contact center. Cross-
functional cooperation and integration of digital interactions in the broader organization still present some challenges.

### 3.6.4 Processes to tap digital interactions

For SBB, the initiative of passenger satisfaction has increased the need for consumer information along the entire travel chain. The new touchpoints and digital managers at both the corporate and divisional level have established a basis to stimulate and process user-generated content. Yet, the railway operator’s capabilities to tap digital interactions ultimately involve broader integration in the traditionally long planning cycles.

**Stimulating (valuable) digital interactions**

As a public service provider, SBB is “not per se a lovable brand” (CO, 74) that attracts ‘fans’ and ‘likes’ naturally. Although the rail standards in Switzerland are generally high, passengers are still angered by delays, missed connections, or crowded trains during peak hours. Dissatisfaction manifests in the increasing number of customer requests. To restore individual customer satisfaction, improve public image, and learn about customer needs in digital media, SBB reaches out to both disappointed passengers and brand enthusiasts with a mix of entertainment and service (Tschudi, 2014).

Common starting points for SBB’s digital activities are ongoing campaigns, sales promotions, sponsorships, and events. For instance, the social media team has traveled to different European cities as part of a cross-media campaign for its international passenger traffic and shared its experiences on the blog and on Instagram. Likewise, a corporate team in the SBB-sponsored ‘Gigathlon’ documented its participation in the sports event. Apart from these integrated activities, the social media team has specifically created occasions for digital storytelling, like a Christmas cookie contest in a train or the adventures of personas ‘Madame and Monsieur Rail’ (cf. Kuhn, 2012; Schmid, 2012a; Schmid, 2012b). All events aim to stimulate digital interactions and activate users. As incentives, SBB regularly advertises free travel passes; other contests include the best travel tip, most ‘liked’ Instagram photo with the hashtag #sbbcffffts, and successful treasure hunters at the train station. Apart from these events, reports from behind the scenes provide continuous ‘entertrainment’, like the regular posts by a train conductor, week-long photo documentation of a service agent, and answers to specific user questions on the blog. While free train tickets have been effective in user activation, informational value of the feedback is limited.
At select times, SBB has asked users for direct input on mainstream platforms. For instance, Facebook users got to vote on possible future services at train stations and on application scenarios for the newly introduced GoodBox app. However, in both cases participation barely exceeded a dozen clicks. Higher turnout rates of several hundred suggestions have only been achieved on the crowdsourcing platform Atizo, e.g., for new minibar products or additional services on board, innovative advertising platforms, and more customer-oriented stations.

In general, unsolicited user-generated content is encouraged by fast reaction times. With 97% of all inbound requests answered at an average response time of 55 minutes, SBB tops benchmark comparisons for Switzerland (cf. Socialbakers, 2015). Interactive digital touchpoints primarily represent electronic lightning rods for unsatisfied customers – nine in ten Facebook reactions are negative (Güntert, 2013). SBB tries to appease passengers with individual responses: “Very often I have experienced that customers are already satisfied if someone simply a) answers their Facebook posts, b) somehow helps, or c) just listens” (CO, 136). Meanwhile, employees have also learned to handle standard issues like punctuality and cleanliness with charm and a certain irony. For a prominent tweeter, the head of e-business even arranged a personal meeting. Besides, brand enthusiasts step in to defend SBB or provide tips, like café recommendations for stranded passengers. To further promote direct conversations between consumers, SBB has also explored possibilities to develop a separate branded community.

Identifying valuable information

With 700 questions from Twitter users and 300 Facebook requests per month – about 33 per day – the level of consumer-initiated interactions is still manageable (Barandun, 2013; SBB, 2014d). However, the volume will likely go up in the future given the rate of daily passengers and improved connectivity on board trains and at the stations. Compared to other touchpoints, feedback in digital media mostly differs in dynamic and form: “It comes much more spontaneously, I’d say, with more imagination, because you are immediately at a personal level” (DW, 277). In addition to service-related matters, users inquire about less conventional topics through the digital channels. Previous examples include transport rules for hotdog machines and whereabouts of stray animals on the tracks (Schwarz, 2012).

A major challenge in the evaluation of user-generated content is differentiating between insights that represent an individual experience only and those that affect a broader audience: “Very quick, very direct early warning system – I would subscribe
to that right away. But with due respect I would say” (RM, 86). As the case stands, information from digital interactions still lacks generalizability. A main criterion to single out valuable information is the number of complaints or suggestions: “If we see that certain insights accumulate for one or the other topic, then the quantity alone indicates that we should have a closer look” (CO, 501). At the same time, community managers have to use their common sense. Two of the most frequent user suggestions are a hairdresser's shop and fitness studio on rails. However, these suggestions are hardly realizable, as the trains are already overcrowded on potentially profitable routes. To speed up consultations with responsible experts, the real estate division has created an internal board and mailing list with top managers from all business units: “It’s important for me that the representatives are relatively senior, so I will get answers quickly. Because in the end, the customer also wants a reply in no-time” (DW, 329).

Regular monitoring reports for a list of predefined keywords are compiled by the portal managers and distributed to all divisions. For more specific analyses, select units have commissioned external agencies. Data analytics currently play a role only for usability optimizations. While SBB’s online and mobile platforms currently count 4.8 million registered users (Comboeuf 2014), accounts are only partly integrated with the CRM database. To generate data-based information in other areas, customer profiles would first need to be linked with individual transactions.

**Assimilating the identified valuable information**

Interactive digital media have opened new touchpoints for SBB, raising hopes to develop a better sense for passengers and learn more about their needs, even though the rail service provider is well aware of the most prevalent customer issues. To integrate information from user-generated content into decision-making, established processes of customer service and performance analysis have partly been adapted for the new touchpoints. Based on backlog in the CRM system, consumer information is not yet relevant at the individual but only at the aggregate level.

Service-related information from unsolicited user-generated content are bundled or directly forwarded to the responsible managers to follow up. Examples include complaints about cleanliness at a certain train station, suggestions for timetable changes, and campaign-related feedback that will be relayed to the station manager, scheduler, or campaign manager. In the case of the real estate division, the internal evaluation board of top managers not only ensures identification of relevant issues but also can supply the necessary power to initiate relevant changes. The e-business unit
has created an internal blog for its team members to share experiences from direct customer contact. Internal information distribution with operational units will be eased once all employees are equipped with mobile devices (SBB, 2014c; Minetti, 2013).

To provide an overview of the most prevalent issues, a regular service report aggregates all customer reactions. The report is widely circulated but does not yet include information from user-generated content. Yet, digital interactions and activities are still closely monitored by the portal management. Quarterly reports include regular KPIs like the rate of external visitors, average time spent on the platforms, popularity of each post, and trending topics. For campaigns, additional reports are circulated and discussed with the responsible marketing and product managers. A direct-access tool allows dynamic performance analyses for all social media managers.

**Applying the assimilated information**

With its long planning cycles and multiple stakeholders, SBB faces particular challenges in seizing information from user-generated content. Readiness to act ultimately depends on the need for action and necessary adjustments. Thus marketing insights are naturally easier to adopt than infrastructure-related suggestions, like frequently demanded internet connectivity in trains. Based on these limitations, individual wishes usually cannot be accounted for, and only information with broader relevance receives serious consideration. To ensure validity, SBB generally verifies acquired information from unsolicited user-generated content with qualitative and quantitative studies. Given their greater validity, traditional market research and customer service continue to have a much higher impact on product and service innovations at SBB.

The impact of generated information is generally hard to control, especially for boundary-spanning issues. An ongoing project aims to improve end-to-end tracking of service-related feedback, which will also allow a response back to the customer once the issue has been resolved: “We do know, that it [feedback] is at the right place […] but we cannot let the customer know, when it will be […] resolved and this will likely lead to higher customer satisfaction” (ET, 288). Somewhat easier is the capitalization of user input in ongoing projects of the e-business unit. There, the effects of valuable information in user-generated content show in “things accomplished” (CO, 487), like kudos for the speed of digital interactions, improved features, and ultimately higher customer satisfaction and positive image effects.
3.6.5 Synthesis: Centralized model with focus on service and entertainment

Although SBB offered online and mobile sales channels early on, the national railway operator did not adopt interactive digital media until 2012. The management decision paralleled a strategic reorientation toward customer satisfaction and paved the way for presences on all popular platforms and maintenance of a corporate blog. Previously, only select experiments and organic activities had emerged, like a Facebook promotion for SBB’s supersaver tickets or Twitter channel @RailService from a group of employees willing to help passengers. Main targets in digital interactions are customer service and entertainment, so that the touchpoints offer a broad range of topics, including behind-the-scenes reports, contests for complimentary tickets, and guerrilla-style activities. All digital activities typically relate to ongoing campaigns, sales promotions, sponsorship activities, or other events.

Based on the competence in online and mobile media, the e-business unit has taken on content and community management for all brand-related digital touchpoints (see Figure 28). Other units can suggest content through a defined process, and all employees are invited to contribute to the corporate blog. For strategic development and coordination, a head of social media has been added to corporate communications. In addition, a social media board exists for regular exchange among the division-specific digital managers. Unsolicited user-generated content is handled by the customer service agents in the contact center. Integration of interactive digital media at a broader scale is still lagging behind. In the old-economy firm with its traditionally long planning cycles, digital mind-shift and abolishment of established silo structures require some time. Besides, the legacy IT infrastructure does not ideally support digital integration.

With the strategic customer satisfaction initiative, the relevance of consumer insights has increased. However, the traditionally long planning cycles in the railway industry, coordination with other public transport partners, and multiple stakeholders limit the responsiveness of the state-owned corporation. Customers have readily accepted the new channels, but primarily to vent their anger. More constructive product- or service-related suggestions are often not feasible, either. The various structural constraints and highly complex planning mechanisms create boundary conditions for the application of valuable information. Nevertheless, the customer contact center forwards all feedback to the responsible units, and a regular monitoring report aggregates prevalent issues. Consumer integration has only been tested at select times, e.g., to collect ideas for the future design of train stations. To develop its capabilities to tap digital interactions, SBB has to enhance the firm-wide digital mindset and cross-functional cooperation.
Figure 28: Integrated organizational perspective at SBB
3.7 Case 6: Swiss International Air Lines (SWISS)

An international premium airline, Swiss International Air Lines follows a customer-oriented strategy. The mid-sized carrier was one of the pioneers in interactive digital media and has continuously placed first in the Swiss social media ranking (cf. Güntert, 2013).

3.7.1 Firm profile

Swiss International Air Lines AG (SWISS) emerged in 2002 after bankruptcy of Switzerland’s former national flag carrier Swissair and subsequent fusion with the regional airline Crossair. Continuing financial and strategic problems led to gradual takeover by Lufthansa Group until 2007, but the airline has remained largely autonomous with its headquarters in Basel, a separate business management, and its own fleet (Lufthansa Group, 2005; SWISS, 2007b). As part of the acquisition by Lufthansa Group, SWISS became a member of the world-wide airline grouping Star Alliance and also joined the frequent flyer program Miles & More. These strategic partnerships, along with a corporate restructuring program and repositioning in the premium segment, helped to turn operations profitable again in 2006 (Maier, Esch, & Knörle, 2009; SWISS, 2007a).

Since the turnaround, Swiss International Air Lines has continuously outperformed its parent firm in passenger growth and profitability. Yet, industry competition and the strong Swiss franc impose pressure on revenues (CAPA, 2013). In 2013, Swiss International Air Lines transported nearly 16 million passengers and generated gross revenue of US$5.751 million from operating activities (SWISS, 2014b). The 2014 summer timetable included 84 destinations in 40 countries across Europe, North and South America, Asia, and Africa (SWISS, 2014a). With about 7,000 full-time equivalent employees, the firm classifies itself as a “manageable medium-size” airline (SWISS, 2014b).

In marketing, SWISS follows a premium strategy and cultivates its roots. The brand positioning of the flag carrier embraces traditional Swiss values such as quality, punctuality, and hospitality. To differentiate from other premium airlines, particular attention is paid to detail, to an individual but unobtrusive service, and to conveying a sense of home (Maier et al., 2009). Testimonies to the firm’s high product and service standards are regular awards from travel associations (e.g., Skytrax, 2015; World Travel Awards, 2013). To live up to the promise of excellence, Swiss International Air Lines tries to know and cater to its customers’ needs as best as it possibly can (Maier
et al., 2009). The availability and quality of passenger data set the basis for individual and gradual targeting. Therefore, touchpoint and knowledge management represent critical success factors (Maier, 2010) that also reflect in the strategic relevance, available resources, and set-up of processes for digital interactions.

### 3.7.2 Strategic relevance of digital interactions

SWISS started its digital media activities in May 2009 as *part of a viral campaign* for the short movie ‘LX Forty’. At that time, the airline was one of the first firms in Switzerland and in the premium segment to adopt digital media. Consequently, the initiators could not revert to any best practices or benchmarks and were forced to experiment, as the social media manager (an intern at the time) recalls: “It was just an idea: Should we? And one week later, we started – without any strategy. Our strategy was trial and error” (CL, 502). Within a month, the online marketing team set up a Facebook page, Twitter account, and photo stream on Flickr. Internally, key decision makers from media relations and marketing were informed about the digital experiments and supported the endeavor. An *official mandate* was not needed at that time and might have been difficult, as top management remained skeptical at first about the potential benefits of the alleged “teeny and dating platforms” (CL in Schulten, Mertens, & Horx, 2012). However, overall fit with the distinct customer-oriented strategy and early digital successes eventually persuaded the management. At the end of 2009, permanent employment of a social media manager was approved despite a temporary hiring freeze. This formal decision helped to sustain and further develop the digital initiatives. In addition, the top management support signaled the strategic importance of the new communication channels across the firm.

Another *key event that created internal awareness* for interactive digital media was the eruption of the Icelandic volcano Eyjafjallajökull in April 2010. When the ash cloud hit Europe and greatly disrupted local air travel, SWISS used its digital channels for crisis communication. Apart from posting regular updates on flight cancellations, the online marketing team answered questions from grounded passengers. In addition, the community itself became active. Stranded customers helped each other out by sharing

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tips, experiences, or carpooling. The sum totals of the week-long grounding were 31 postings and 1,200 user comments (Lüdi, 2012). Leading Swiss newspaper NZZ even testified that the airline’s Facebook page was more informative than its website swiss.com (cf. Böhler, 2010). Both the positive customer feedback and media attention have helped to further institutionalize the digital channels: “I cannot think of a better situation to showcase the benefit to everyone internally” (CL, 514).

Today, digital media represent well-accepted interaction channels for SWISS. In line with the airline’s distinct customer orientation, the vision for all digital touchpoints involves both increasing the loyalty of existing customers and building up brand awareness among new international customers: “We want to appeal to and entertain our existing customers by delivering added value and offering relevant community content and thereby strengthen the emotional bond. Further, we aim to attract new customers through viral effects and word-of-mouth” (Vision for social media, cit. in Lüdi, 2013). Specifically, the digital activities of SWISS aim to facilitate dialog, provide customer service, support crisis communication, and add to marketing campaigns as well as sales activities (Kreuzer & Lüdi, 2012). These goals have largely remained the same over time, with particular focus on customer dialog and service. In fact, overlaps with marketing have been limited so far, as “classical advertising is still very, very classical and [...] not directly transferable into social media” (CL, 426). However, cooperation intensified with website re-launch in 2014 (SWISS, 2014c) and pilot projects like the Instagram 43 takeover in March 2013, when the airline diverted the hashtag #genevamotorshow to promote its local hub (cf. Plan.Net, 2013; xeit, 2013), and the ‘SWISS Explorer’ campaign for a globetrotter to tour the world and test travel tips (SWISS, 2014d).

In terms of contact frequency and intensity, a 2010 survey among SWISS customers showed that the most important touchpoints are the website, actual flight experience, and ground service (Maier, 2010). Since then, social and mobile media have gained in popularity along the travel chain, particularly to check flight deals and to check in (cf. Lab42, 2012). In response to changed customer behavior, SWISS expanded its service offerings via Facebook and Twitter in July 2012 to ensure round-the-clock availability (SWISS, 2012). Yet, overall volume of social media requests is still comparatively low, with only about 100 to 150 contacts per month, about 0.5% of all inbound requests in spring 2014 (BM & MV, 63-65).

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How specific passenger segments use interactive digital media partly depends on their status. Frequent flyers, as the most important target group of SWISS, rarely use Facebook or Twitter since they have access to exclusive touchpoints. Accordingly, digital media take on the role of individual but still mainstream communication and service channels. An exception is the online community Flyertalk, which is popular among frequent flyers and other (mostly core) customers of SWISS. To reach out to these members, the airline started a branded thread44 in April 2010 where users can ask questions and discuss airline-related issues (cf. Flyertalk, 2010).

The strategic relevance of interactive digital media also shows in the prevalent interest and attention of the management. On an annual to semiannual basis, the social media manager updates the SWISS top management on all digital activities. Discussions usually focus on planned rather than past activities: “Most interestingly, they [management] are not interested in our past activities. They are aware of those. Instead [they are interested in] the future development” (CL, 490). In the development of new activities, SWISS continues to apply a trial-and-error approach to gain experience progressively.

In sum, SWISS’ early start and successes have promoted internal awareness and strategic relevance of digital media as a communication and service channel. Activities aim to build up international brand awareness through mainstream platforms and to increase loyalty, particularly among frequent flyers.

3.7.3 Organizational model

Although the digital activities of SWISS mainly serve communication and service goals, responsibility for the digital channels has historically been tied to the marketing department (Kreuzer & Lüdi, 2012). With the help of an intern, the online marketing team initially set up the channels so that the organizational attribution was simply retained when the intern became the permanent social media manager. Due to the communication and service focus, however, the newly created position has required close cooperation with other departments from the start. Today, the scope of duties spans even more functions and processes, so that a clear-cut allocation during internal restructuring from functional to process-related departments was difficult: “I just don’t fit into any of these categories. [...] Actually social media do not belong anywhere but

are a little bit of everything” (CL, 46). As the online marketing department no longer exists, the social media manager now reports to the airline’s brand development manager. However, this positioning has again “grown historically” (CL, 38) and does not relate to the actual range of responsibilities (see Figure 29).

Figure 29: Core functions for digital interactions at SWISS
The rising popularity of SWISS’ digital activities quickly created a need for additional resources. To build up capacities, digital responsibilities have successively been handed over to the appropriate line functions. Essentially, an in-house service center now takes care of requests on mainstream platforms Facebook and Twitter; a project coordinator for core customer management moderates the frequent-flyer community Flyertalk; and the local marketing organizations in China, India, Japan, the USA, and Geneva assist in content production. While integration of these specialist departments has relieved the social media manager from some operative tasks, coordination, internal consulting, and strategic development of digital activities have gained in importance. In addition, a new digital communications specialist started in June 2013 to assist with social media and mobile marketing (Bleicken, 2013). For the internal information and experience exchange as well as planning of future activities, a social media board of key internal stakeholders, including legal, IT, and human resources, has been established that meets every other week (Bleicken, 2013).

The diffusion of digital responsibilities across the firm has turned internal awareness and understanding of interactive digital media into critical success factors. Instead of the social media manager, the responsible departments decide on the scope of digital activities and resources. At the same time, integration of specialist departments grants digital interactions access to existing processes and knowledge pools. For instance, putting the service center in charge of requests on Facebook and Twitter from 2012 has improved the service level as specifically trained staff now answers user requests around the clock and in different languages. The reallocation of tasks from the social media manager to customer service agents suggested itself, as 80 to 85% of requests on Facebook are service-related (Kreuzer & Lüdi, 2012). The same rationale applied in the case of the online community Flyertalk. Due to the high share of frequent flyers, a project coordinator for core customer management took over moderation of the SWISS-branded thread shortly after the start in 2010.

Integration of the service center in the community management went “very smoothly” (BM, 91) as SWISS used existing resources. The new social media team is positioned in the service center, which originally handled only premium customers. At all times, one of the nine members oversees the airline’s Facebook and Twitter handles, and also answers phone calls and responds to requests through the website. Main selection criteria for the service agents were their interest in interactive digital media, service-related experiences, and language abilities. Practical trainings have ensured relevant digital skills as well as common standards regarding response times, tonality, and handling of spam and criticism. Key differences compared to other service channels
include the potential reach of digital information, less formal language, and more personal style. Today, the service agents handle 99% of all requests through interactive digital media in close contact with the social media manager and local markets.

To *increase digital awareness* throughout the firm, the social media manager actively informs personnel about the carrier’s activities via internal presentations, the intranet, as well as a newsletter, and he tries to integrate a broad range of departments. On the SWISS blog\(^4\), employees from all areas report about their daily work, present new products and services, or offer travel tips. Likewise, another employee grants a look behind the scenes on the photo-sharing platform Instagram every month. Experience has shown that direct involvement creates sustained interest: “*Many of those that have participated once follow up [...] – even if they don’t have anything to do with social media [as part of their job]***” (CL, 378). In addition, contributors have further raised awareness and acceptance through multiplying effects in their direct work environment. Special attention is evoked by integration of top managers. For instance, the chief commercial officer participated in a chat on the brand positioning of SWISS and its controversial new logo (cf. Lüdi, 2011a), and the head of marketing explained a new advertising concept on the blog (cf. Lüdi, 2011b).

Digital activities of SWISS are almost exclusively managed in-house, since *external partners* typically lack the necessary firm- and industry-specific knowledge. In addition, strategic relevance of digital touchpoints prohibits externalization from the airline’s perspective: “*In the end, we want to be close to our customers and not the agency***” (CL, 326). Outsourcing only comes into consideration for specific tasks, such as handling of service requests during off-hours or technological development of apps. External partners thereby provide additional resources and represent knowledge pools for SWISS. The high dynamic of interactive digital media calls for industry-wide experience exchanges and benchmark reports for fresh impetus. Also, employment of outside managers helps to keep up with the accelerating rate of change: “*New people per se help conditionally but of course you need new blood. [...] Probably we will need another two, three ‘freaks’ that go in a different direction***” (FM, 98). Accordingly, SWISS advertised the position of a social media expert publicly when the original manager left the firm. Also, the additional digital communications manager worked in a different industry prior to joining the airline (Bleicken, 2013).

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Information systems in the airline industry are overall heterogeneous and antiquated, so that integration of new touchpoints such as mobile channels represents a challenge. To support digital activities and internal information exchange, SWISS commands an integrated customer database (Maier, 2010) and monitoring software. Requests in social media are answered and tracked with a separate social media helpdesk tool. In response to frequent user questions about pending service issues, the social media service agents have gained special access rights to the complaint systems of the customer service team.

Overall, integration of digital responsibilities in the line functions allows SWISS to use the specific knowledge of a broad set of employees. Yet, widespread task allocation increases the need for internal coordination and clear-cut delineation of responsibilities for interaction processing.

### 3.7.4 Processes to tap digital interactions

The high strategic relevance of consumer information for SWISS as a premium airline and the integration of interactive digital media into the current organizational structure suggest that the firm’s interaction processing is closely tied to existing absorption processes.

**Stimulating (valuable) digital interactions**

On digital mainstream platforms such as Facebook and Twitter, SWISS activates users through regular posts, e.g., by sharing firm-related news, travel tips, reports from behind the scenes, traditional recipes from the airline’s chef, snapshots from customers, and by offering sweepstakes. Main goals of these posts are to entertain fans, create brand awareness, and increase loyalty. At the same time, the content allows some control over the fan base. In order to “achieve a high quality of fans [...] who are actual customers” (CL, 86), all posts are directly or indirectly product-related. In the frequent-flyer community Flyertalk, SWISS does not specifically activate users but rather takes a back seat. While the responsible employee checks Flyertalk for new user posts on a daily basis, he rarely starts conversations and also does not respond to every comment: “As a basic principle, I only interfere when I am directly addressed. [...] Otherwise I would just be doing that” (GM, 309-313). For user requests on Facebook and Twitter, response time has been set to 30 minutes. In the process, the service agents try to focus on specific inquiries and issues. Compared to other touchpoints, user anonymity impedes differentiation based on loyalty status, and the communication style is more informal and personal.
By signaling customer proximity, digital communication style aims to motivate user feedback and ideas for improvement. On several occasions, SWISS has already used its digital communities to gain feedback on specific products and services. For instance, Facebook fans were invited to vote on the ice cream flavor to be served on board and to comment on different economy meal options. In addition, digital platforms have helped to recruit participants for offline market research studies. For a food tasting in 2011, more than 100 Facebook fans of all age groups registered within a day to test different menus at Zurich airport (Kessler, 2013). Likewise, Flyertalk members have been invited to qualitative studies, e.g., on IT tools or the brand sound of SWISS. A key advantage of the digital communities is the possibility to contact customers informally: “If you want to conduct formal product tests with HON Circle Members or Senators [i.e., frequent flyers], you will of course always have to make a big fuss. [...] That way [on Flyertalk], I can simply say ‘You are booked for a flight next week. Can we perhaps meet in the lounge for half an hour?’ And then I will bring a chocolate or so along as a thank you gift” (GM, 105). Based on the good experience of the first trial balloons, further integration of Flyertalk users is planned in the future.

To not only gain feedback but actually integrate digital communities in the innovation process, SWISS has also tested crowdsourcing. In cooperation with the open innovation platform Atizo46, the airline asked users to submit service ideas for price-sensitive travelers and received 570 contributions.

Identifying valuable information

In processing user-generated content, SWISS benefits from its medium size that limits requests to a manageable amount. Besides, functions of each channel are clearly defined and outlined in order to direct users to the correct platform right away. For example, the welcome note on Flyertalk clarifies that the “SWISS lurker” (Flyertalk, 2010) will only answer general questions but not handle individual complaints. To limit information load, SWISS focuses only on select platforms: “We take care that we do not accumulate infinite amounts of data and then we cannot do anything with them or no one can act on them. That way, some issues may not be passed on but most will, at least the most noticeable and loudest” (CL, 582).

Compared to other channels, user feedback in digital interactions covers a broader range of topics, from bugs on the new website and photos of on-board meals to

Handling of this unsolicited user-generated content is facilitated by the broad integration of digital media. The diverse backgrounds of the responsible managers help the staff to quickly grasp and assess information. Essentially, service agents and the project coordinator for core customer management are experienced in customer contact and familiar with recurring topics. For ambiguous questions and less common issues or suggestions, all digital interaction managers closely cooperate and if necessary reconcile with the respective specialists for additional information. The implemented helpdesk software allows the service agents to keep track of open requests and coordinate with the social media manager and regional marketers.

While overall quality of user-generated content is rated good, feasibility of the suggestions is perceived as rather low. Often feedback is neither new to the firm nor well thought through due to the short-lived, self-promoting nature of digital media. Yet, the social aspect also leads to positive self-regulation: “It is always interesting how the community moderates itself. If someone loses it, [...] I usually don’t do anything and just wait for what happens. And it never takes long until someone replies ‘Hey, calm down’” (GM, 305). Accordingly, digital interactions have provided a consolidated sense of the community, which has proven consistent with findings from other touchpoints and market research. Occasionally user-generated content has directed awareness into new areas. Examples include issues with specific lounges, clues to ambiguous information on the website, and hints for product improvements such as pajamas sizes for first-class passengers.

To provide an overview of user sentiment, the social media manager compiles regular monitoring reports. For more focused analyses, select other departments monitor their respective domains independently. Foremost, the project coordinator for core customer management copies all statements from Flyertalk into an Excel sheet for later aggregation and analysis. In addition to Flyertalk, he keeps an eye on select other frequent-flyer communities. Systematic analysis of all digital platforms would require automated monitoring but could hardly replace personal assessment. Over time, the employee has developed a routine method of categorization: “I have those statements in Excel and then I go through them and assign each one a keyword. And I do this with 450 topics in an hour. I am able to match them very, very quickly. It’s also a little bit a matter of practice. [...] I know the topics, I have read the posts around it, and I am good at matching it, good at assessing it” (GM, 285). Through the helpdesk tool, the service agents also have the option of tagging requests in Facebook and Twitter. Yet, this functionality has only been used to keep track of comments on prominent topics like the website re-launch (MV, 153).
Assimilating the identified valuable information

As a customer-oriented service provider, SWISS has established feedback loops and well-rehearsed reporting systems to share valuable information from different touchpoints. For instance, cabin crews, service center personnel, and station managers are trained to pass on and regularly summarize customer feedback. An additional quarterly core-customer report aggregates sentiments and current hot topics of frequent flyers from all touchpoints, including Flyertalk and customer service databases. To visualize relative prominence, feedback is compiled in a word cloud. All reports are widely distributed across the firm to direct management attention at different hierarchy levels and ensure that prominent issues are followed up on. Immediate customer feedback and urgent questions that require additional information are also passed on directly.

Assimilation of identified valuable information is facilitated by integration of line managers in digital tasks. Direct accountability reduces need for collaboration and exchange and hence shortens assimilation processes. For instance, the project coordinator for core customer management generally has more leeway in decision making, greater background knowledge, and a better internal network for comprehensive issues than do regular service agents. Besides, contiguity to other departments benefits internal information exchange and assimilation: “There is hardly any topic that I could not tackle within a maximum of two floors down” (GM, 153). Previous liaisons and high levels of awareness additionally speed up information exchange. If specialist departments already know digital interaction managers, information from user-generated content garners higher attention. Likewise, regular meetings of the social media board and the central social media manager promote firm-wide networking and cooperation in digital matters.

Digital media also support internal information exchange and assimilation – both from as well as back to various customer touchpoints. To access and update passenger profiles, cabin crews have received mobile tablet computers (so-called FlyPads). So far, information from user-generated content is transferred manually and hence is only attributed to individual customer profiles in exceptional cases (provided that users have disclosed their identity). Sister airline Lufthansa, however, has already tested automation with an app that matches individual Miles & More accounts with Facebook profiles so that digital user information might further enrich available passenger data in the near future.
Applying the assimilated information

Exploitation of valuable information from user-generated content is up to the responsible specialist department at SWISS. Generally, the high internal awareness and firm-wide integration have ensured openness to information from digital media. Original comments in interactive digital media may surface new information, propel topics, or simply guide decision-making. Broad integration of interactive digital media in different units facilitates immediate reaction to valuable information. In general, the open corporate culture, flat hierarchies, and worker proximity at the offices in Zurich support pragmatic solutions and fast reactions. For instance, a call and some informal clarifications helped to quickly resolve confusion about policies for access to a new arrival lounge and also end discussions on Flyertalk (GM, 29; 313). The long lead times and high complexity in the airline industry, however, often restrict room to maneuver and possibilities to act on valuable information directly. For example, community managers can only put off complaints about antiquated entertainment systems or seats on certain aircraft models until the next planned overhauling and ask for consumer understanding. Nevertheless, recurring issues are included in regular reports to keep the persistent need for action on the agenda.

Successful exploitation of consumer information leads to a better feeling for the needs and interests of passengers. SWISS occasionally uses its digital touchpoints to call in opinions on various topics. These surveys typically consist of a single question but enable a first impression with “1,000, 2,000 feedbacks” (CL, 130) that directly or indirectly shapes future management perceptions and decisions. Previous surveys have predominantly covered IT tools, but other units have shown interest in mood maps for new products or services. Likewise, meal tastings with Facebook users and other qualitative studies have supported decision-making. Digital users substantially contributed to the website re-launch. Numerous comments on Facebook and Twitter enabled the online developers to quickly identify and fix bugs.

3.7.5 Synthesis: Collaborative model with focus on awareness and loyalty

Based on its premium positioning, SWISS attaches great importance to consumer insights and direct customer contact, particularly with frequent flyers. Accordingly, the airline was among the first brands to engage in interactive digital media. While the touchpoints had originally been set up for a specific promotion only, the scope of activities quickly broadened. The additional interaction channels gained widespread internal acceptance when the ash clouds of the Icelandic volcano Eyjafjallajökull
closed the European air space. Key goals in interactive digital media are to increase brand loyalty and build up international brand awareness. To these ends, content ranges from travel tips and behind-the-scenes reports to photos from passengers. To reach frequent flyers as the most important target group, the airline engages on mainstream platforms and also in special-interest communities, particularly Flyertalk.

Organization of digital interactions has grown organically around a social media manager (see Figure 30). The position was newly created upon the official adoption of interactive digital media despite a hiring freeze. The boundary-spanning tasks required close collaboration with multiple other units from the start, notably corporate communications. To scale the digital activities, responsibilities have been spread out: Most importantly, the customer service center has taken over all Facebook and Twitter requests while a project coordinator for core customer management handles the moderation of Flyertalk. In addition, corporate communications and international as well as regional sales and marketing units have built up dedicated resources. The centralized social media manager in turn maintains responsibility for community management, content management, and monitoring, but his core activities have gradually shifted to a more strategic coordinating and advisory function. For the idea and experience exchange among the various full- and part-time digital interaction managers, a cross-functional social media board has been set up. Firm-wide digital awareness is promoted with the integration of employees in content development, e.g., as Instagramer of the month or on the corporate blog.

The widespread organizational responsibilities allow SWISS to tap the specific knowledge of a broad set of employees and to use established absorption processes. Most digital touchpoints are (co-)moderated by the responsible experts, so that they can directly evaluate information in user-generated content. The medium firm size and lean structure of the headquarters also support internal information exchange. Generated information typically stems from complaints or specific suggestions for improvement, from bugs on the website to new service ideas. However, the volume of user requests and feedback is still low compared to other service channels. Occasionally, SWISS has solicited user-generated content and invited fans to test products or participate in qualitative market research. Assimilation of valuable information is facilitated by the distinct customer orientation of the premium airline. However, industry-specific long lead times and high complexity limit the application of information to service and communication improvements. To keep track of all generated information, a quarterly management report summarizes customer and user feedback from all touchpoints, including digital interactions.
Figure 30: Integrated organizational perspective at SWISS
4 Cross-case analysis

By exploring how different firms tap digital interactions for valuable information, the in-depth case analyses have investigated the constructs and relationships defined by the guiding framework, while also revealing various new influence factors and connections. The cross-case analysis aims to identify and better understand common or divergent drivers, barriers, and processes for tapping digital interactions. To detect novel aspects for theory development, data have to be seized and systematically structured from various perspectives to avoid falling back into established research categories and thinking patterns (Eisenhardt, 1989; Miles et al., 2014). One possible search tactic is to look for similarities and differences in specific categories across the different case studies. Relevant dimensions for comparison are suggested by the guiding framework and have emerged from the in-depth case findings (see Figure 31). Foremost, a comparison of drivers and barriers of engagement in interactive digital media furthers an understanding of general differences in the strategic relevance of digital interactions as well as organizational development and patterns across firms. The specific relevance of generating information shows in a firm’s applied tactics to stimulate valuable user-generated content and modes of interaction processing.

Figure 31: Overview of cross-case analysis

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47 Alternative search tactics include source-based and pair- or group-wise case comparisons (Eisenhardt, 1989; Miles, Huberman, & Saldaña, 2014). However, complementarity of the data in the present study forbids source-based comparisons. Pair- or group-wise comparisons are best suited for seemingly similar cases but do not fit the purposeful selection of diverse cases for this research, either.
4.1 Drivers and barriers of engagement in interactive digital media

Although the case selection was limited to firms with high proficiency in digital interactions, the actual engagement in interactive digital media has evolved quite differently across the sample (see Figure 32). At one end of the spectrum is BMW with its first experiments in emergent media beginning in 2003. SBB marks the other end; the railway operator pioneered online and mobile commerce but only adopted social media in 2012. Also, the touchpoint portfolios vary significantly. EMP, SBB, and SWISS mainly focus on third-party communities, while the other three firms have launched proprietary platforms as well. Specifically, McDonald’s invites user questions on #AskMcDo, Migros lets customers co-decide on its product assortment on Migipedia, and BMW offers a community for BMW M owners as well as regular open innovation challenges for experts and lead users. Among the third-party communities, mainstream sites such as Facebook, Twitter, and YouTube are standard. SWISS and BMW also engage in targeted communities for frequent flyers or car enthusiasts, respectively. Also, within channels the engagement levels differ significantly. For instance, EMP stands out on Facebook with five daily postings, whereas the others communicate significantly less frequently.

The main driver for engagement in interactive digital media seems to be a firm’s strategic orientation. For instance, BMW’s early start and current activities trace back to its innovation and premium focus: “In my opinion it’s also very important for a brand like BMW, that the perception in digital channels lives up to the premium claim. That also implies being one step ahead of other brands, trying new channels, perhaps also striking new paths in customer contact” (FR, 39). In cross-case comparison, customer focus seems to be the most important trigger for the level of engagement. Both EMP and Migros exhibit natural community orientations – EMP with its young, digital-minded target group of heavy metal or hard rock fans, and Migros as a cooperative group committed to the public good. Similarly, specific customer-oriented initiatives have promoted the interactive digital activities of BMW (growth strategy ‘Number ONE’), McDonald’s (transparency initiative), and SBB (mission statement for 2016 defined customer satisfaction as primary goal). Among customer-oriented firms, digital-minded target groups have promoted an earlier start into interactive digital media.

For pioneers BMW and SWISS, an open organizational culture that supports trial-and-error approaches has also played a key role. In both cases, individual employees set up the initial accounts on interactive digital platforms rather spontaneously, without
explicit consent by the management. SBB on the other hand carefully planned its start into interactive digital media: “We have waited relatively long until we [...] knew for sure that we have the corporate management support, that we have the necessary resources, and that it’s also a need” (ET, 14). Specifically, preparations of the railway operator included trainings for service agents and other employees. Prior to the official board decision, access to popular communities like Facebook had been banned on workstations. Hesitance also traces back to the public relevance and image of the firm. As a state-owned service provider, SBB is in a permanent spotlight but is “not per se a lovable brand” (CO, 74) compared to other large firms like Migros or BMW.

Figure 32: Key steps in interactive digital media development across cases

<table>
<thead>
<tr>
<th>Year</th>
<th>BMW</th>
<th>EMP</th>
<th>McDonald’s Switzerland</th>
<th>Migros</th>
<th>SWISS</th>
<th>SBB</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>Twitter (06/2013)</td>
<td>Heavy Metal Maniacs on YouTube (04/2013)</td>
<td>Instagram (03/2014)</td>
<td>Instagram (07/2012)</td>
<td>Take-over Twitter @RailService (06/2013)</td>
<td></td>
</tr>
</tbody>
</table>

Beyond the strategic orientation and organizational culture, many activities have come down to personal commitment, just like in any other project: “It really often depends on the people if something is launched successfully, or simply seeps away and dies off” (MG, 429). Notably, EMP owes its head start to a proactive senior marketing manager.
The case studies reveal various managerial tactics to increase the internal awareness for digital interactions (see Table 8). A key facilitator of digital transformation, observable in all selected firms, is internal storytelling with showcases and internal campaigns. For instance, SWISS’ successful response to the volcano eruption paved the way for additional resources and still serves as the most important internal reference case. BMW and Migros in turn have specifically created showcases to convince other internal partners. Notably, Migros started Migipedia with a small taskforce and an exemplary case, as “no one was willing to say, I’m an expert, and I let my customers tell me what to do” (SM, 523). The success of Migipedia eventually changed some employees’ perception of it; now product managers apply for the crowdsourcing initiatives. In addition to showcases and internal campaigns, further important levers to increase awareness have included top management support, integration of interactive digital media in standard processes, the central location of digital marketers within the firm, and external recognition in the form of media reports, awards, or rankings.

Table 8: Tactics to increase internal awareness for digital interactions

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Representative quotes</th>
</tr>
</thead>
</table>
| Create and leverage showcases          | - “No particular trainings took place [for Migipedia]; we just started with the ones that were particularly open for crowdsourcing and the others simply followed suit at some point” (DI, 67).  
- “[If we have someone who participated in this [corporate blog] and now suddenly others see it and then, well, ‘Can I have a go, too?’ Now they come along. If we had pushed and said ‘You have to’ – then it wouldn’t have worked” (TT, 344).  
- “After the first successes accrued, everyone seemingly calmed down. You simply noticed them [sales effects of new Facebook page]” (RL, 54).  
- “Then we were lucky with the volcano [...] actually, I cannot think of a better situation to showcase the benefit to everyone internally” (CL, 510).  
- “We had to convince all internal stakeholders of the campaign [#AskMcDo]. The advantage was that we could refer to the very successful case in Canada” (AS in Jörg, 2013). |
| Internal presentations and communication | - “Present at internal forums, and engage in a dialog, where you simply push topics and spread the word, that various possibilities [for open innovation] exist” (MM, 77).  
- “I have already had the chance to present social media and the persons who are responsible in each division [at the regular firm-wide meeting of all communications officers]” (ET, 244).  
- “[Our CEO] understands [social media], too, because I always tell him stories and say ‘Have you seen what has happened?’” (MG, 429).  
- “Good results. Show them a case now and then” (MS, 453). |
Direct or indirect top management support

- “Employees who did not believe in [...social media] have internally said, “okay, when our top management in this situation, with the current hiring freeze, says ‘yes’, then there must be something to it.’” (CL, 486).
- “We [including the CMO] have communicated it like crazy – that means repetitively and across all [internal] channels, internally over and over again, at every internal presentation” (SM, 517).
- “We are lucky that the head of the passenger traffic division is knowledgeable. [...] She blogs, [...] is on Twitter, also updates her Facebook profile more or less regularly. And slowly, a certain competition arises. [...] Now, our CEO also] has a Facebook fan page” (CO, 182).

Integrate in standard processes

- “That [monitoring] is part of quality management and that has to be established as a regular process. Once we achieve this, there will be no more convincing needed, because then it’s set automatically” (PG, 113).

Central position and informal network

- “If you have a nerd that manages social media and only sits two desks away, you automatically learn a few things. But if they are – like in our case – upstairs, on a different floor, you don’t see anything [...] so that we lose a lot of know-how” (RM, 198).
- “In principle, social media is the nucleus of the physical team organization, with the others seated all around, [...] the social media community manager] needs very quick access to the people, [...] always needs to know what is happening” (TT, 276-284).
- “He [department head] sensed how he [a former colleague] worked on this [analytics] project with all his heart and soul. And he knew, well, it cannot be that abstruse, if he thinks it’s good” (MS, 441).

Use external advocates

- “There was an article in the NZZ [...] and I said okay, we never planned it [...] but apparently we did it right” (FM, 50).
- “There are few that reap that many prizes and awards at industry events. And we don’t do this only because we are overly narcissistic, but the public is a lever” (CO, 61).
- “Raising awareness happens if at all through reports in the external media” (CO, 204).

In brief, the cross-case comparison highlights the relevance of a strategic customer or innovation orientation and open organizational culture for the rapid adoption and integration of interactive digital media, i.e., a firm’s interaction strategy and interaction-related capabilities. In addition, the case studies highlight the critical role of individual managers to lead digital transformation. These findings largely parallel prior academic research and professional reports (see sections 2.2.1, 2.2.2, & 2.3.2), although not all previously suggested drivers and barriers have shown significant effects in the present sample. Compared to the other internal factors, firm size and IT capabilities seem to have only second-order effects. With regard to the business environment, industry factors did not have any specific influence, while societal factors were held constant with the selection limited to Swiss and German firms.
4.2 Strategic relevance and integration of digital interactions

Because the strategic relevance and integration of digital interactions define all interaction-level parameters, the cross-case comparison is important to understand differences across firm-specific organizational models and processes to tap digital interactions. In particular, the in-depth case analyses suggest four possibilities for strategic integration (see Table 9): (1) branding to realize image effects, (2) relational activities like customer service or individual dialog to promote customer retention, (3) sales promotions to create new business, and (4) generating information to gain consumer insights or input for innovation. The relative importance of each goal depends on the firm-specific contextual factors (see section 4.1).

Branding represents the most common and also important goal in digital interactions across the present sample, although the range of desired effects still varies widely. While McDonald’s mainly aims to convey a more authentic and transparent image with its corporate blog or #AskMcDo, EMP engages in direct contact and offers targeted content to demonstrate customer proximity. BMW and SWISS, on the other hand, primarily use mainstream platforms to increase brand awareness and customer loyalty. For SBB, the image campaign ‘at home on the move’ guides its digital activities. Lastly, Migros harnesses the communication reach of interactive digital media, while also welcoming side effects of Migipedia on its perceived credibility and openness.

Relational goals rank high across all cases. The analyzed firms try to “reach users in the channels that they also use on a daily basis” (FR, 23) and generally welcome inbound feedback or service requests through the various digital touchpoints. To control interaction expenses, however, relational targets and solicitation practices are typically graded for different touchpoints. For example, BMW with its large global fan base has integrated mainstream platforms for regular service requests but only promotes a deeper dialog in lead-user communities, like the exclusive M Power World community for owners of its BMW M models. Similarly, some of the other studied firms focus their activities on certain platforms to channel conversations and customer requests. Migros routes product-related feedback to Migipedia, McDonald’s has introduced #AskMcDo to promote but also channel user questions, and EMP largely concentrates on Facebook.

Sales generation generally has a lower, only implicit relevance compared to branding and relational goals. Migros and SWISS have already tested social commerce with a booking tool and specific coupons on Facebook, but refrain from defining general
revenue targets: “Our task is to make sure that many, many visit the Migros site, so that many, many see the offers, so that they visit the store. That is, we don’t have direct revenue targets but we generate revenue [...] by accompanying the buying cycle” (SM, 735). Likewise, BWM, EMP, SBB, and McDonald’s have specified indirect targets only for sales and lead generation. For instance, EMP has limited product postings on Facebook to one per day. In spite (or because) of the focus on branding and relational goals, the fan page has become a key supplier for visitors to EMP’s web shop.

The greatest variance across cases exists for generating information. While Migros and BMW solicit user-generated content and search for valuable information with monitoring, analytics, and consumer integration, the other firms tap digital interactions only casually or with lower priority. Primary restrictions to a deeper user integration for McDonald’s, SBB, and SWISS are complex planning and implementation processes: “It’s also for us internally very frustrating, when we [McDonald’s] receive very many ideas and have to say for 95% or 99% of the ideas ‘Okay, already at first sight, this will never be feasible, because...’” (TT, 79). In addition to operational constraints, the uncertain validity of individual user comments for the target audience represents another limiting factor, so that most firms use digital interactions as simply one information source among others. In particular, McDonald’s and SBB emphasize the primacy of classical market research; and for BMW and Migros, consumer integration accounts for only a small proportion of all innovations.

Overall, the cross-case comparison for the strategic relevance of digital interactions shows that the analyzed firms have set slightly different focal points, especially with regard to generating information (see Table 9). While the relevance of branding, relational, and sales goals varies little, generating information only seems ‘very important’ for BMW and Migros. The other firms seek valuable information in digital interactions rather casually and often limit the search to performance improvements, e.g., to optimize visitors’ online journeys, click rates, or viral effects. The strategic integration already hints at the organizational allocation. Whereas branding and sales activities relate to classical marketing or sales responsibilities, relational goals are often linked to corporate communications or customer service. Depending on the respective field of interest, generating information may require integration of further specialists.
Table 9: Strategic integration of digital interactions across cases

<table>
<thead>
<tr>
<th>Firm</th>
<th>Branding</th>
<th>Relationship</th>
<th>Sales</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>+++</td>
<td>++</td>
<td>+</td>
<td>+++</td>
</tr>
<tr>
<td></td>
<td>Create awareness, inspire present and potential future customers</td>
<td>Provide support along the buying cycle; graded dialog</td>
<td>Lead generation implicit goal; lure prospects to website</td>
<td>Open innovation, monitoring, and communities to gain information</td>
</tr>
<tr>
<td></td>
<td>+++</td>
<td>++</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td></td>
<td>Prime goal to show customer proximity (image effects)</td>
<td>Strong focus on service to answer product- or order-related questions</td>
<td>Daily product post but sales less important than image and service</td>
<td>Not in key focus, but promote and evaluate user suggestions</td>
</tr>
<tr>
<td></td>
<td>+++</td>
<td>++</td>
<td>+</td>
<td>O</td>
</tr>
<tr>
<td></td>
<td>Key goal is to convey brand authenticity and transparency</td>
<td>Answer service requests and other questions (#AskMcDo)</td>
<td>Support regular campaigns; aim to target individuals with app</td>
<td>Information is by-product; mostly rely on classical market research</td>
</tr>
<tr>
<td></td>
<td>++</td>
<td>+++</td>
<td>+</td>
<td>++</td>
</tr>
<tr>
<td></td>
<td>Strengthen credibility and customer relationships</td>
<td>Dialog at eye-level to better understand customers and provide service</td>
<td>Implicit goal, tested calls to action; crowdsourced products perform well</td>
<td>Better understand customers, invite product feedback, crowdsourcing on Migipedia</td>
</tr>
<tr>
<td></td>
<td>++</td>
<td>++</td>
<td>+</td>
<td>o</td>
</tr>
<tr>
<td></td>
<td>Support umbrella image campaign ‘at home on the move’</td>
<td>Significant proportion of service requests; emphasis on fast reaction times</td>
<td>Try to promote e-ticket sales but other channels have higher relevance</td>
<td>Important for e-business but in general rely on market research to ensure validity</td>
</tr>
<tr>
<td></td>
<td>+++</td>
<td>++</td>
<td>+</td>
<td>++</td>
</tr>
<tr>
<td></td>
<td>Increase brand awareness (especially in foreign markets) and customer loyalty</td>
<td>Service is key focus but volume lower than in other channels; mainly non-frequent flyers</td>
<td>Sales not in focus or tracked, but included sales tool on Facebook and promotions on Twitter</td>
<td>Generate information and recruit for market research, but other sources still more important</td>
</tr>
</tbody>
</table>

Legend: +++ = very high, ++ = high, + = medium, O = low importance
4.3 Organizational development and dimensions

The organizational development has largely *coevolved with the level of engagement* in digital interactions across cases (see Figure 33). At BMW, a centralized task force pushed the early experiments until the proven and tested activities were transferred to line functions. Similarly, dedicated social media managers launched most digital activities for EMP and SWISS, but eventually handed select tasks over to other units to scale their activities. McDonald’s in turn hired a social media community manager when the activities were no longer manageable on the side. Migros has pooled its digital resources in firm-wide competence centers and also back-sourced community management from agency partners. Lastly, SBB waited for its start in social media until all necessary resources were in place.

**Figure 33: Key steps in the organizational development across cases**

<table>
<thead>
<tr>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>McDonald’s Switzerland</td>
<td>Engage monitoring agency (Fall 2010)</td>
<td>Social media community manager (03/2011)</td>
<td>Global chief digital officer (10/2013)</td>
<td>New cashier system and mobile ordering (end 2014)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SBB</td>
<td>Start of e-business unit to develop new sales channels (2006)</td>
<td></td>
<td>Board decision for start in social media (03/2012)</td>
<td></td>
<td>Start-Up program for digital innovation (01/2013)</td>
<td>Head of social media at corporate level (08/2012)</td>
</tr>
</tbody>
</table>

By now, all firms have established one or several *dedicated positions for digital interactions*, but the various job titles already reveal a broad range of tasks and different organizational allocations – from the McDonald’s ‘social media community
manager’ to the SBB corporate-level ‘head of social media’. The suggested activities to tap digital interactions, as derived from market-oriented capabilities and professional reports (see section 2.2.4), enable comparison of different organizational models. By allocating the activities to specific functions, patterns and differences in the diffusion of digital responsibilities become apparent (see Table 10). Thereby, the case findings have generally confirmed the proposed activities to tap digital interactions (strategic development, content development, community management, consumer integration, monitoring, analytics, and technical realization). Only different handling of solicited and unsolicited user-generated content suggests further distinction between community management and customer service. The refinement aligns with extant studies that have highlighted the positive effects of a firm’s customer service handling on customer satisfaction and loyalty (e.g., Homburg & Fürst, 2005; Smith & Bolton, 1998), even though Day (1994b) has not classified ‘customer service delivery’ as a distinctive capability of market-oriented firms.

The core responsibilities for digital interactions are most commonly positioned in marketing or communications, namely for BMW, EMP, McDonald’s, and SWISS. The strong role of sales-related units for Migros and SBB has grown historically. Although Migros decided to bundle its digital know-how in an e-commerce competence center for all subsidiaries, the digital marketing sub-unit essentially “still works 100% for marketing communication and realizes their topics” (DI, 121). At SBB, the e-business unit had already built up relevant digital know-how and skills from online and mobile commerce, so that the allocation of interactive digital responsibilities with the e-business unit eased the start in social media. In the cases of BMW and SWISS, regional market organizations have also built up digital competencies.

The level of cross-functional integration is highest for BMW, where in addition to the marketing and communications unit, the human resources, development, and various sales levels also engage with users in interactive digital media. In contrast, EMP has the most centralized approach, with all digital responsibilities united in the job descriptions of two social media managers in marketing, with only limited integration of other departments. The only common characteristic across all cases is direct involvement of customer service in handling of unsolicited user requests. Another fact worth noting is the role of external partners, which is only high for BMW. Migros had previously relied on agencies more heavily but decided to back-source community management to fully benefit from digital interactions and ensure relevant prior knowledge at its digital frontline.
Table 10: Allocation of activities to tap digital interactions across cases

<table>
<thead>
<tr>
<th>Firm</th>
<th>Marketing comm.</th>
<th>(Corp.) comm.</th>
<th>Customer service</th>
<th>Sales</th>
<th>Research</th>
<th>Expert units</th>
<th>External partners</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>+++</td>
<td>++</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>++</td>
<td>+</td>
</tr>
<tr>
<td></td>
<td><img src="image" alt="BMW" /></td>
<td><img src="image" alt="EMP" /></td>
<td><img src="image" alt="SBB" /></td>
<td><img src="image" alt="SWISS" /></td>
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</table>

(Expert units include all other possible departments relevant to a specific task, e.g., product management, development, IT)

Legend: +++ = very high, ++ = high, + = medium, o = low importance; n/a = not applicable, ![M](image) = strategic development, ![M](image) = content development, ![M](image) = community management, ![M](image) = consumer integration, ![M](image) = customer service, ![M](image) = monitoring, ![M](image) = analytics, ![M](image) = technical realization

To coordinate the dispersed activities, the firms have initiated various types of formal and informal alliances for interactive digital media. For instance, interview partners from BMW, EMP, SBB, and SWISS all reported on cross-functional social media boards that have been initiated at some point and that met or still meet at more or less frequent intervals to exchange experiences and plan future activities. In comparison, Migros has profited from its established cooperative structures but also revisits and refines its boundary-spanning processes continuously. McDonald’s Switzerland in turn relies on flexible, largely informal cooperation modes, with regular meetings and conference calls at an international level. By trend, the need for exchange becomes more project- than channel-centered as digital interactions normalize. Accordingly, most of the initial coordination boards have had temporary functions.
In general, the *levels of formalization and specialization* seem to correlate with the firm size (see Table 11). On the one hand, EMP, McDonald’s, and SWISS with their comparatively lean headquarters have little need for defined rules. BMW, Migros, and SBB, on the other hand, rely on formalization to handle internal complexity. Yet, BMW still struggles to align the various decentralized functions without a coordinating unit, and SBB’s centralized model inhibits deeper business integration. As the transitions between the dimensions are fluid, a clear-cut categorization of the organizational models remains difficult. However, the diffusion of responsibilities and levels of connectedness suggest that EMP, McDonald’s, and SBB use centralized models; SWISS and Migros have developed collaborative models with coordinating hubs and select integration of other units; and BMW strives for an integrated model with responsibilities spread across various functions.

In summary, the organizational models differ greatly across the cases due to the various firm-specific internal or external drivers and barriers that come into play. The task allocation is highly path-dependent and often influenced by the original initiating manager or unit, as exemplified by SWISS and SBB. In scaling the digital activities and facilitating interaction processing, firms have particularly benefited from established cross-functional processes (Migros) or lean headquarters (EMP, McDonald’s, and SWISS). Additional facilitators for digital transformation have been internal alliances and newly installed coordinating functions (e.g., head of social media at SBB). Based on the diffusion of responsibilities and level of connectedness, the cross-case comparison suggests three basic organizational models: centralized, collaborative, and integrated organization. Yet, permanent digital development and deeper integration also require high organizational flexibility and adaptability, as highlighted by Migros director of digital marketing:

“You have to remain very agile and flexible in this whole topic. By now, we have tried the third organizational form – in a broad sense. On a small scale, we permanently change and try new things” (DI, 273).
Table 11: Overview of organizational dimensions across cases

<table>
<thead>
<tr>
<th>Firm</th>
<th>Centralization</th>
<th>Formalization</th>
<th>Specialization</th>
<th>Cooperation</th>
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<td></td>
<td>Tasks are integrated in line functions and extant processes after experimentation</td>
<td>Most workflows predefined and set formats for working groups</td>
<td>Tasks split among various specialized units, e.g., analytics, communities</td>
<td>Cooperate on a project basis but coordination lacks centralized control</td>
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<td></td>
<td>Organization centered on two social media managers with few exceptions</td>
<td>Regular lists of suggestions, but overall informal, casual culture</td>
<td>Social media managers cover majority of digital tasks</td>
<td>Lean headquarters facilitates direct cooperation and regular exchange</td>
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<tr>
<td></td>
<td>Coordination and control centered in marketing and communications</td>
<td>Close, informal cooperation due to lean headquarters; aim to stay flexible</td>
<td>All marketing managers have some digital competency, but leads exist</td>
<td>Lean headquarters facilitates direct cooperation; monthly meetings with franchisees</td>
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<tr>
<td></td>
<td>Centered in marketing and communications but integrate others in projects</td>
<td>Processes are largely defined, but frequently updated to remain flexible</td>
<td>Core tasks split up between different competence centers</td>
<td>Various cross-functional projects and internal decision-making boards</td>
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<td>++</td>
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</tr>
<tr>
<td></td>
<td>Tasks centered in e-business, but coordinated with corp. comm.</td>
<td>Overall formalized with set decision-making rules</td>
<td>In line with high centralization, also rather high specialization</td>
<td>Division-wide coordination and integration still low but growing</td>
</tr>
<tr>
<td></td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+++</td>
</tr>
<tr>
<td></td>
<td>Tasks centrally coordinated but integrated firm-wide</td>
<td>Cooperation between digital managers direct and informal</td>
<td>Different managers take on a variety of tasks</td>
<td>Cooperation high due to lean headquarters and coordinating hub</td>
</tr>
</tbody>
</table>

Legend: +++ = very high, ++ = high, + = medium, O = low level
4.4 Applied tactics to stimulate valuable user-generated content

Based on the strategic relevance and role of digital interactions (see section 4.2), the analyzed firms have set different focuses in their interaction strategies. More specifically, the cross-case analysis reveals that only BMW and Migros attach high importance to generating information, while the other firms rather follow branding, relationship, or sales goals in interactive digital media. However, all interview partners generally agree that user-generated content may contain valuable information and – depending on the interaction design – even richer information than other touchpoints or classical market research:

“I don’t think that the people would tell us on the phone what they would like to have. They rather like to do that on Facebook” (MI, 891).

“[User ideas and suggestions] come much more spontaneously, I’d say, with more imagination, because you are in a personal channel” (DW, 277).

“The people give the most valuable feedback that one can imagine, because you ask little, have no influence. It’s not like ‘Would you take a) or b)?’ but the people come on their own and start talking about the products” (DI, 61).

By addressing specific user groups, some of the analyzed firms try to influence the levels of engagement and expertise. In particular, BMW and Migros tap different communities, depending on the desired information and necessary background knowledge. For direct feedback, both firms maintain proprietary communities that target loyal customers and, thereby, enhance the information value of solicited and unsolicited user-generated content. More specifically, BMW offers the M Power World community for owners of its high-performance BMW M models:

“We really receive from the community [...] impulses for weak signals on product quality, perhaps even stronger signals. There come suggestions for improvement in product development, and there is a relatively intensive exchange” (FR, 47).

Similarly, Migros tries to bring together brand enthusiasts on Migipedia:

“With Migipedia, we create a community that is really interested in Migros, in its products. And the specific feedback of course outweighs [nagging on other platforms]” (SM, 261).

For more complex tasks, BMW and Migros integrate specific expert communities, like members of the crowdsourcing platforms Atizo, Hyve, or Local Motors. In addition to proprietary communities, both BMW and Migros listen in and maintain branded
presences on various external platforms to tap additional sources of user-generated content. For instance, Migros has noticed that Twitter users are typically the first to report technical problems with mobile apps. The other analyzed firms also use various third-party platforms, from mainstream to niche communities. While generating information may not represent a specific goal at these digital touchpoints, organic growth has ensured genuine user interest nonetheless, which manifests in a certain volume and quality of user-generated content. Besides, all firms have at least tested direct consumer integration.

Apart from addressing specific user groups, the analyzed firms try to influence the information value by soliciting specific content. At the most basic level, the interaction strategy already sets the tone for digital user participation, as noted by EMP’s social media manager: “The more active we are [on Twitter] with retweeting and favorizing, the more requests will come in” (AR, 1019). Beyond the activity level, the form of stimulation and channeling of digital interactions also influence the information value of user-generated content. For instance, McDonald’s has established the hashtag #AskMcDo to encourage user questions, and Migros directs customers to Migipedia for product-related comments. To gain feedback on new products, Migros regularly distributes samples to digital fans and followers, so-called “try-vertisings” (SM, 221). SWISS in turn has already conducted mini-market researches for different units: “It’s about generating 1,000, 2,000 feedbacks, instead of 50 qualitative answers. Then, you have a trend or general direction. It’s not about deep analyses” (CL, 130).

Crowdsourcing projects typically involve a detailed task to guide user input. For BMW, open innovation has proven most successful for specific tasks or broad idea generation. For instance, the automaker’s Urban Driving Experience Challenge helped to review the current development agenda and gain new ideas:

“There were ideas that have already existed for a long time [...] all the way to things that fit really well to what we will do in the future; [...] also things that go beyond what we have on the screen today” (MM, 121).

While the Urban Driving Experience Challenge used a relatively open question, BMW’s Co-Creation Lab has rather searched for specific solutions in expert communities, such as innovative trunk, interior, and customer event ideas. Migros regularly integrates Migipedia users in idea generation, selection, and naming for specific limited editions of its products, like seasonal syrup, new ice cream flavors, or underwear. The other firms have only integrated consumers selectively to gain feedback, e.g., SBB asked for ideas on future railway stations, SWISS invited its
Facebook fans to choose Economy class meals, and the MyBurger campaign enabled McDonald’s customers to create their own burgers.

In summary, the comparison of interaction tactics exemplifies the varying degrees to which the firms try to directly or indirectly influence the information value of user-generated content by targeting specific users, soliciting specific content, or both (see Figure 34). In direct comparison, BMW and Migros exhibit the most comprehensive approaches in line with their strategic focus on generating information. Continuously or on demand, both tap a portfolio of mainstream and special-interest communities, use proprietary and third-party platforms, and stimulate or channel user-generated content. The other firms have tried to stimulate valuable user-generated content only selectively (see Table 12).

**Figure 34: Exemplary tactics to stimulate valuable user-generated content**
Table 12: Efforts to stimulate valuable user-generated content across cases

<table>
<thead>
<tr>
<th>Tactics</th>
<th>Addressing specific users</th>
<th>Soliciting specific content</th>
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<tr>
<td></td>
<td>- M Power World community for technophile and brand-enthusiastic BMW M owners</td>
<td>- Conducted several open innovation challenges to generate new ideas and gain input for highly specific problems from lead users</td>
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<tr>
<td></td>
<td>- Cooperate with external partners (e.g., Local Motors) in crowdsourcing projects</td>
<td>- Virtual Innovation Agency on the website invites R&amp;D ideas</td>
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<tr>
<td></td>
<td>- No active influence of communities but niche content ensures high homogeneity across digital media</td>
<td>- High activity levels also encourage user feedback</td>
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<td></td>
<td>- Focus on mainstream platforms</td>
<td>- Sometimes ask for specific input (but typically for confirmation only)</td>
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<td></td>
<td>- Initiated #AskMcDo to reach a different audience</td>
<td>- Occasionally test ideas to gain a first impression or first feedback</td>
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<td>- Rely on organic growth of their presences on mainstream platforms</td>
<td>- MyBurger campaign allowed some conclusions on popular recipes</td>
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<td></td>
<td>- Segment-specific communities across platforms (e.g., Famigros, Generation M); Migipedia mainly designed for brand enthusiasts</td>
<td>- Migipedia helps to channel product-related feedback and go in-depth for product and portfolio optimization</td>
</tr>
<tr>
<td></td>
<td>- Integrate professional crowdsourcing community Atizo for more specific and complex tasks</td>
<td>- Crowdsourcing for popular product categories (e.g., babies or animals)</td>
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<td></td>
<td>- ‘Try-vertising’ to generate feedback and set off viral effects</td>
<td>- ‘Try-vertising’ to generate feedback and set off viral effects</td>
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<tr>
<td></td>
<td>- Have used crowdsourcing community Atizo several times</td>
<td>- Crowdsourcing on various topics (e.g., new products for minibar)</td>
</tr>
<tr>
<td></td>
<td>- Selectively asked for feedback on SBB sites in digital communities</td>
<td>- Selectively asked open questions on their own digital presences</td>
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<td>++</td>
</tr>
<tr>
<td></td>
<td>- Rely on organic growth of online communities in both mainstream and special-interest communities</td>
<td>- Already integrated Facebook fans in meal selection with food tastings</td>
</tr>
<tr>
<td></td>
<td>- Tested crowdsourcing on expert community Atizo once</td>
<td>- Sometimes ask for specific feedback, increasingly also on request of other departments</td>
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Legend: +++ = very high, ++ = high, + = medium, O = low frequency
4.5 Modes of interaction processing

Based on the guiding framework, interaction processing depends on the information value of user-generated content and a firm’s absorptive capacity. The latter is defined by the level of prior related knowledge and, thus, organizational model. The firm-specific task allocation along with internal knowledge dispersion and level of connectedness define the level of prior related knowledge at the digital frontline and learning processes for absorptive capacity. The cross-case analysis allows an integrated look at interaction processing to better understand the influence factors of absorptive capacity and their interplay.

4.5.1 Identifying valuable information

The in-depth case analyses have brought forward multiple ways that firms identify valuable information in user-generated content. While the evaluation of solicited user-generated content, monitoring, or data analytics all involve an active search for information, managers also identify consumer needs casually by simply following conversations in online communities, handling user requests, and looking into reports. The extent to which firms engage with consumers, solicit user-generated content, and search for valuable information depends on their digital interaction strategies and particularly on the relevance of generating information.

Handling of unsolicited user-generated content typically involves customer service, as user questions and requests at digital touchpoints have been assigned to the regular service agents across all cases. With the integration of this content in a standard service channel, information from user-generated content ideally enters established escalation and reporting processes. For instance, BMW has defined service guidelines with escalation steps and named contact persons for product-, quality-, and communication-related issues at different hierarchy levels (Braekler & Wortmann, 2008; Thunig, 2011). However, the peculiarities of digital interactions have required adaptations in working routines. In particular, the broader thematic spectrum of requests and user expectations of an immediate answer have necessitated greater expertise and closer collaboration with other units to coordinate answers. When service agents present complex questions or relay ambiguous issues, the responsible specialist unit automatically learns about irregularities and potential insights.

In addition to customer service, direct user contact represents an integral part of community management, which is the core responsibility of the social media managers at EMP and SWISS, social media community manager at McDonalds, SBB’s portal
managers, and online communication managers of BMW and Migros. Due to their boundary-spanning roles, these dedicated community managers have built up firm-wide connections and expertise, which eases the identification of valuable information or ad hoc notification. For instance, the staff unit position of online communications managers at Migros facilitates access to the responsible line manager. In collaborative and integrated organizational models, other units also engage in direct user contact. For instance, SWISS has integrated several international marketing and sales representatives in community management, and a project coordinator for core customer management moderates the airline’s thread on Flyertalk. The specific expertise of these part-time digital managers broadens the level of prior-related knowledge at the digital touchpoints and promotes the recognition of valuable information in user feedback.

For solicited user-generated content, identification of valuable information usually differs from unsolicited user-generated content. Foremost, user-generated content generally has a higher information value when firms address a specific user group or solicit feedback on a specific topic. In addition, the in-depth case analyses underscore the fact that responsible units or managers are typically directly involved in handling of solicited user-generated content. As part of cross-functional teams or through close collaboration, the responsible managers usually accompany the entire project, particularly early phases of problem definition and final evaluation of solicited user-generated content. For instance, the digital marketers and online communications managers at Migros partner up with product and category managers as well as industry representatives for crowdsourcing projects on Migipedia. At BMW, the development unit coordinates all aspects of the open innovation projects, while marketing and communications only provide support. Less formal modes of user integration, like polls or open questions on mainstream platforms, usually trace back to the specific interests of responsible managers.

All firms in the present sample routinely analyze consumer requests and feedback to detect early warning signals and trends. For potentially critical posts, the firms have typically set up automated alerts, sometimes combined with regular media observation or search-engine optimization. The monitoring tools help them stay on top of user-generated content, especially for high-interaction volumes. Unsolicited user-generated content typically indicates problems a lot earlier than sales figures do. Yet, automated filtering remains difficult, as firms still have to define the right keywords, thresholds, and frequencies of analysis. To identify trends, the firms typically compile aggregate reports for solicited and unsolicited user-generated content. These regular reports also
help to keep a wider internal firm audience continuously updated on valuable information. The formats range from EMP’s manual Excel list of merchandising requests or extended reports on service requests at SWISS all the way to automated Migipedia updates for Migros’ product managers. For urgent matters, like security-relevant issues for BMW, filters ideally react not only to escalating but also individual comments.

In addition to routine analyses, the firms use targeted or exploratory monitoring to investigate consumer opinions on a certain issue in-depth or to browse user-generated content for valuable information. For example, BMW accompanies new product launches with monitoring as part of performance management and also analyzes user-generated content for trends. As part of a pilot project, all of BMW’s monitoring activities are coordinated by corporate quality management. Yet, responsibilities will prospectively transfer to line functions, so that monitoring becomes a regular analysis tool. Similar to BMW, the other firms in this study perform monitoring analyses to gain, track, or better understand digital user opinions on specific topics, particularly promotions, new products and services, and critical issues.

Analytics enable firms to identify patterns or clusters in data accruing from digital interactions. All firms in the sample track digital activities to some degree, most often to optimize usability or performance. BMW and Migros have even created competence centers for customer and web intelligence to build up further expertise and expand the firm-wide use of analytics. Analyses either test a certain hypothesis or seize the data more openly. To enable analytics and ensure the acceptance of findings, the two competence centers actively approach internal partners and try to promote rethinking. However, the mid-term goal is to increase expertise of specialist managers and direct access to customer and web analytics. Aggregation of individual data for customer-specific information remains limited by privacy protection, outdated or mal-integrated systems, and difficulties in matching existing customer data with digital profiles.

Taken together, the observed possibilities to identify valuable information in user-generated content suggest four modes of identification depending on the degree to which firms have planned for identification and their openness to weak signals (see Figure 35): On the one hand, firms identify valuable information from direct contact or handling of user requests and through routine analyses. Weak signals require attention to details or ambiguities, while strong signals show in accumulating content and also enable automated recognition, as exemplified by prevalent alerts for crisis monitoring. On the other hand, the firms actively search for valuable information by monitoring conversations, analyzing behavioral online data, or evaluating solicited user-generated
content. For planned identification of weak signals in the form of novel, out-of-the-box ideas, firms have to apply open, exploratory search. In contrast, directed search brings forward strong signals.

Figure 35: Clustering the observed possibilities to identify valuable information

<table>
<thead>
<tr>
<th>Open to weak signals</th>
<th>Focus on strong signals</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Notice details in direct contact or while handling requests</td>
<td>• Browse digital consumer interactions for inspiration</td>
</tr>
<tr>
<td>• Stumble across ambiguities in routine analyses</td>
<td>• Explore a certain issue with monitoring or analytics</td>
</tr>
<tr>
<td>• Recognize frequent user suggestions or criticism</td>
<td>• Investigate specific issues in-depth or test hypotheses with analytics and monitoring</td>
</tr>
<tr>
<td>• Automated alerts for escalating comments</td>
<td>• Process solicited feedback</td>
</tr>
</tbody>
</table>

Unplanned, casual identification | Planned identification

4.5.2 Assimilating the identified valuable information

After valuable information has been identified, it has to be disseminated and integrated with existing knowledge for immediate or later application. The assimilation process differs depending on the mode of identification and firm-specific organizational characteristics. For planned identification, active interest in generating information facilitates assimilation. Casually identified valuable information, on the other hand, faces higher barriers, especially if the acquired information still has to be transferred to the responsible managers. To substantiate findings from user-generated content, acquired information is often verified in the broader target audience through direct inquiry, other channels, and qualitative or quantitative market research. Ultimately, assimilation of identified valuable information depends on the openness of individual managers to user-generated content as well as the available resources, established processes, and networks for internal knowledge transfer.

Direct involvement of responsible managers in planned identification generally eases assimilation of information. For instance, the cross-functional project members of BMW’s Urban Driving Experience Challenge helped to carry valuable information into directly related departments. To reach a wider audience, the project members also presented the outcomes at various internal occasions and offered workshops. Likewise, product managers and industry partners at Migros play an active role in crowdsourcing projects on Migipedia to shorten internal information flows and ensure applicability.
McDonald’s by default uses boundary-spanning teams in product development, so that marketing or communications managers can bring attention to valuable information. In a similar fashion, advanced monitoring and analytics at BMW and Migros typically represent cross-functional tasks, in which analysts closely collaborate with responsible managers to ensure correct interpretation of findings and support the development of actions.

For *casually identified information*, reports of aggregate or routine analyses often facilitate assimilation. Yet, regular dissemination per mail or publication on the intranet does not automatically guarantee necessary internal attention. For example, EMP regularly circulates an Excel list to update product managers on merchandising requests, but new suggestions might go unnoticed among previous ones. To keep the relevance up, Migros decided to abstain from regular monitoring reports beyond automated Migipedia notifications. The online communications managers keep an eye on all external sites and forward relevant comments individually. Outside the headquarters, another precondition for the quick exchange of valuable information is that key personnel, especially at personal touchpoints, are connected. To this end, SWISS has distributed FlyPads to cabin crews that provide access to frequent-flyer profiles. SBB also aims to equip all its employees with smartphones or tablets to facilitate internal knowledge transfer (SBB, 2014c).

The different case examples combined emphasize *two basic modes for assimilation of information*. Either responsible managers are directly involved in the identification of valuable information and able to follow up, or identified valuable information first has to be transferred to the responsible expert manager (see Figure 36). Thereby, the probability for direct involvement is significantly higher for planned identification than for unplanned identification. For the dissemination of valuable information, the cases point to various paths, from mail reports to personal calls and face-to-face workshops. The selected means of communication vary with the complexity of information, urgency, distance, and available resources for knowledge transfer. In addition to the content, rich channels such as face-to-face meetings may help to overcome low levels of digital awareness and increase individual openness to information from user-generated content. Established collaboration processes and short distances generally facilitate knowledge exchange.
4.5.3 Applying the assimilated information

To realize competitive advantages from digital interactions, firms have to not only identify and assimilate valuable information, they must apply it. The cross-case comparison shows that the analyzed firms either act on valuable information from user-generated content directly or they indirectly benefit from a better understanding of consumer needs and trends. Due to the influence of the interaction strategy on the information value, a general distinction between solicited and unsolicited user-generated content seems necessary. Higher levels of firm influence typically increase the feasibility of user-generated content. In addition, the urge for application is typically higher for information from solicited user-generated content and planned identification in general.

A firm’s interaction strategy and efforts to influence user-generated content (see section 4.4) largely predetermine the use possibilities for assimilated information. For solicited user-generated content, the openness of the questions or the selection of predefined options determines if user votes or responses provide a basis for decision-making and result in immediate actions or if the information helps to improve understanding of consumer needs and trends. By inviting Facebook fans to decide on the new SWISS Economy-class menu or to confirm new product listings for McDonald’s and EMP, the respective firms specifically aimed for direct use of user-generated content. Crowdsourcing initiatives like the McDonald’s MyBurger campaign and the crowdsourced Migros products also primarily serve immediate application. In contrast, BMW’s Urban Driving Experience Challenge aimed to generate
ideas from an expert group in order to cross-check the carmaker’s innovation agenda. As another example, the social media manager of SWISS has integrated digital fans in more open, non-representative market research to feel consumers’ pulse on behalf of other specialist units.

Valuable information from unsolicited user-generated content often stem from direct complaints or suggestions for improvement, which customers more readily report or share at digital touchpoints due to the low interaction barriers. Direct application of information from unsolicited user-generated content primarily depends on the feasibility and relevance of the specific information. Notifications about mistakes and easily solvable problems, such as bugs on the website, wrong price tags, or broken loudspeakers at train stations, ideally lead to direct correction. Also critical issues, like quality-related reports, and repeat or escalating feedback should stimulate immediate reactions. Specific examples where the firms have reacted to accumulating feedback include repeat consumer requests for re-enlisting of Migros products, access difficulties in SWISS airport lounges, and confusion about EMP’s return policies. If the room to maneuver is limited or urgency low, information from unsolicited user-generated content still contributes to learning effects. For example, McDonald’s and SBB take frequent questions as input to define their future communication agenda, and BMW derives general customer preferences from popular car configurations on its website. In addition to the unplanned knowledge gains provided by unsolicited user content, unexpected and beneficial side-lessons can be delivered by solicited user-generated content, e.g., confirmation for continued popularity of beef patties by the MyBurger competition or “food for thought” (DI, 97) from not (directly) applicable user input on Migipedia.

Irrespective of the potential range of application, use of information requires openness of the responsible manager or department, which often varies. In line with general tactics to increase internal awareness of interactive digital media (see section 4.4), most firms have developed specific showcases to illustrate possible application fields for solicited user-generated content, and they have also advertised contributions of unsolicited user-generated content. The frequently reported firm efforts to react to and accommodate good suggestions, as well as necessary personal commitment to follow up on information from user-generated content highlight the critical role of digital managers. A strong internal standing and network of digital managers can ease the application of valuable information significantly, even if the responsible unit is not directly involved in the consumer interactions.
Overall, the cross-case analysis shows that the application of valuable information from digital interactions takes the form of either direct actions or knowledge gains in marketing, communications, development, and other fields (see Figure 37). Thereby, a distinction between information from planned and unplanned identification processes (see section 4.5.1) is useful to explain different applicability of solicited and unsolicited user-generated content, as are focus and levels of attention in the application process.

Figure 37: Exemplary categorization of application modes
5 Conceptualization

The cross-case analysis has helped to examine determinants of a firm’s capabilities to tap digital interactions for valuable information in greater depth. Of particular interest are emerging similarities and differences across cases, as these provide starting points for generalization and theory development (Miles et al., 2014). To identify and sharpen the emerging novel concepts from the case analyses, findings have to be consolidated with prior research. Thereby, consideration of both conflicting and supportive literature helps to strengthen internal validity and widen transferability (Eisenhardt, 1989; Pan & Tan, 2011). For the present study, the initial guiding framework from prior research and exploratory observations provides a basis for conceptualization (see sections 1.2 & 2.4). The case findings enable validation of the general framework and further refinement of the suggested tentative constructs and relationships, notably emergent organizational models, identified tactics and a firm’s propensity to stimulate valuable user-generated content, and specific capabilities for interaction processing.

5.1 Revisiting the initial research framework based on the case findings

Based on prior academic research, professional reports, and the exploratory analyses, the guiding framework has differentiated two levels of analysis for a firm’s capabilities to tap digital interactions for valuable information (see section 1.2): The firm level builds on the positive performance effect of strategic interaction orientation (Ramani & Kumar, 2008). At the interaction level, the focus is on digital interactions. The close-up perspective allows a more detailed investigation of mechanisms to stimulate and process user-generated content. For validation of the compound research framework, the specified constructs and relationships have to concur with the case findings. Contradictions and ambiguities between the in-depth analyses and prior research require additional data collection or further theoretical considerations until all pieces of evidence converge into a coherent model (Eisenhardt, 1989).

At the firm level, prior academic research and professional reports have suggested different internal and external drivers as well as barriers: Foremost, the industry sector has been found to influence the levels of digital enactment and the societal context to impact the overall marketing organization (see section 2.2.1). Regarding firm-specific characteristics, prior research has emphasized the fit of digital interactions with a firm’s strategic orientation and organizational culture. Firm size has been found to play an ambivalent role, as it may increase complexity in organizational learning but
also the available resources, including talent and IT systems (see section 2.2.2). External and internal factors also shape absorptive capacity (see section 2.3.2). To ensure heterogeneity in the sample, the contextual factors guided the case selection. The final six case studies cover business-to-consumer firms of different industries, sizes, and target groups, from the medium-sized heavy-metal mail order EMP to the premium car manufacturer BMW (see section 3.1.1).

The inevitably small, non-representative sample for in-depth analyses prohibits general investigation of influence factors. Yet, the case findings help to revisit prior research and insights from professional reports in order to ensure overall consistency. Thereby, the cross-case comparison suggests that no individual but only the mix of firm-level characteristics determines a firm’s capabilities to tap digital interactions. For example, BMW and Migros as the two largest firms in the sample also use information from digital interactions most comprehensively. However, reducing their leading roles in generating information to the firm size would fall short of other critical influence factors, most importantly strategic fit, organizational culture, and available resources.

Regarding the strategic fit, the case studies highlight the particular importance of customer orientation. Customer-oriented initiatives have often created impetus for engagement in interactive digital media, e.g., BMW’s growth strategy Number ONE or the new SBB mission statement on customer satisfaction. Customer orientation also represents an integral part of market orientation (e.g., Narver & Slater, 1990; Shapiro, 1988). Yet, focus is not limited to individual customer information, in contrast to interaction orientation (Ramani & Kumar, 2008). The case findings show that – at least currently – aggregate information are more important than individual customer information from digital interactions, as privacy protection and legacy IT systems limit the possibilities to acquire personal information. For instance, McDonald’s prolonged the introduction of a branded app until the roll-out of a new cashier system that enables mobile payment and access to individual purchasing data. The other firms have planned or already started to overhaul, expand, or replace their CRM databases to better integrate data from interactive digital media.

In addition to organizational customer orientation, the case findings emphasize the critical role of an innovation-oriented, open organizational culture for the engagement in interactive digital media. Notably, BMW initiated the first task force for emergent media in 2003 to live up to its forward-looking, premium positioning (Oheimb, 2012). The high dynamic and uncertainty inherent in digital development require more flexible management approaches with sufficient leeway for the responsible managers and support by top managers and employees in other key positions. To enable trial-
and-error learning and deeper business integration of digital interactions, all interview partners unanimously report the need for comprehensive change management. The calls for more experimentation are consistent with research on adaptive capabilities (cf. Day, 2011; Wang & Ahmed, 2007).

Beyond firm-specific characteristics, the case studies also highlight the critical role of individual managers to drive digital development. In most analyzed cases, the start in interactive digital media traces back to initiatives of forward-looking employees or units, like EMP’s informal Facebook registration by a senior marketing manager, the various trial balloons of SBB e-commerce, and SWISS initial experiments and proactive handling of the volcano crisis. With the growing scope of interactive digital media, digital managers have typically taken over more strategic coordinating tasks, so that communication skills and digital know-how no longer suffice. To identify new fields of application, drive cross-functional integration, and alert other managers to critical feedback and business opportunities, digital managers increasingly need a broad expertise and firm-wide network. Empowerment of digital managers comes along with decentralized decision-making, as already highlighted by early research on digital media and professional reports (e.g., Day, 1998; Parsons et al., 1998; see section 2.2.3).

For the strategic integration of digital interactions, the cross-case comparison reveals that all firms strive for branding, relationship, and implicit sales effects. The relevance of generating information, however, varies significantly. While BMW and Migros purposefully tap digital interactions on a regular basis, the other firms mainly react to escalating feedback and only search for information tentatively. Especially for McDonald’s and SBB, complex planning processes, operational constraints, and limited validity of information in user-generated content restrict broader integration of user-generated content. The differing relevance of generating information compares to persistent levels of enactment in prior academic research (Orlikowski, 2000; Weinberg et al., 2013) or maturity stages for social business suggested by professional reports (Li & Solis, 2013; Wilson, Guinan, Parise, & Weinberg, 2011). At a basic level, firms only tap digital interactions for crisis prevention and react to criticism with incremental improvements. At the other end of the continuum, the firms purposefully seek and employ user-generated content as a regular information source.

The case studies also substantiate the assumption that a firm’s interaction strategy and tactics echo in the quality and volume of user-generated content, as exemplified by the Facebook activities of BMW and EMP. BMW primarily uses its fan page for branding purposes. Glossy photos aim to lure fans to the carmaker’s website and, accordingly,
user-generated content is largely confined to love declarations. In contrast, EMP aims for personal contact on Facebook and harvests more valuable user-generated content. The apparent discrepancies between the two fan pages not only highlight the possible impact of the interaction strategy, they reveal options to influence the volume and quality of user-generated content across different digital touchpoints and user groups. As prior research on tactics to influence user-generated content is limited, sections 5.2 and 5.4 discuss these mechanisms and a firm’s configuration options in greater depth.

Interaction processing takes an integrated look at firm’s organizational model and absorptive capacity in line with the original conceptualization by Cohen & Levinthal (1990). While subsequent research has largely disregarded organizational antecedents of absorptive capacity (cf. Lane et al., 2006; Volberda et al., 2010; Wijk, Jansen, & Lyles, 2008), the case findings strongly encourage an integrated perspective. Diffusion of digital responsibilities along with knowledge and the level of connectedness impact each learning process differently. To conceptualize the findings, section 5.3 summarizes the emergent organizational models to tap digital interactions, and section 5.5 compares the identified sub-processes to prior research. The different modes of interaction processing also reinforce a distinction between solicited and unsolicited user-generated content. On the one hand, the information value varies depending on the level of firm influence. On the other hand, solicited user-generated content along with other forms of planned identification implies direct involvement of the responsible managers, which facilitates interaction processing compared to unplanned, casual findings.

Overall, the case findings provide support for the tentative constructs and relationships suggested by the guiding research framework. The identified environmental factors, influence of a firm’s interaction strategy on user-generated content, and close interplay of the organizational model with absorptive capacity all comply with the case-based empirical evidence. Beyond previous knowledge, the case analyses have highlighted the impact of tactics to influence user-generated content and revealed sub-dimensions for interaction processing that further substantiate the understanding of a firm’s capabilities to tap digital interactions. The following chapters will focus on conceptualization of these novel levers and derive research propositions, namely for the emergent tactics to stimulate valuable user-generated content, emergent organizational models, a firm’s propensity to stimulate valuable user-generated content, and specific capabilities for interaction processing.
5.2 Identified tactics to stimulate valuable user-generated content

Although digital interactions have facilitated access to consumer information, valuable information is hardly served on a silver platter. The refined guiding research framework (see section 2.4) has inferred from prior research that the strategic focus of digital interactions and degree to which firms realize an added user value determine its possibilities to stimulate valuable user-generated content (e.g., Füller et al., 2008; Hoffman & Novak, 2012a; Nambisan & Baron, 2007; Schau et al., 2009). The case findings support the proposal that a firm’s interaction strategy and tactics are indeed able to stimulate valuable user-generated content.

The cross-case analysis points to two specific, combinable tactics to stimulate valuable user-generated content (see section 4.4): On the one hand, the analyzed firms target user groups with specific expertise, like brand enthusiasts and expert communities, depending on the required level of prior knowledge or experience for a certain problem. On the other hand, the case analyses have surfaced numerous examples where firms have solicited feedback on a specific topic or tried to direct the user-generated content. The two emergent tactics are one-time or continuous efforts, similar to the forms of virtual customer integration suggested by Füller & Matzler (2007). For the conceptualization of the identified tactic to target specific users, prior research on brand communities and open innovation is relevant. Solicitation of specific content has previously been investigated in the context of crowdsourcing projects.

By uniting passionate, experienced customers, brand communities represent both an important tool for customer retention and a popular source for valuable information (McAlexander et al., 2002; Sawhney et al., 2005). Firms gain direct access to feedback from brand enthusiasts. In addition, mutual exchange and collaboration among members promote collective creativity and wisdom. Depending on the focus of the community, valuable information may be a byproduct of conversations or result from joint creative efforts (Kozinets, Hemetsberger, & Schau, 2008). Yet, Kozinets (2002) cautions that conclusions from brand communities apply only to the respective group of active contributors without additional corroborative evidence. The case findings reinforce this observation that the quality of user-generated content on third-party platforms typically differs from that found on proprietary platforms like BMW M Power World or Migipedia.

Open innovation research has studied possibilities to optimize informants’ expertise. Foremost, the lead-user approach recommends focusing on consumers with advanced needs for new product development, especially in dynamic high technology markets.
Comparative studies for crowdsourcing tasks, however, have shown that lead users produce feasible but not necessarily more original ideas. Evidently, increasing expert status may hinder out-of-the-box thinking (e.g., Kristensson et al., 2004; Magnusson, 2009). Suggestions from ordinary users in turn can represent a great source for inspiration but typically involve higher operational challenges. For original and feasible information, Hoffman, Kopalle, & Novak suggest that consumers with an “emergent nature” (2010, p. 855) are the best sparring partners, based on their solution-oriented personality traits and information-processing abilities (e.g., openness, communication skills, rational thinking, and creativity). Similar considerations have motivated BMW and Migros to team up with professional crowdsourcing platforms, depending on the specific task and relevant user expertise.

Crowdsourcing research has examined possibilities to solicit specific content. Notably, Magnusson (2009) has demonstrated in a quasi-experiment that guided users (who receive additional background information up front) produce less novel ideas than ordinary participants. Evidently, pre-information and the specificity of the task restrict original thinking in idea generation. The analyzed firms in the case studies detailed here have primarily provided cues or narrowed the scope of user-generated content to ensure its applicability. For example, the MyBurger campaign restricted consumers to a predefined list of ingredients. Alternatively, the Urban Driving Experience Challenge defined a very broad user challenge to revisit and expand BMW’s long-term development agenda.

Taken together, the case findings on tactics to influence user-generated content align with prior research on brand communities, open innovation, and crowdsourcing. Quite obviously, a firm’s efforts to stimulate valuable user-generated content generally determine the volume and quality of user-generated content. The quality dimension relates to feasibility, originality, and business potential of user-generated content in line with prior ideation research (see section 2.1.3). To control the impact on volume and quality for an intended knowledge outcome, firms may target users with specific expertise or solicit specific content. Figure 38 summarizes the proposed influence of a firm’s solicitation tactics on user-generated content in a conceptual model. Key arguments for the various relationships will be summarized below to formulate corresponding research propositions (P).
Volume of user-generated content: Increasing firm efforts to stimulate valuable user-generated content encourages users to submit ideas, feedback, and opinions, so that the general volume of user-generated content increases (see P1).

$P_1$: With a firm’s increasing efforts to stimulate valuable user-generated content, the volume of user-generated content increases.

Feasibility of information in user-generated content: The more a firm stimulates user-generated content, the better users will understand its processes and information needs. For instance, Migros and SWISS have noted how highly active community members not only step in to defend the brand and its products against absurd complaints but also build up firm- and product-specific knowledge over time. Their growing expertise enables users to generate more feasible content (see P2).

$P_2$: With a firm’s increasing efforts to stimulate valuable user-generated content, the overall feasibility of information in user-generated content increases.

Originality of information in user-generated content: As firms invest more effort in stimulating valuable user-generated content, users will feel more appreciation for their ideas and more readily submit feedback and/or suggestions for improvement. Lower interaction barriers encourage users to not only inform the firm about mistakes but also share more original feedback and ideas (see P3).

$P_3$: With a firm’s increasing efforts to stimulate valuable user-generated content, the overall originality of information in user-generated content increases.
Business potential of information in user-generated content: A firm’s greater efforts to stimulate valuable user-generated content encourage users to reflect on their personal needs and room for improvement more frequently and intensively. The additional personal considerations lead to a higher business potential of user-generated content, especially in terms of added consumer value (see P₄).

P₄: With a firm’s increasing efforts to stimulate valuable user-generated content, the overall business potential of information in user-generated content increases.

Targeting of users with specific expertise enables firms to control prior use experience, market know-how, or technological proficiency of informants. The predefined user expertise can either strengthen or weaken the positive impact of a firm’s general efforts to stimulate valuable user-generated content on the actual volume and quality of user-generated content (see P₁₋₄). The following examples highlight possible effects, depending on characteristics of the targeted users: Foremost, size and dynamics of a specific user group either delimit or amplify a firm’s stimulation efforts on (a) the volume of user-generated content. Higher levels of technological or operational proficiency strengthen the impact of a firm’s stimulation efforts on (b) the feasibility of information. Higher use experience in turn tends to increase the impact of a firm’s stimulation efforts on (c) originality (Kristensson et al., 2004; Magnusson, 2009; Poetz & Schreier, 2012), especially when users exhibit emergent-nature characteristics (cf. Hoffman et al., 2010). The impact of a firm’s stimulation efforts on (d) the business potential is strengthened with market knowledge and product-related experiences of participating users (see P₅₋₄).

P₅₋₄: Depending on the knowledge, experience, and dynamics in a specific user group, targeting of that user group can either strengthen or weaken the positive impact of a firm’s efforts to stimulate user-generated content on (a) the volume of user-generated content and (b) feasibility, (c) originality, and (d) business potential of information in user-generated content.

By soliciting specific content, the firms try to direct user-generated content. As the more precise impetus either reduces or increases the barriers for user participation, content specification will strengthen or weaken the impact of a firm’s stimulation efforts on (a) the volume of user-generated content. For (b) the feasibility and (c) originality of information in user-generated content, the exact problem definition determines whether content specification strengthens or weakens the impact of a firm’s stimulation efforts. For instance, solicitation of more specific content may restrict creativity (Magnusson, 2009) but just as well spark new ideas. Similarly, the impact of
a firm’s stimulation efforts on (d) the business potential of information will vary with the exact problem definition and its focus on later commercialization (see $P_{6a-d}$).

$P_{6a-d}$: Depending on the exact problem definition, the solicitation of specific content can either strengthen or weaken the positive impact of a firm’s efforts to stimulate user-generated content on (a) the volume of user-generated content and (b) feasibility, (c) originality, and (d) business potential of information in user-generated content.

In brief, the case findings have reinforced the general impact of a firm’s stimulation efforts on the actual quality and volume of user-generated content. Yet, the moderating effects of controlling the information value remain ambiguous and call for further research. From a managerial perspective, the manifold influence possibilities highlight the need for integrated content development, community management, and consumer integration capabilities. To target the right user group and to correctly define the problem or challenge, responsible managers ideally have to be involved in a firm’s efforts to stimulate valuable user-generated content. Another practice-oriented conclusion is that firms need a portfolio of digital touchpoints in order to target different user groups for specific information needs.

5.3 Emergent organizational models

Prior research has suggested that no blueprint exists for the organizational integration of digital interactions (see section 2.2). Yet, the case analyses have indicated some common trends and patterns (see section 4.3): While early experiments in interactive digital media have typically originated from individual units or managers, all analyzed firms have gradually professionalized their digital engagement and established the necessary organizational backbone. Based on the diffusion of digital responsibilities and levels of connectedness, three organizational models prevail: (1) centralized model with all digital responsibilities pooled in one unit, (2) collaborative model with a coordinating center similar to the (multiple) hub-and-spoke framework, and (3) integrated model, where all digital responsibilities merge into related functions and processes. By allocating a firm’s activities to tap digital interactions, the emergent organizational models relate to distinctive organizational features and go beyond the stages of social business development suggested by Owyang (2010).

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48 Technological realization will be disregarded in the further conceptualization as it merely represents a support function for tapping digital interactions that is often outsourced to external partners (see section 4.3).
In the *centralized model*, digital responsibilities are largely united in the marketing, communications, or sales unit, depending on a firm’s primary goals in interactive digital media as well as contextual factors such as historically developed structures (see Figure 39). The focused integration is typically attended by limited relevance of generating information due to operational constraints, lack of fit with the target audience, or personal reservations. Examples for the centralized model are EMP, McDonald’s, and SBB. While the centralized model ensures a uniform strategy, the focused organizational integration limits digital interactions and also the impact of user-generated content. Without direct involvement, other units are hardly able to build up relevant know-how to fully tap digital interactions, as highlighted by SBB’s marketing communication director: “If you have a nerd that manages social media and only sits two desks away, you automatically learn a few things. But if they are – like in our case – above, on a different floor, you don’t see anything […] so that we lose a lot of know-how” (RM, 198). The three representative firms try to overcome organizational boundaries by opening up content production and establishing routines for information exchange.

**Figure 39: Schematic of centralized organizational models**
The **collaborative model** represents selective diffusion of digital responsibilities with a coordinating hub. While expertise and core responsibilities for strategic development, content development, community management, and customer service are typically centered in marketing, communications, or sales, other units come in for specific projects or tasks, e.g., for management of targeted online communities, consumer integration, monitoring, or analytics (see Figure 40). Increasing levels of cooperation raise digital awareness throughout the firm as well as the ‘feel’ for relevant insights in user-generated content. Among the case studies, Migros and SWISS have adopted collaborative models with split hubs in marketing and communications to coordinate customer service, product management, analytics, local markets, and other project partners. Due to the partial diffusion of digital responsibilities, key challenges in the collaborative model are cross-functional interdependencies and persuading of internal partners. At the same time, direct involvement increases scalability and the business impact of all digital activities:

“*In the beginning, it was super complicated to unite that many people, but by now [...] crowdsourcing...] is established and well-rehearsed*” (SM, 509).

“The units decide on their own how much resources and money they are willing to invest. And that way, they can quickly scale up or down, as needed” (CL, 226).

**Figure 40: Schematic of a collaborative organizational model**
In the integrated model, digital responsibilities largely enter existing processes (see Figure 41). The high level of task diffusion increases the breadth of prior related knowledge at the digital frontline and, thus, facilitates the absorption of user-generated content. Accordingly, the integrated model seems most applicable for firms that place a high emphasis on generating information. Among the analyzed cases, BMW has spread digital responsibilities the broadest. While the dedicated online communication and web marketing unit only realizes campaigns in digital media and manages BMW’s brand-related channels, the development division leads all open innovation projects, quality management tests monitoring, web analytics staff process available online data, and market organizations handle the local presences. In the absence of a coordinating unit, the integrated model depends on direct cross-functional collaboration and bears increased risk of duplicate work. At BMW, digital development is driven on a project basis, and a temporary working group promoted the cross-functional strategic alignment.

Figure 41: Schematic of an integrated organizational model

Taken together, the three emergent organizational models from the cross-case analysis present common patterns for the diffusion of digital responsibilities and corresponding level of connectedness. Both define the breadth and depth of prior related knowledge at a firm’s digital touchpoints and ease of internal knowledge transfer. At the same time, the organizational model predefines the scope of involvement and, thus, firm-
wide digital awareness. Direct comparison of the organizational models helps to delineate key differences (see Table 13) and formulate research propositions.

Table 13: Proposed characteristics of the emergent organizational models

<table>
<thead>
<tr>
<th>Organizational model</th>
<th>Diffusion of digital responsibilities ($P_7$)</th>
<th>Level of connectedness ($P_8$)</th>
<th>Scope of involvement ($P_9$)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Centralized model</strong></td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>(Examples: EMP, McDonald’s, SBB)</td>
<td>Most responsibilities pooled in marketing, communications, or sales unit</td>
<td>Need to build up firm-wide network for information exchange</td>
<td>Focus in marketing, communications, and sales; involvement of other units low</td>
</tr>
<tr>
<td><strong>Collaborative model</strong></td>
<td>++</td>
<td>+++</td>
<td>++</td>
</tr>
<tr>
<td>(Examples: Migros, SWISS)</td>
<td>Central coordinating hub and selective integration of other related units</td>
<td>Established connections and regular collaboration between hub and spokes</td>
<td>Central hub as driving force but in cooperation with other units</td>
</tr>
<tr>
<td><strong>Integrated model</strong></td>
<td>+++</td>
<td>++</td>
<td>+++</td>
</tr>
<tr>
<td>(Example: BMW)</td>
<td>Responsibilities are merged into related functions throughout the firm</td>
<td>Broad integration provides access to established internal connections</td>
<td>High diffusion creates broad involvement if all managers perceive direct benefit</td>
</tr>
</tbody>
</table>

Legend: +++ = highest, ++ = medium, + = lowest level in comparison

The diffusion of digital responsibilities refers to the degree to which digital activities have been dispersed to different functions throughout the firm. While centralized organizational models have typically pooled all digital responsibilities in marketing, communications, or sales, the collaborative model builds on a central hub that promotes and coordinates digital activities throughout the firm, and the integrated model stands for broad implementation in existing functions and processes. Accordingly, the diffusion of digital responsibilities is expected to increase from the centralized to the collaborative and further on to the integrated model (see $P_7$).

$P_7$: The diffusion of digital responsibilities is highest for integrated, at a medium level for collaborative, and lowest for centralized organizational models.

A high level of connectedness manifests in central positions of digital managers and in formal or informal networks to facilitate information exchange and collaboration (Szulanski, 1996; Wijk et al., 2008). In the centralized organizational model, all activities concentrate in one unit, so that the level of connectedness depends on the degree to which the responsible unit integrates or updates other managers. In the collaborative model, the central hub and various spokes naturally create a high level of
connectedness. The integrated model in turn builds on established cross-functional relations of the various dispersed digital managers. In comparison, the collaborative organizational model with its coordinating hub is expected to exhibit the highest level of connectedness, followed by the integrated model with established relations, and last the centralized model (see P8).

*P8:* The level of connectedness is highest for collaborative, at a medium level in integrated, and lowest for centralized organizational models.

The diffusion of digital responsibilities and level of connectedness combined define the *scope of involvement*. In firms with a centralized model, both the diffusion of digital responsibilities and level of connectedness are low, so that the involvement is limited to marketing, communications, or sales. Characteristic of the collaborative are moderate diffusion of digital responsibilities and high level of connectedness. Vice versa, the integrated model has a high diffusion of digital responsibilities and medium level of connectedness. While the central hub serves as driving force in the collaborative model, direct business integration is expected to be a stronger source for involvement. For instance, product managers at Migros see the digital marketers in the lead, while BMW’s development unit has initiated previous open innovation challenges. Thus, the scope of involvement is expected to be higher in integrated organizational models than in the collaborative model (see P9).

*P9:* The scope of involvement is highest for integrated, at a medium level for collaborative, and lowest for centralized organizational models.

### 5.4 Propensity to stimulate valuable user-generated content

The organizational model can constrain or support a firm’s efforts to stimulate valuable user-generated content, because the diffusion of digital responsibilities and level of connectedness define the involvement of different functions (see P9). In particular, the allocation of tasks related to strategy, content development, community management, customer service, and consumer integration affects a firm’s efforts to stimulate valuable digital interactions and solicit user-generated content. Consolidation of the three emergent organizational models (see section 5.3) with the identified tactics to stimulate valuable user-generated content (see section 5.2) helps to explore a firm’s propensity to solicit user-generated content (see Table 14). Thereby, differences across the organizational model may point to a specific need for action and possible levers.
Table 14: Organizational propensities to stimulate valuable user-generated content

<table>
<thead>
<tr>
<th>Organizational model</th>
<th>Propensity to stimulate valuable user-gen. content (P10)</th>
<th>Propensity to target users with specific expertise (P11)</th>
<th>Propensity to solicit specific content (P12)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Centralized model</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td></td>
<td>Focus on reach rather than solicitation of valuable user-generated content</td>
<td>Rarely target specific user groups based on expertise but rather aim for high reach</td>
<td>Efforts to solicit specific content require active input from expert units</td>
</tr>
<tr>
<td>Collaborative model</td>
<td>+++</td>
<td>++</td>
<td>+++</td>
</tr>
<tr>
<td></td>
<td>Central hub promotes and supports efforts to stimulate valuable user-generated content</td>
<td>Selectively use mainstream and expert communities</td>
<td>Hub collaborates and assists with internal partners in solicitation of specific content</td>
</tr>
<tr>
<td>Integrated model</td>
<td>++</td>
<td>+++</td>
<td>++</td>
</tr>
<tr>
<td></td>
<td>Interested in valuable user-generated content but limited experience</td>
<td>Expert units promote focus on lead or expert users to enhance value</td>
<td>Various expert units solicit specific content on demand</td>
</tr>
</tbody>
</table>

Legend: +++ = highest, ++ = medium, + = lowest level in comparison

A firm’s general propensity to stimulate valuable user-generated content can influence the volume and quality of user-generated content (see P1-4). Key determinants for a firm’s efforts are the strategic relevance of generating information and internal acceptance of user-generated content as a source of information. The organizational dimensions have mixed effects on these influence factors. On the one hand, greater diffusion of digital responsibilities implies a broader firm-wide involvement in digital interactions. On the other hand, centralization often increases professionalism. Based on these mixed effects, firms with collaborative models are expected to make the greatest efforts to stimulate valuable user-generated content, as illustrated by Migros’ engagement on Migipedia and mini-market research by SWISS. In integrated models, the efforts depend on the genuine interest and capabilities of expert units to stimulate valuable user-generated content. To acquire these capabilities, BMW’s development units typically integrate marketing and communications managers in open innovation challenges. In centralized models, the dominance of marketing, communications, or sales sets the focus on branding, relational, or sales goals, so that efforts to stimulate valuable user-generated content are expected to be lowest (see P10).
$P_{10}$: A firm’s efforts to stimulate valuable user-generated content are highest for collaborative, at a medium level for integrated, and lowest for centralized organizational models.

**Propensity to target users with specific expertise:** By targeting users with specific expertise, the analyzed firms control the qualifications of informants and either strengthen or weaken the positive impact of a firm’s efforts to stimulate valuable user-generated content on its actual quality and volume (see $P_{5a-d}$). Expert units typically have very specific information needs and, thus, have a high interest in optimizing quality and volume of user-generated content (Girotra et al., 2010). For instance, BMW’s development unit focuses on experts and lead users in open innovation. Alternatively, marketing, communications, or sales units will typically aim for a broad reach in their stimulation efforts to also realize branding, relationship, or sales effects, as exemplified by McDonald’s MyBurger campaign. Based on the diverging interests, a firm’s propensity to target users with specific expertise is expected to increase with the diffusion of digital responsibilities and involvement of expert units. Accordingly, firms with an integrated organizational model like BMW are expected to have the highest propensity to target specific audiences, while the centralized model leads to a stronger reliance on mainstream platforms. Firms with a collaborative model range in-between and are expected to tap different user groups, such as SWISS with consumer integration on both Facebook and Flyertalk (see $P_{11}$).

$P_{11}$: A firm’s propensity to target users with specific expertise is highest for integrated, at a medium level for collaborative, and lowest for centralized organizational models.

**Propensity to solicit specific content:** Solicitation of specific content guides digital interactions and, thus, strengthens or weakens the impact of a firm’s efforts to stimulate valuable user-generated content on its actual quality and volume (see $P_{6a-d}$). Solicitation of specific content requires not only direct involvement of the respective expert unit but also experience in user activation. Therefore, collaborative models with a coordinating center of excellence seem advantageous to integrated models in soliciting specific content. Centralized models in turn require vested interest of expert units to successfully solicit specific content and, hence, the propensity to solicit specific content is expected to be lowest in this model (see $P_{12}$).

$P_{12}$: A firm’s propensity to solicit specific content is highest for collaborative, at a medium level for integrated, and lowest for centralized organizational models.
5.5 Proposed capabilities for interaction processing

The integrated perspective at interaction processing has enabled the present study to explore in depth the effects of a firm’s organizational model on its absorptive capacity, as well as to consider strategic influence factors. Thereby, the cross-case analysis suggests that a firm’s capabilities to identify, assimilate, and apply information from digital interactions is not one-dimensional but in fact multifaceted. On the one hand, the diffusion of digital responsibilities and level of connectedness seem to influence the capabilities to identify, assimilate, and apply differently. On the other hand, the extent to which a firm actively searches for information defines the level of attention and, thus, effectiveness and efficiency of absorptive capacity. Consolidation of the case findings with prior research helps to conceptualize the whole range of capabilities for interaction processing and to identify organizational as well as managerial levers.

5.5.1 Planned or unplanned identification of weak and strong signals

The case findings suggest different modes of identification depending on the degree to which a firm actively searches for information and the signal strength (see section 4.5.1). Planned identification involves active monitoring, analytics, or assessment of solicited user-generated content. In contrast, unplanned identification corresponds to chance or casual finds among user requests and conversations. Strong signals typically relate to clear accumulations or patterns, whereas weak signals show in ambiguities, inconsistencies, or individual feedback and require heightened alertness. The resulting four modes of identification involve different capabilities, and all create possible starting points for firms to improve their capabilities to tap digital interactions. In the case of solicited user-generated content, not only the higher attention level but also information value facilitates identification.

Prior research reinforces the existence of different identification modes, particularly the distinction between planned and unplanned identification. Foremost, Daft & Weick (1984) have categorized firms based on the extent to which they actively scan and intrude upon the digital environment to gain information. Huber (1991)\(^49\) has also discussed different options for knowledge and information acquisition, including

\(^{49}\) Other processes of information or knowledge acquisition discussed by Huber (1991) relate to a firm’s knowledge resources and business life cycle: (1) congenital learning (present knowledge at a firm’s conception and additionally acquired knowledge prior to its official formation), (2) experiential learning (initial experiences gained after a firm’s formation), (3) vicarious learning (imitation of best practices), and (4) grafting (knowledge gained from mergers and acquisitions or hiring of new employees).
unintended noticing and intended search (sensing, focused search, and performance monitoring). Similarly, innovation literature has distinguished active and passive forms of customer participation (Füller & Matzler, 2007), with the customer roles of active co-developers, proactive error reporters, or passive suppliers of online behavioral data (Blazevic & Lievens, 2008). The distinction between strong and weak signals ties in with research on organizational vigilance, which posits peripheral vision and willingness to act on partial information for complex environments (e.g., Day & Schoemaker, 2004a; Fiol & O’Connor, 2003; Levinthal & Rerup, 2006).

Consolidation of the case findings and prior research enables further specification of the four emergent identification modes for valuable information in user-generated content (see Figure 42):

- **Recognize**: Escalating feedback in digital interactions becomes easily apparent in direct contact, routine analyses, or automated alerts for predefined keywords. To recognize these strong signals, no expert knowledge is needed. Accumulating comments will alert service agents or community managers, so that they can inform the responsible manager.

- **Notice**: Abnormalities or ambiguities in digital interactions are not immediately obvious, and their identification requires a basic understanding, level of attentiveness, and sometimes also a bit of luck. Typical modes of this unintended form of information acquisition are handling of complex requests or conspicuous in routine analyses (cf. Huber, 1991; Starbuck & Milliken, 1988).

**Figure 42: Emergent modes for the identification of valuable information**

<table>
<thead>
<tr>
<th>Weak signals</th>
<th>Notice</th>
<th>Explore</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Insights: Abnormalities, ambiguities</td>
<td>Insights: Inconsistencies, clusters, out-of-the-box ideas</td>
</tr>
<tr>
<td></td>
<td>Mode of identification: Chance, casual, e.g., handling of complex requests, during routine analyses</td>
<td>Mode of identification: Open search, e.g., monitoring, analytics, solicited ideas</td>
</tr>
<tr>
<td></td>
<td>Preconditions: Prior related knowledge and alertness helpful</td>
<td>Preconditions: Prior related knowledge mandatory</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Strong signals</th>
<th>Recognize</th>
<th>Detect</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Insights: Accumulating or escalating feedback</td>
<td>Insights: Patterns, best idea, most popular answer</td>
</tr>
<tr>
<td></td>
<td>Mode of identification: Responsive, e.g., direct contact, routine analyses, automated alerts</td>
<td>Mode of identification: Structured analysis, e.g., directed monitoring or analytics, solicited feedback</td>
</tr>
<tr>
<td></td>
<td>Preconditions: Prior related knowledge not mandatory</td>
<td>Preconditions: Experts typically involved in problem definition</td>
</tr>
</tbody>
</table>

**Unplanned identification**

**Planned identification**
- **Detect**: Structured analysis of solicited feedback and focused search with monitoring or analytics (cf. Huber, 1991) help to surface patterns or evaluate user suggestions. Typically, responsible managers are involved in the initial problem definition and interested in the identification of these strong signals.

- **Explore**: Unstructured analysis of user-generated content, equivalent to scanning (Huber, 1991), helps to reveal out-of-the-box ideas and inconsistencies as weak signals. Specific techniques include open monitoring or analytics but also unbiased reviewing of solicited user-generated content. In this situation, direct involvement of the responsible managers seems mandatory to identify weak signals.

Requirements for prior related knowledge in each of the four identification modes have different implications for the emergent organizational models, especially with regard to casual recognition of strong signals and noticing of weak signals. While responsible managers are typically directly involved in planned identification, the unplanned identification depends on the relevant prior related knowledge and alertness of community managers or service agents in direct user contact. As already noted by Cohen & Levinthal (1990), a low diffusion of digital responsibilities ideally brings forward gatekeepers to filter and boundary-spanners to translate information, but also narrows the identification process. The following research propositions discuss a firm’s anticipated capabilities to identify valuable information depending on its organizational model (see Table 15).

**Table 15: Proposed organizational capabilities to identify valuable information**

<table>
<thead>
<tr>
<th>Organizational model</th>
<th>Capability to recognize (P13)</th>
<th>Capability to notice (P14)</th>
<th>Capability to detect (P15)</th>
<th>Capability to explore (P16)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Centralized model</td>
<td>+++</td>
<td>+</td>
<td>++</td>
<td>+</td>
</tr>
<tr>
<td></td>
<td>Focus ensures continuity and high alertness</td>
<td>Focus limits search radar and understanding</td>
<td>Low awareness limits scope of active detection</td>
<td>Low expert knowledge and cooperation</td>
</tr>
<tr>
<td>Collaborative model</td>
<td>++</td>
<td>+++</td>
<td>+++</td>
<td>+++</td>
</tr>
<tr>
<td></td>
<td>No full control but able to cover many platforms</td>
<td>Connectivity broadens search and expertise</td>
<td>Combine understanding and analysis routine</td>
<td>Combine understanding and analysis routine</td>
</tr>
<tr>
<td>Integrated model</td>
<td>+</td>
<td>++</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td></td>
<td>Risk of low accountability and continuity</td>
<td>Diverse but too focused knowledge</td>
<td>Lack necessary analysis routine for detection</td>
<td>Expert knowledge mandatory for exploration</td>
</tr>
</tbody>
</table>

Legend: +++ = highest, ++ = medium, + = lowest level in comparison
The timely recognition of unexpected but strong signals in user-generated content requires continuous search efforts rather than specific prior related knowledge, as strong signals are evident and easily detectable. In centralized organizational models, concentration of digital responsibilities ensures high professionalism and full control over digital interactions with formal routines and regular monitoring reports set up. By comparison, higher task diffusion in the collaborative and integrated models enables firms to search digital interactions more broadly and deeply. However, enforcement of continuous scanning becomes increasingly difficult with decentralization, so that the capability to recognize is expected to go down (see P13).

\[ P_{13}: \text{A firm’s capability to recognize strong signals for valuable information in user-generated content is highest for centralized, at a medium level for collaborative, and lowest for integrated organizational models.} \]

As weak signals show in abnormalities or ambiguities, noticing requires a certain level of prior related knowledge. The integrated model with its high diffusion of digital responsibilities exhibits the highest diversity of prior related knowledge at its digital touchpoints, but the responsible managers typically have a rather focused perspective. Intensive cross-functional cooperation in the collaborative model, on the other hand, leads to a broader expertise of all digital managers, while selective task diffusion also provides for a deep understanding if needed. In the centralized model, identification is tied to the search radar of responsible marketing, communications, or sales managers. Based on the different combinations of depth and breadth of prior related knowledge at the digital frontline, the collaborative model is expected to best support noticing of weak signals. In both the integrated model and especially in the centralized model the narrow focus and background of digital managers are expected to impede casual or chance finds (see P14).

\[ P_{14}: \text{A firm’s capability to notice weak signals for valuable information in user-generated content is highest for collaborative, at a medium level for integrated, and lowest for centralized organizational models.} \]

In planned identification processes, the responsible managers have typically initiated or at least contributed to problem definition and content evaluation, as exemplified by the broad range of efforts to solicit, monitor, or analyze user-generated content across all cases. The organizational models primarily vary in their probability for planned identification. With established firm-wide connections and cooperation, firms with a collaborative organizational model have comparative advantages. Frequent cross-functional exchange promotes digital awareness, so that user-generated content
becomes an accepted source of information. In centralized models, the pooled analysis expertise and control of all interaction channels facilitate identification, but the scope of search activities essentially remains limited. Alternatively, integrated models ensure direct involvement of all responsible managers but depend on cross-functional cooperation to connect the dispersed experts. As the detection of strong signals requires expertise in analysis routines rather than an in-depth understanding, firms with a centralized model are expected to have greater capability to detect strong signals than those with integrated models (see P15). For the exploration of weak signals, on the other hand, in-depth understanding becomes mandatory, so that probabilities for identification reverse (see P16).

\[ P_{15}: \text{A firm’s capability to detect strong signals for valuable information in user-generated content is highest for collaborative, at a medium level for centralized, and lowest for integrated organizational models.} \]

\[ P_{16}: \text{A firm’s capability to explore weak signals for valuable information in user-generated content is highest for collaborative, at a medium level for integrated, and lowest for centralized organizational models.} \]

In developing identification capabilities, firms have to balance their search efforts and screening capabilities with the level of overall absorptive capacity. High investments for new channels and costs of information processing limit the marginal utility of information (Koput, 1997; Laursen & Salter, 2006). More specifically, Katila & Ahuja (2002) have differentiated between search depth and breadth, defined respectively as the extent to which firms draw on external sources (exploitation) and the range of sources taken into account (exploration). With their interaction strategy and channels, firms partly predefine the scope of potentially valuable information in user-generated content, especially for unplanned identification. Yet, identification is not limited to proprietary platforms. To identify original insights, broader exploration may in fact be helpful, as independent platforms attract different users and trigger a different dynamic than that of branded communities. For optimal effective and efficient identification, firms have to carefully design their portfolio of digital interaction channels.
5.5.2 Dissemination and integration of acquired information

Regarding a firm’s capabilities to disseminate and integrate acquired information, the case findings suggest that direct involvement of responsible managers in planned or unplanned identification generally facilitates assimilation for immediate or later use (see section 5.5.1). If the responsible managers are not involved, assimilation requires dissemination of the valuable information, e.g., through regular reports or follow-up workshops. In line with the media richness theory (Daft & Lengel, 1986), the case findings show that the ideal channel for dissemination depends on various influence factors, like the receivers’ openness to user-generated content, proximity between sender and receiver, or complexity and urgency of specific information. Consolidation of the case findings with extant research helps to further delineate and specify these emergent modes and determinants of assimilation, especially literature streams on market intelligence, customer complaint handling, and knowledge transfer.

Market orientation literature has investigated assimilation processes with the aim of enhancing the use of market intelligence. For the consumption of subcontracted market research reports, Deshpandé & Zaltman (1982) have found strong effects for decentralized structures and low formalization. Evidently, higher levels of involvement increase the acceptance of information, and less formal structures promote firm-wide exchange and understanding. In intelligence dissemination, interpersonal factors facilitate trust between receiver and sender (Maltz & Kohli, 1996; Moorman, Deshpandé, & Zaltman, 1993). Additional determinants for dissemination frequency and formality include physical distance and receivers’ organizational commitment (Maltz & Kohli, 1996), as also highlighted by the case studies. McDonald’s rearranged its marketing and communications team around the social media community manager; and SWISS’ managers have highlighted the short distances at the headquarters. Yet, prior research has also shown detrimental effects of prior related knowledge and strong positions of managers on market knowledge use (Menon & Varadarajan, 1992). As for the mode of dissemination, formal communication (e.g., mails, reports) seems to promote market intelligence use better than informal communication (Maltz & Kohli, 1996).

A professional complaint management enables firms to restore customer satisfaction and loyalty (e.g., Homburg & Fürst, 2005) as well as improve their product and service portfolio. Because a firm’s responsiveness depends on its capabilities to assimilate the feedback, prior research has investigated determinants for defensive organizational behavior, which impede or bias transmission of criticism. Reluctance to forward customer feedback to complaint and senior managers is particularly prevalent for personal mistakes but also to ward off an internal image as the constant bearer of bad
tidings (Homburg & Fürst, 2007). At worst, defensive mechanisms may set off a vicious circle of inaction and further customer complaints (Fornell & Westbrook, 1984). To improve the process quality of complaint handling, extant research has recommended definition of formal guidelines and IT systems to register and handle customer criticism (Homburg, Fürst, & Koschate, 2010). In the present study, explicit or implicit guidelines and processing tools existed, particularly for service requests.

Research on knowledge transfer reinforces the broad spectrum of potential barriers to disseminating information. Szulanski (1996) explored structural, relational, as well as cognitive origins for internal stickiness and found that knowledge-related factors outweigh motivational barriers. A common knowledge-related barrier is causal ambiguity, but rich, personal media can help to reduce equivocality (Daft & Lengel, 1986). As for organizational factors, Inkpen & Tsang (2005) highlight that impediments to knowledge transfer vary across different network types. In general, close relationships and centralized network positions seem to facilitate knowledge transfer, while cultural differences between sender and receiver have opposite effects (cf. Wijk et al., 2008).

Overall, the additional insights from prior research align with the case findings and provide further arguments for the conceptualization of a firm’s capabilities to assimilate information from user-generated content. The following research propositions examine a firm’s anticipated capabilities to assimilate information based on its organizational model (see Table 16).

Table 16: Proposed organizational capabilities to assimilate information

<table>
<thead>
<tr>
<th>Organizational model</th>
<th>Capability to disseminate acquired information (P17)</th>
<th>Capability to integrate acquired information (P18)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Centralized model</td>
<td>++</td>
<td>+</td>
</tr>
<tr>
<td></td>
<td>Central perspective ensures firm-wide overview and full control of dissemination processes</td>
<td>Need to create firm-wide awareness and promote trust for boundary-spanning integration of information</td>
</tr>
<tr>
<td>Collaborative model</td>
<td>+++</td>
<td>+++</td>
</tr>
<tr>
<td></td>
<td>Well-established network and regular contact ease and speed up custom-fit dissemination</td>
<td>Select integration and intensive collaboration lead to firm-wide involvement and digital awareness</td>
</tr>
<tr>
<td>Integrated model</td>
<td>+</td>
<td>++</td>
</tr>
<tr>
<td></td>
<td>Distributed responsibilities bear risk of only loose connections that hamper dissemination</td>
<td>Direct involvement of expert units facilitates integration of information in respective application field</td>
</tr>
</tbody>
</table>

Legend: +++ = highest, ++ = medium, + = lowest level in comparison
A firm’s capability to disseminate acquired information depends on the extent to which it has built up formal or informal communication networks to distribute valuable information regularly or ad hoc (cf. Maltz & Kohli, 1996). By definition, the collaborative model exhibits higher levels of firm-wide exchange than do the centralized and integrated organizational models. These well-established internal communication channels imply higher levels of trust and awareness of mutual information needs (Maltz & Kohli, 1996; Moorman et al., 1993), which ease and speed up knowledge dissemination. In the centralized model, the digital interaction managers serve as gatekeepers (cf. Cohen & Levinthal, 1990), so that individual organizational position, connections, and power become critical for dissemination. As user requests are typically handled by customer service, they enter established escalation and reporting processes automatically. In addition, the analyzed firms have tried to overcome the centralization trap through internal campaigns and by integrating other units in content development. In the integrated model, high task diffusion and specialization increase the risk of loose connections between the distributed expert units. With insufficient cross-functional exchange or cooperation, cultural differences are more likely to persist between units (Wijk et al., 2008), so that dissemination rate is expected to be lower than in the centralized model.

*P17:* A firm’s capability to disseminate acquired information from user-generated content is highest for collaborative, at a medium level for centralized, and lowest for integrated organizational models.

The capability to integrate acquired information for immediate or later application generally requires trust in the quality of user-generated content (cf. Maltz & Kohli, 1996). Thereby, direct involvement in digital interactions can help to give employees a better sense of user-generated content and ensure consideration of the identified information in decision-making. The collaborative model with direct or indirect involvement of relevant expert units through its coordinating hub facilitates integration of valuable information. For integrated models, the high diffusion of digital responsibilities also ensures involvement of the responsible managers, as exemplified by BMW’s development teams in open innovation. Yet, lack of coordination can narrow the perspective (Cohen & Levinthal, 1990), so that the capability to integrate insights is expected to be lower in the integrated than in the collaborative model. For the centralized model, concentration of digital responsibilities in marketing, communications, or sales implies that other units have few contact points with digital interactions and few possibilities to build digital awareness, as exemplified by SBB. Based on the limitations for boundary-spanning integration of valuable information
from user-generated content, the capability to integrate acquired information is expected to rank lowest for firms with a centralized model (see P18).

\[ P_{18} \]: A firm’s capability to integrate acquired information from user-generated content is highest for collaborative, at a medium level for integrated, and lowest for centralized organizational models.

5.5.3 Application of assimilated information as knowledge or action

For absorptive capacity to be at an effective level, firms need capabilities to apply assimilated information, e.g., in the forms of an extended knowledge base, product improvements, introduction of new products, or business model adaptations (cf. Lane et al., 2006; Moorman, 1995). The cross-case analysis has generated four modes of application based on a firm’s active interest in generating information and ultimate form of use (see section 4.5.3): In planned identification, firms actively search for information to support decision-making or improve understanding in a previously defined area of interest. Casual, unplanned finds may also initiate direct reaction or promote internal rethinking. Yet, underlying capabilities to apply casual, unplanned finds differ from planned identification based on the characteristics of user-generated content (see P1-4) and involvement of responsible managers (see P7-8). A distinction between the four modes of application seems vital for the conceptualization of a firm’s capability to apply information from user-generated content.

Extant research has also suggested different forms of information application that fit the refined processes from the case studies. More specifically, literature on marketing knowledge use has distinguished between instrumental and conceptual use\(^{50}\) (e.g., Menon & Varadarajan, 1992; Moorman, 1995; Morgan et al., 2005). In this view, instrumental use manifests in specific activity, practice, or policy changes, whereas conceptual use relates to enhanced understanding of customer needs for future decision-making. For customer complaints, Homburg & Fürst (2007) have highlighted the importance of not only handling responses but also analyzing the root causes of complaints for subsequent decision-making. Taken together, conceptual use and complaint analysis both correspond to learning effects or knowledge gains, while instrumental use and reaction relate to direct action. Response handling as a third

\(^{50}\) As a third category, Menon & Varadarajan (1992) have introduced affective use, which describes individual use experiences but has no direct relevance for marketing knowledge use and, thus, has been neglected in subsequent studies (e.g., Moorman, 1995; Morgan, Anderson, & Mittal, 2005).
category does not directly represent an application mode but highlights the need for firms to not only apply information but also make outcomes transparent, as exemplified by storytelling and specific labels for Migros’ crowdsourced products.

Research on *organizational determinants for information use* has arrived at partly conflicting findings, with the majority of studies suggesting that decentralized structures and formal or informal internal communication promote the use of market knowledge (e.g., Deshpandé & Zaltman, 1982; John & Martin, 1984; Menon & Varadarajan, 1992). Similarly, research on explorative and exploitative learning suggests that the involvement of the decision makers and hierarchical positioning of digital managers (cf. Atuahene-Gima, 2003; Tsai, 2001) as well as shared mental models among employees (cf. Jansen, 2005) determine the outcome. Transferred to the three identified organizational models, firms with collaborative and integrated organizational models seem to have structural advantages in their capabilities to apply assimilated information over firms with centralized models. To determine a firm’s capabilities to apply acquired information, consequences of direct involvement and central coordination have to be weighed against each other for the four identified modes of application (see Table 17).

Table 17: Proposed organizational capabilities to apply information

<table>
<thead>
<tr>
<th>Organizational model</th>
<th>Capability to respond to user input (P19)</th>
<th>Capability to pick up knowledge (P20)</th>
<th>Capability to implement feedback (P21)</th>
<th>Capability to improve understanding (P22)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Centralized model</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Coordinating unit has overview to follow up and ensure reaction</td>
<td>Need to promote acceptance for other units to pick up trends</td>
<td>Restricted implementation; verify through other channels</td>
<td>Narrow learning effects, combine with other channels</td>
<td></td>
</tr>
<tr>
<td>Collaborative model</td>
<td>+++</td>
<td>++</td>
<td>+++</td>
<td>+++</td>
</tr>
<tr>
<td>Regular exchange increases firm-wide attention to emergent trends</td>
<td>Hub supports implementation in cross-functional projects</td>
<td>Hub promotes knowledge gains in boundary-spanning projects</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Integrated model</td>
<td>++</td>
<td>+++</td>
<td>++</td>
<td>++</td>
</tr>
<tr>
<td>Responsible unit can react directly, but low control and coordination</td>
<td>Pick up trends (un-)consciously through regular direct contact</td>
<td>Responsible managers have active interest in implementation</td>
<td>Responsible managers have active interest in knowledge</td>
<td></td>
</tr>
</tbody>
</table>

Legend: +++ = highest, ++ = medium, + = lowest level in comparison
A firm’s capability to respond to user input demonstrates the degree to which it acts on information from unplanned identification, e.g., corrects mistakes, reacts to complaints, or implements suggestions for improvement. Response is conditional upon firm-wide acceptance of user-generated content as well as management power to take the necessary action. In the centralized model, the digital core unit has full control but only limited scope of action, so that a key challenge is to promote digital awareness throughout the firm. For instance, EMP’s customer service and social media managers regularly share acquired information with product managers but de facto have limited control. Alternatively, broad task diffusion in the integrated model increases the capacity to act, but a coordinating authority is missing, so that appropriate reactions remain up to the responsible unit. The collaborative model combines necessary competence to act with a coordinating authority through select task diffusion. For instance, Migros product managers receive automated notifications from the Migipedia community, while the online communications managers keep an eye on user feedback and investigate repeat comments. Thus, a firm’s capability to respond to user input is expected to be highest for collaborative organizational models, followed by the integrated and then the centralized model.

\[P_{19}:\] A firm’s capability to respond to user input is highest for collaborative, at a medium level for integrated, and lowest for centralized organizational models.

A firm’s capability to pick up knowledge from unplanned identification leads to learning effects. Thus broad acceptance of user-generated content and a high level of direct involvement seem beneficial, as knowledge gains often remain intangible. Notably, BMW’s cross-functional project teams for open innovation, monitoring, and analytics grant all members first-hand opportunities for conscious or unconscious learning. In contrast, knowledge gains in the collaborative and centralized models are often limited to the responsible units. Accordingly, the centralized model is expected to have the biggest challenges in picking up knowledge (like emergent trends, for example), while the collaborative and integrated models benefit from a broader digital frontline.

\[P_{20}:\] A firm’s capability to pick up knowledge is highest for integrated, at a medium level for collaborative, and lowest for centralized organizational models.

A firm’s capabilities to apply information after planned identification are generally facilitated by the facts that solicited user-generated content ideally has higher feasibility, originality, and business potential and that the responsible managers are directly involved in interaction processing. After all, planned identification traces back to specific interest in applying information, namely to support decision-making or
improve understanding of a certain issue. The specific purpose implies necessary acceptance of user-generated content as an information source and also directs management attention. However, the scope of a firm’s propensity to stimulate user-generated content (see P\textsubscript{10-12}) and actively search for information (P\textsubscript{15-16}) varies across the three organizational models and bounds its capabilities to implement feedback or improve understanding. Foremost, the concentration of digital responsibilities in marketing, communications, or sales in centralized models limits the scope of application. In the integrated model, responsible units apply information more or less independently, while the coordinating hub in the collaborative model can still provide support in application. Accordingly, firms with collaborative organizational models are expected to have the highest capability to both implement feedback and improve understanding, while firms with integrated and particularly centralized models face more organizational barriers.

\( P_{21} \): A firm’s capability to implement feedback is highest for collaborative, at a medium level for integrated, and lowest for centralized organizational models.

\( P_{22} \): A firm’s capability to improve its understanding is highest for collaborative, at a medium level for integrated, and lowest for centralized organizational models.

### 5.6 Synthesis of the conceptual framework and research propositions

Consolidation of the case findings with prior research helps to revisit and expand the guiding framework into a *conceptual framework*. At the firm level, the contextual and situational factors of the individual case studies have explained firm-specific differences as well as key drivers and barriers. Yet, the fine-grained perspective has set the focus of theory development on the interaction level to help substantiate key determinants of a firm’s capabilities to tap digital interactions and conceptualize key relationships. To sharpen the emergent constructs and mechanisms, additional in-depth literature reviews have accompanied the empirical analysis (cf. Eisenhardt, 1989). Overall, the case studies and in-depth literature review have helped to specify six dimensions (see Figure 43):

1. **Interaction strategy**: At the firm level, the interaction strategy defines the general principles for digital interactions, like the range of touchpoints, content focus, tonality, and efforts to stimulate user-generated content. Thereby, stimulation may generally serve different goals, namely branding, relational, and sales effects, or generating information. To stimulate and gain influence in digital interactions, firms have to provide an added user value.
Figure 43: Conceptual framework with research propositions
2. *Organizational model:* Based on the diffusion of digital responsibilities and level of connectedness, the case studies point to three dominant organizational models that substantiate extant business frameworks (e.g., Owyang, 2010; Sayre et al., 2012). In the (1) centralized organizational model, digital responsibilities are pooled in marketing, communications, or sales. In contrast, the (2) collaborative model involves select task distribution but retains a centralized hub for coordination. Firms with (3) an integrated model have spread all digital responsibilities to relevant functions throughout the firm. The organizational model impacts a firm’s capabilities to tap digital interactions and, thus, the scope of generated information and possible managerial levers.

3. *Stimulation efforts and tactics:* The relevance of generating information determines to what extent a firm tries to stimulate valuable user-generated content. The case findings suggest two combinable tactics to stimulate more valuable user-generated content, i.e., strengthen the impact of its general efforts to stimulate valuable user-generated content. In particular, firms can target users with specific expertise, solicit specific content, or both.

4. *Stimulation capabilities:* The organizational model determines a firm’s capabilities to stimulate valuable user-generated content, since the diffusion of digital responsibilities and level of connectedness inevitably set the focus in stimulation, knowledge about internal information needs, and experience in digital interactions.

5. *Absorptive capacity:* Cohen & Levinthal have initially defined absorptive capacity as a “firm’s ability to identify, assimilate, and exploit knowledge from the environment” (1989, p. 569). The in-depth analyses suggest a further differentiation of the underlying learning processes based on the characteristics of user-generated content and extent to which a firm actively searches for information, e.g., with monitoring, analytics, or the various tactics to solicit user-generated content.

6. *Interaction processing:* Corresponding to repeat research calls (Lane et al., 2006; Volberda et al., 2010; Wijk et al., 2008) and the original conceptualization of absorptive capacity (Cohen & Levinthal, 1990), the in-depth case analyses have assumed an integrated perspective in their examination of the firm’s organizational model and absorptive capacity. The case findings support the proposal that diffusion of digital responsibilities and level of connectedness influence a firm’s capabilities to identify, assimilate, and apply information differently. The multifaceted mechanisms as well as specific strengths and weaknesses of each organizational model suggest levers to develop absorptive capacity.
The emergent constructs and relationships suggest a number of research propositions, as depicted in Figure 43 and summarized in Table 18. Foremost, a firm’s efforts to stimulate valuable user-generated content are proposed to impact the actual volume and quality of user-generated content, given that the interaction strategy builds on added user value (P1-4). Firms strengthen or weaken the impact by targeting users with specific expertise or by soliciting specific content (P5-6). Research propositions on the organizational models (P7-9) delineate core differences in the diffusion of digital responsibilities, level of connectedness, and scope of involvement, which in turn determine a firm’s efforts and propensity to stimulate valuable user-generated content (P10-12), as well as capabilities for interaction processing across organizational models (P13-22). Based on the path-dependent nature of absorptive capacity, competitive advantages resulting from user-generated content will over time impact a firm’s organizational model and interaction strategy. Accordingly, it is important to note that the conceptual framework is not static but represents a dynamic model (cf. Cohen & Levinthal, 1990; Lane et al., 2006).

**Table 18: Overview of all research propositions**

| Tactics to stimulate valuable user-generated content (see section 5.2) |
|-----------------|---------------------------------------------------------------|
| P₁   | With a firm’s increasing efforts to stimulate valuable user-generated content, the volume of user-generated content increases. |
| P₂   | With a firm’s increasing efforts to stimulate valuable user-generated content, the overall feasibility of information in user-generated content increases. |
| P₃   | With a firm’s increasing efforts to stimulate valuable user-generated content, the overall originality of information in user-generated content increases. |
| P₄   | With a firm’s increasing efforts to stimulate valuable user-generated content, the overall business potential of information in user-generated content increases. |
| P₅a-d | Depending on the knowledge, experience, and dynamics in a specific user group, targeting of that user group can either strengthen or weaken the positive impact of a firm’s efforts to stimulate user-generated content on (a) the volume of user-generated content and (b) feasibility, (c) originality, and (d) business potential of information in user-generated content. |
| P₆a-d | Depending on the exact problem definition, the solicitation of specific content can either strengthen or weaken the positive impact of a firm’s efforts to stimulate user-generated content on (a) the volume of user-generated content and (b) feasibility, (c) originality, and (d) business potential of information in user-generated content. |

| Organizational models (see section 5.3) |
|-----------------|---------------------------------------------------------------|
| P₇   | The diffusion of digital responsibilities is highest for integrated, at a medium level for collaborative, and lowest for centralized organizational models. |
The level of connectedness is highest for collaborative, at a medium level in integrated, and lowest for centralized organizational models.

The scope of involvement is highest for integrated, at a medium level for collaborative, and lowest for centralized organizational models.

Propensity to stimulate valuable user-generated content (see section 5.4)

A firm’s efforts to stimulate valuable user-generated content are highest for collaborative, at a medium level for integrated, and lowest for centralized organizational models.

A firm’s propensity to target users with specific expertise is highest for integrated, at a medium level for collaborative, and lowest for centralized organizational models.

A firm’s propensity to solicit specific content is highest for collaborative, at a medium level for integrated, and lowest for centralized organizational models.

Capabilities for interaction processing (see section 5.5)

A firm’s capability to recognize strong signals for valuable information in user-generated content is highest for centralized, at a medium level for collaborative, and lowest for integrated organizational models.

A firm’s capability to notice weak signals for valuable information in user-generated content is highest for collaborative, at a medium level for integrated, and lowest for centralized organizational models.

A firm’s capability to detect strong signals for valuable information in user-generated content is highest for collaborative, at a medium level for centralized, and lowest for integrated organizational models.

A firm’s capability to explore weak signals for valuable information in user-generated content is highest for collaborative, at a medium level for integrated, and lowest for centralized organizational models.

A firm’s capability to disseminate acquired information from user-generated content is highest for collaborative, at a medium level for centralized, and lowest for integrated organizational models.

A firm’s capability to integrate acquired information from user-generated content is highest for collaborative, at a medium level for integrated, and lowest for centralized organizational models.

A firm’s capability to respond to user input is highest for collaborative, at a medium level for integrated, and lowest for centralized organizational models.

A firm’s capability to pick up knowledge is highest for integrated, at a medium level for collaborative, and lowest for centralized organizational models.

A firm’s capability to implement feedback is highest for collaborative, at a medium level for integrated, and lowest for centralized organizational models.

A firm’s capability to improve its understanding is highest for collaborative, at a medium level for integrated, and lowest for centralized organizational models.
6 Managerial and organizational levers

The in-depth case analyses and cross-case comparison have revealed determinants and capabilities for firms to tap digital interactions, which have expanded prior research and contributed to theory development. Based on the refined constructs and newly identified mechanisms, the following chapter derives management implications. Two general levers highlighted by the conceptual framework are the stimulation of user-generated content and interaction processing. In developing a firm’s capabilities to tap digital interactions, each organizational model faces different challenges. However, the concluding managerial roadmap emphasizes how firms can gradually develop their capabilities to tap digital interactions in six steps.

6.1 Stimulating (more) valuable user-generated content

Both the in-depth case studies and practice reports in professional literature suggest that many firms have difficulty stimulating valuable user-generated content, i.e., rich in information (see section 5.4). Instead, managers are often overwhelmed by the sheer volume of digital interactions, unsatisfied with the information quality, disappointed by low response rates, or all of the above and more. To gain some control over user-generated content, the case findings suggest a portfolio approach to optimize access to information. Key determinants of added user value are content development and community management, which both challenge established organizational structures.

6.1.1 Use a portfolio approach to optimize access to information

By empowering users, interactive digital media facilitate access to user-generated content for firms. Yet, users will only share personal experiences, react to open innovation calls, or comment on brand-related posts if they expect some added value in return. Possible direct or indirect benefits may range from public appreciation and product improvements to personal entertainment or a sense of belonging (e.g., Nambisan & Baron, 2007). For instance, EMP realizes high interaction rates on Facebook with authentic, personal posts that cover a mix of music videos, entertainment, and promotions. The common lifestyle and interests of heavy metal fans may facilitate content curation and user activation for the merchandising mail-order firm, but all firms must identify an appealing reference point as the foundation for their interaction strategies. Especially in firms that attach high relevance to generating information and thus depend on user participation, added user value has to guide any digital interaction strategy (see section 2.1).
Providing an added user value in digital media requires background knowledge of user interests as well as a certain digital expertise. Typically, firms use trial-and-error learning to develop proficiency in digital interactions. Immediate feedback and the readily available data from digital interactions support iterative strategy development. However, flexible adaptation presupposes entrenched customer orientation, digital awareness, and analytic capabilities, as is evident from the case studies. Customer orientation initiatives and digital awareness have been identified as key drivers for engagement in interactive digital media, which also promotes timely development of analytical skills (see section 4.1). Notably, BMW and Migros have initiated competence centers for customer and web intelligence to pool experienced analysts and newly hired simulation and modelling experts.

As user interests change over time and differ for each digital platform or community, experimentation becomes a dominant imperative. The realization process in particular has to remain open to continuously arising feedback (cf. Mintzberg & Waters, 1985) in order to adapt to environmental changes and benefit from experimentation (Day, 2011). This probe-and-learn approach will not supersede but in fact further increase the importance of a clear-cut interaction strategy to coordinate and link the various fragmented digital experiments and activities. As main goals for digital interactions, the cross-case analysis has identified branding, relationship management, sales, and generating new information. The relevance of each goal has differed across the cases, with the greatest variance for generating information (see section 4.2). A highly dynamic and experimental orientation to strategy development and realization manifests in regular formal or informal meetings across functional boundaries.

Proliferating interactive digital channels and platforms typically collide with limited human and financial resources. To still reach a maximum range of consumers and ideally balance insights, the case findings suggest that firms use a portfolio approach that combines different digital interaction channels (e.g., Lorenz, Oheimb, & Schögel, 2009). Notably, BMW has defined a channel hierarchy topped by the carmaker’s proprietary brand sites. Its website provides for full controllability and enables data collection, e.g., to track popular car configurations or optimize visitor journeys and lead generation. M Power World as the exclusive community for BMW M drivers intensifies and deepens customer dialog. Third-party platforms, on the other hand, help to create reach, connect with brand enthusiasts, and lure prospects to the website. External communities and platforms represent complementary sources for information. The differentiated portfolio approach is supported by BMW’s integrated organizational model with firm-wide diffusion of digital tasks – from local car dealers to engineers.
As characteristics and number of users in direct reach as well as possible group dynamics differ, the possibilities to tap digital interactions vary for each touchpoint (see Table 19): While proprietary brand sites, like the corporate website, represent main contact points and information hubs, proprietary brand communities enable more personal exchange, and official brand sites on independent platforms contribute to continuous, casual contact with a broader range of users. To sustain the desired level of solicited and unsolicited user-generated content, firms have to provide a distinctive added user value and balance their solicitation tactics. Therefore, a firm’s ideal activity level in independent communities depends on the fit between the target group and user characteristics, and is also affected by the level of control and other platform-specific parameters. While select, particularly relevant platforms may require permanent presence, others may rather lend themselves for temporary cooperation to broaden user base and solicit specific content; and still others require constant monitoring to identify trends or warning signals, but no other effort or management. Overall, the portfolio and interaction strategies for each individual channel have to remain flexible and ideally follow iterative approaches.

Table 19: Schematic roles of digital interaction channels in a portfolio approach

<table>
<thead>
<tr>
<th>Interaction channel</th>
<th>Proprietary brand sites</th>
<th>Prop. brand community</th>
<th>Brand site on ind. platform</th>
<th>Ind. expert communities</th>
<th>Other ind. external sites</th>
</tr>
</thead>
<tbody>
<tr>
<td>Role in interaction portfolio</td>
<td>Main contact point and referral hub</td>
<td>In-depth, personal exchange</td>
<td>Build up reach and engagement</td>
<td>Source for novel information</td>
<td>Source for unbiased feedback</td>
</tr>
<tr>
<td>Core goals</td>
<td>Branding, sales</td>
<td>Relational, information</td>
<td>Branding, relational</td>
<td>Generate information</td>
<td>Generate information</td>
</tr>
<tr>
<td>Possibilities to generate information</td>
<td>- Invite broad feedback</td>
<td>- Promote user contact</td>
<td>- Develop &amp; encourage user activity</td>
<td>- Gain new ideas</td>
<td>- Identify emergent trends</td>
</tr>
<tr>
<td></td>
<td>- Gain indiv. &amp; aggregate user data</td>
<td>- Encourage feedback &amp; exchange</td>
<td>- Facilitate feedback</td>
<td>- Partner up for specific content</td>
<td>- Opinion leaders</td>
</tr>
<tr>
<td>Activity level</td>
<td>‘Must’, key access and contact point</td>
<td>Only if able to activate users continuously</td>
<td>Depends on target group &amp; user fit</td>
<td>Listen and intensify as needed</td>
<td>Monitor and respond if necessary</td>
</tr>
<tr>
<td>Examples</td>
<td>All official corporate &amp; brand-related websites</td>
<td>E.g., M Power World, #AskMcDo, Migipedia</td>
<td>Popular or spec. interest (e.g., Twitter, Flyertalk)</td>
<td>Spec. interest sites (e.g., Atizo, Hyve, Local Motors)</td>
<td>Periphery, i.e. all other ext. communities and sites</td>
</tr>
</tbody>
</table>
6.1.2 Step up content development and community management

Keys to value-based interaction strategies are professional, user-centered community management and content development. While creating new presences in interactive digital media is relatively easy, growing and engaging the fan base requires continuous commitment. In contrast to traditional marketing campaigns, interaction strategies no longer build on a single advertising message but require real-time multi-channel storytelling. To produce a constant flow of stimulating and authentic posts as well as ensure quick response times, content and community managers often depend on input from other units. In this way, digital interaction managers grow into dramatic directors. In addition, content development and community management capabilities require well-established cross-functional processes and widespread digital thinking (Vollmer & Premo, 2012).

To grow firm-wide relevance of content development and community management, the case studies have illustrated various common practices. The most obvious means to increase awareness for digital platforms and interactions are information campaigns. For instance, SBB has accompanied its official start in social media with presentations for relevant internal audiences, newsletter updates, and intranet reports. Beyond campaigns, direct integration in content production helps to sensitize employees. Amongst others, McDonald’s and SBB have established cross-functional blogging teams and actively invite participation; SWISS hands its Instagram account to a different employee every month. Contributions by top managers help to further amplify internal relevance, as exemplified by irregular blog posts of executive directors at McDonald’s, SBB, and SWISS. Probably the strongest, longest-lasting signal originates from tangible success, including public recognition, media impact, or sales effects. Whereas Migros first had to actively search partners for crowdsourcing initiatives on Migipedia, immediate success reversed the procedure, so that now product managers have to apply for participation.

As both content development and community management thrive on immediacy, well-established, firm-wide processes for information exchange represent another success factor. Determinants for the ease of knowledge transfer are the diffusion of digital responsibilities as well as extant formal and informal connections, as defined by the organizational model but also office space and/or personal interrelationships. Firms with centralized or integrated organizational models especially need to ensure knowledge transfer, while the collaborative model is by definition boundary-spanning with its central hub and various spokes. To promote internal exchange, McDonald’s has copied the design of editorial newsrooms and grouped its marketing and
communications team around the social media manager. The other firms have initiated temporary or permanent cross-functional networks to tear down information silos and establish new standard processes.

For content development, responsible interaction managers typically use editorial calendars. The plans help to map out core topics and dramaturgy across different touchpoints but still have to leave room for current issues. To manage content contributions from other units, some firms have introduced ticketing systems, like SBB. Major projects often involve a marketing or communications manager for content development. For example, SBB’s portal managers attend major sponsorship events. At Migros, the online communications team supports digital marketers in all crowdsourcing projects and partners with other units to enhance advertising effects with storytelling. Similarly, BMW sets up cross-functional teams for its open innovation challenges that include marketing and communications representatives. Transferred to an ideal-typical structure and processes (see Figure 44), (1) content development brings expertise in selection and preparation of coherent, engaging content in line with the overall interaction strategy. Thereby, content development closely cooperates with (2) expert units to identify, encourage, and coordinate possible relevant content and advise expert units in content development for decentralized, targeted communities or specific projects. In the end, (3) content has to provide added value to users for continuously high engagement.

Figure 44: Ideal-typical structure and processes for content development
With *community management*, firms aim to create an open, welcoming atmosphere across all digital presences to stimulate user engagement and meaningful discussions (Vollmer & Premo, 2012). A key capability for successful community management is responsiveness, as manifested in timely answers and a firm’s capability to sense and respond to emergent or latent user needs and interests. To optimize community management, firms also need to revisit their task diffusion and information-exchange processes (see Figure 45): Handling of different forms of (1) user-generated content also requires different levels of expertise. By distinguishing between (2) generalist and (3) specialist community managers, a firm can speed up handling and enhance identification capabilities as part of its absorptive capacity. A broad expertise and network help generalist managers to answer requests and route possibly relevant user-generated content to responsible experts. For solicited content and special-interest communities, the need for thematic focus as well as necessary prior knowledge or decision-making power suggest direct integration of expert units to reduce complexity. Integration may range from named specialist community managers, as exemplified by SWISS in the frequent-flyer community Flyertalk, to designated internal contact persons for further inquiries. A particularly important expert unit, especially for unsolicited requests or complaints in mainstream communities, is (4) customer service.

**Figure 45: Ideal-typical processes for community management**
6.1.3 Employ tactics to stimulate valuable user-generated content

By facilitating contact with a broad range of user groups and access to behavioral data, interactive digital media represent a potential source for rich real-time information from and about consumers. Users readily share their experiences or feedback with other users or connect with firms directly. As part of a value-adding interaction strategy, firms can try to actively guide users and influence the volume as well as quality of user-generated content with solicitation efforts. In particular, case analyses have identified two combinable tactics: (1) target users with specific expertise and (2) solicit specific content (see section 5.2). To optimize the information value of digital interactions as a baseline for interaction processing, firms have to integrate the two solicitation tactics in their standard toolset for market knowledge acquisition.

In digital interactions, user-generated content reflects the knowledge and experiences of the respective user group but also group dynamics, so that collective expertise may diverge from the sum of individual expertise (Surowiecki, 2004). As community size, composition, and dynamics predetermine the information value of user-generated content, firms have to identify and address the right community for specific information needs (Füller & Matzler, 2007), from proprietary brand communities via mainstream platforms to independent special-interest communities. While the current portfolio of digital interaction channels offers direct access points, firms can also partner up with established sites or create new platforms to reach specific audiences. For instance, BMW maintains various brand presences in key automotive and mainstream communities and has also partnered up with the crowdsourcing platforms Hyve and Local Motors for open innovation projects, as their expert users have the relevant background to deliver out-of-the-box yet feasible ideas.

Solicitation of specific content helps to counteract common disruptive factors for the absorption of valuable information, such as operational constraints, bad timing, or misunderstanding of user comments based on lack of detail and wording (cf. Di Gangi et al., 2010). By purposefully asking users for feedback on a certain topic, firms ideally guide user-generated content and control its information value. Depending on the desired input, the problem definition should be more or less open. Firms may want to gain new ideas, feel the pulse on a certain topic, gain product-specific feedback, solve a problem, or just put different options to the vote. For instance, McDonald’s had to limit choices in the MyBurger competition based on available ingredients and kitchen equipment. In contrast, BMW’s Urban Driving Experience Challenge asked users for a broad outlook to scrutinize the carmaker’s innovation agenda.
Standardization and routine use of tactics to stimulate more valuable user-generated content come with experience. Over time firms develop a better sense for consumer activation and possible fields of application while establishing user-generated content as an alternative source for market knowledge. Not least, the ongoing success of crowdsourcing initiatives has promoted large-scale acceptance of Migipedia among Migros product managers. Similarly, BMW’s pilot projects in open innovation have helped to gain experience, identify use cases, and create showcases to integrate the solicitation tactics in standard development processes.

6.2 Improving the effectiveness and efficiency of interaction processing

To what extent firms gain competitive advantages from digital interactions depends on their absorptive capacity, i.e., capabilities to identify, assimilate, and apply valuable information based on the level and distribution of prior related knowledge (cf. Cohen & Levinthal, 1990). The case analyses have refined the understanding of core capabilities of absorptive capacity and impact of the organizational model (see section 5.5). Findings suggest specific managerial levers to improve the effectiveness and efficiency of interaction processing: Foremost, identification of valuable information depends on a firm’s active search efforts and alertness to casual finds. By systematizing listening, monitoring, and analytics activities, firms can optimize the identification processes. Assimilation of identified valuable information requires functioning dissemination and integration processes. By disclosing the application, firms encourage further user engagement as well as increase the internal awareness for possibilities to tap digital interactions.

6.2.1 Systematize the identification processes

The effectiveness of a firm’s capabilities to recognize, notice, detect, and explore valuable information in user-generated content is important, as identification sets the basis for assimilation, application, and ultimately the realization of competitive advantages. Yet, filtering out valuable information is not an easy task given the enormous volumes of user-generated content. To stay on top of 2.5 to 3 million mentions each month, McDonald’s USA distinguishes between macro- and micro-level monitoring (cf. Wion in eMarketer, 2013). Transferred into a general stepped approach, systematic variation of search breadth and depth at different levels helps to optimize the identification of valuable information (see Figure 46): Foremost, macro-level monitoring and analytics provide an overview of user-generated content to
recognize trends and notice ambiguities. At the meso level, focus is on detection and exploration of select issues or topics. Lastly, the micro level tries to feel the pulse of consumers and identify valuable information by directly analyzing individual user comments, requests, or data. By systematizing the different identification levels, the stepped approach also facilitates allocation of responsibilities.

Figure 46: Schematic of different identification levels

Macro-level changes, trends, and ambiguities become visible through large-scale analysis of user-generated content. Often, coarse-grained monitoring also represents the only way to handle the sheer volume of user-generated content, as shown by McDonald’s. Typical examples for identification processes at the macro level are crisis monitoring throughout the web, website performance tracking, and descriptive analyses of direct user feedback. To avoid duplication of work, macro-level identification is best located in a central position, which has broad expertise as well as a firm-wide network to check conspicuous information. For instance, web monitoring may be positioned in corporate communications or quality management, website analytics with content administrators, and initial screening of user feedback in customer service. Escalation schemes help to classify and relay possibly valuable information. Thereby, urgent or unambiguous finds ideally lead to immediate reaction, like security issues, wrong price tags, or other faults. For less urgent or ambiguous macro-level information, firms often gather additional information for verification. A deeper investigation may range from targeted search at the meso or micro level to traditional market research analyses.
Identification processes at the meso level focus on select issues or research questions and require a certain expert knowledge and involvement. Possible focus areas for detection of patterns or specific information and for exploration may include user feedback about ongoing campaigns, new consumer trends, or clarification of ambiguous issues. For example, BMW has combined major marketing campaigns with web analytics and monitoring to identify possibilities for immediate or future optimization. Other triggers have been specific interests of engineers and quality management or conspicuous results in customer satisfaction surveys. The examples highlight the importance of direct specialist involvement, mostly on a project basis or through direct access to analysis tools and results. For instance, the social media community manager for McDonald’s compiles regular performance reports, while other members of the marketing and communications team track all promotions in real time. Increasing digital and analysis skills eases integration of decision-makers. Social software such as paper.li or Flipboard can lend additional support by automatically and intuitively curating pertinent information for individual decision-makers (Harrysson et al., 2012). In addition to monitoring or analytics, the meso level relates to detection or exploration of information in solicited user-generated content, like Migros’ crowdsourcing initiatives and product-related feedback on Migipedia.

While the meso level analyzes aggregate interactions, the micro level goes further down to individual user comments, requests, and data. At this fine-grained level, correct identification and interpretation of information require particular attention to detail and deep prior related knowledge. To grasp specific facets and new aspects in user-generated content, direct involvement of responsible managers is critical. At the same time, expert integration is only practical if the user-generated content has ongoing relevance for that specific function. For instance, SWISS has integrated moderation on Flyertalk in core customer management due to thematic overlaps with daily work. At Migros, product managers receive automated alerts only when comments on Migipedia accumulate, so that weak signals might go unnoticed. In planned identification, possible beneficiaries should always be directly involved, e.g., serve on juries for crowdsourcing challenges to gain a personal impression of user ideas.

The distinction between macro, meso, and micro level points to ideal-typical processes for planned or unplanned identification as well as task diffusion (see Figure 47): At the macro level, (1) centralized monitoring or analytics experts scan user-generated content with exploratory methods and keep responsible expert units updated, e.g., by disseminating regular reports. Directed analytics or monitoring processes at the meso
level are either (2) initiated or (3) performed by expert units. In user integration, expert units are also (3) directly involved or (4) cooperate with community managers. For (5) solicited user-generated content, expert units may ask for aggregate reports and also want to check individual user comments and ideas. If generalist community managers have prior related knowledge, they may also (6) notice or recognize signals at the micro level and share this possibly valuable information with the responsible expert units. Highly specific facets or aspects are usually only visible to respective experts. Yet, direct integration of responsible expert units for (7) planned or (8) unplanned identification is only recommended for highly relevant user-generated content that justifies the resource-intensive participation in community management.

Figure 47: Ideal-typical structure and processes to identify valuable information

Based on the key role of centralized monitoring or analytics experts and generalist community managers in the identification of valuable information, firms should ensure that they have relevant prior related knowledge and a broad network. This point is particularly important, as many firms still appoint community management responsibilities to very junior managers or service agents based on their digital or operational expertise, respectively. Possible managerial levers to broaden the knowledge base of the generalist intermediaries are rearrangement of the office space, job rotation, or other alliances to promote cross-functional exchange. Regular firm-wide exchange also ensures an open organizational culture, which increases the likelihood that possibly valuable information is passed on to the responsible expert unit.
6.2.2 Facilitate assimilation

To leverage digital interactions, identified valuable information has to reach the responsible managers and actually find consideration in decision making. The ease of assimilation primarily depends on the diffusion of digital responsibilities. Direct involvement of the decision makers typically increases the chance that valuable information finds attention, because every additional link from identification to application represents a possible disruptive factor. The case findings have revealed a number of influence factors for the dissemination and integration of information – in brief, the connectedness between employees, media richness in knowledge transfer, and individual mindsets (see section 5.5.2). By controlling these levers, firms can try to augment their assimilation processes. The following examples taken from the in-depth case studies and additional practical literature provide examples of appropriate managerial techniques and tools.

The level of connectedness relates to the density of firm-wide formal and informal networks. Determinants include current or previous liaisons as well as the actual or perceived distance between sender and receiver. With growing diffusion of digital responsibilities and prevalence of analytical skills, the knowledge base becomes more granular and silo thinking turns into a serious threat. Snowball sampling and visual mapping techniques help to chart information flows and pinpoint experts on specific subjects (Duan, Sheeren, & Weiss, 2014; Harrysson et al., 2012). Simultaneously, these intelligence maps disclose nodes and weak spots in organizational design and knowledge distribution. To optimize information flows, firms can try to establish boundary-spanning escalation processes and promote cross-functional connections, e.g., by revisiting organizational and spatial allocation or by creating exchange networks like BMW’s and EMP’s temporary social media working groups.

Beyond the general connections, dissemination of specific information depends on the mode of knowledge transfer. To reach a wide audience, newsletters and reports often represent the easiest and preferred way. Examples include EMP’s Excel lists with all merchandising requests, and SWISS’ word clouds of customer feedback. Urgent, complex, or particularly important information, however, warrants rich media ranging from ad hoc mails, personal calls, videos, and interactive formats to follow-up presentations or workshops. These richer media also help to bridge weak links between sender and receiver. In the medium term, however, firms should provide training to interface managers or hire new talent to reduce and facilitate boundary-spanning processes. For later use, all information ideally flows into existing databases and information resources. While many firms still report troubles with automated data
integration due to legacy IT infrastructure, functioning back-end systems and easy access to all available data represent preconditions for informed real-time decisions. Accordingly, fast-moving consumer goods firms like Procter & Gamble have created cockpit interfaces and equipped conference rooms with digital screens for live data visualization (e.g., Chui & Fleming, 2012).

Lastly, identified valuable information will only have an effect if the decision makers accept user-generated content as a genuine information source. Especially managers with little or no digital experience and maturity may dismiss or simply ignore user feedback and suggestions. Information campaigns, training sessions, and direct employee integration can help to improve awareness of digital interactions and openness to user-generated content. For instance, SBB has provided rich information on the intranet, offered e-learning tools, and invited all employees to provide content for the new digital presences. Similarly, Migros has used showcases to promote acceptance of Migipedia among product managers. Another powerful lever to set off rethinking and behavior changes for the assimilation of information is the adjustment of business metrics. Notably, Dell enhanced the net promoter score to focus employees’ attention on customer experiences (Weinberg et al., 2013).

6.2.3 Make application more transparent

Drawing on the case findings, the application of information from user-generated content varies with a firm’s active interest in generating information and the form of application (see section 5.5.3). While active interest in generating information naturally paves the way for application and typically involves the responsible managers, unplanned casual finds face more barriers in absorption and may not fit in directly. Ideally, application either leads to knowledge gains or distinctive actions. The resulting four modes of application stand for separate capabilities, each with distinct levers to enhance overall effectiveness and efficiency of application. Yet, a recommendation valid for all four capabilities is to enhance internal and external transparency in application.

To increase the capability to respond to unplanned finds, firms have to empower their digital frontline and define escalation processes. The managers not only need a broad certain expertise and good internal network, they need some leeway to speed up handling of complaints and requests and to take lessons learned back into the firm. For example, SWISS has granted the social media team special access rights to the complaint system and integrated the core customer management to increase the effects
of valuable information in user-generated content. Well-defined escalation processes and internal workflows also help to reduce reaction times to mistakes, problems, or suggestions that involve other units. Digital managers should try to stay on top of repeat user requests. Tracking the whereabouts of issues or suggestions not only ensures appropriate reactions and improvements but also enables regular status updates to users in order to encourage further feedback and contributions. To follow up on valuable information, monitoring and customer experience management software like Brandwatch, Sparkcentral, Sysomos, and zendesk offer tagging tools.

Unplanned knowledge gains shape decision-making. For instance, newly identified trends can change the innovation agenda, and complaints may initiate review of individual or segment-specific customer needs. At the macro level, the obtained knowledge typically manifests in monitoring or analytics reports. In contrast, observations from individual comments or requests at the micro level are often tacit. If possible, firms should try to document all knowledge gains to create transparency, maximize learning effects, and ensure consideration in future decision-making by all relevant managers. User-generated content may also guide firms to lead users or experts who can help develop the newly obtained knowledge into specific products or services later on.

Implementation of valuable information from planned identification processes has to be straightforward. Especially for solicited content, users await feedback and will be angered if their contributions are not valued, as best exemplified by the PR disaster after Pril ignored popular crowdsourced product designs because they did not fit the detergent manufacturer’s brand image (e.g., Dämon, 2011). Also, the experiences from Dell IdeaStorm have shown that firms have to make user opinions count and openly disclose progress (Di Gangi et al., 2010). Regular updates can keep the level of involvement up and generate additional buzz until the realization and launch of the winning idea or most popular option. Accordingly, Migros taps user ideas and opinions at several points of its product development cycle on Migipedia. For directed monitoring and analytics as alternative forms of planned identification, clear-cut action plans have to be defined as key deliverables.

Purposeful knowledge gains ideally show in lessons learned, rethinking, and behavior changes but also require some form of documentation. Internally, valuable information from directed or explorative monitoring and analytics are usually summarized in a report, presented, or discussed in workshops. At best, tracking should not stop but continue beyond the final deliverable to ensure sustained effects on decision-making and actions. For solicited feedback, as in BMW’s Urban Driving Experience
Challenge, the follow-up strategy is important to reward participants. As the effects of their contributions may not be immediately noticeable, disclosure of quick wins and next planned steps are even more important to keep users engaged.

Taken together, close tracking of knowledge gains and actions represents a key lever to enhance effectiveness and efficiency of application. Following up on valuable information both ensures a sustained impact and allows further iterative optimization based on subsequent user feedback. Notably, digital interactions may point to consistent or additional need for action. Finally, close surveillance of the whereabouts of valuable information helps to uncover weak spots in overall absorptive capacity and contributes to a success record for possible fields of application.

6.3 Overcoming constraints of the organizational model

The case findings highlight how the organizational model directly influences and also limits a firm’s capabilities to tap digital interactions. To overcome these constraints, each organizational model requires specific managerial levers. A review of distinct characteristics, opportunities, and challenges for each organizational model helps to derive specific recommendations for the development of capabilities to tap digital interactions. The model-specific recommendations also help to prioritize the identified managerial levers to stimulate (more) valuable user-generated content and improve the effectiveness and efficiency of interaction processing (see sections 6.1 & 6.2).

In the centralized model, responsibilities for digital interactions are pooled, typically in marketing, communications, or sales. The single point of contact ensures consistency in all digital activities while setting the focus on branding, relationship, or sales targets. Generating information has rather low relevance and is primarily a support function. To stimulate and absorb user-generated content in other domains, the responsible managers depend on the cooperation of the respective units. However, the low diffusion of digital responsibilities limits all digital experiences to the centralized unit. Accordingly, the development of internal awareness has to take management priority, e.g., through information campaigns, showcases, or direct integration in content development. At the same time, the centralized unit needs to have broad knowledge and connections to ensure a common understanding, spot additional application fields, enhance identification of valuable information, and ease assimilation.
The collaborative model consists of a central hub that coordinates various dispersed managers with select digital responsibilities. While the central hub ensures coherent and continuous development, the partial diffusion facilitates the scaling of digital interactions. Regular cooperation increases mutual understanding and, thereby, not only spreads digital awareness but also helps to uncover relevant content, internal information needs, and additional possibilities to tap digital interactions. In interaction processing, the coordinating center ensures that valuable information reaches the responsible decision-makers. Yet, the hub requires executive support (cf. Owyang, 2010) and becomes a curse if centralized coordination creates a bottleneck (cf. Cohen & Levinthal, 1990). To avoid bloated bureaucracy, firms should try to transfer activities into line functions and promote direct exchange. The hub thereby gains an increasingly strategic role: to initiate new pilot projects with internal partners and manage performance.

A key characteristic of the integrated model is a high diffusion of digital responsibilities. Firm-wide involvement typically leads to a broader scope of generated information and stronger application focus. However, lack of coordination and low control also bear risks of inefficiency and inconsistency. The efforts to solicit user-generated content and identify valuable information depend on individual priorities and commitment, while best practices are not shared systematically. Similarly, silo thinking may threaten assimilation and application. To facilitate coordination and information exchange, firms with an integrated organizational model have to expand formal or informal internal networks. Regular review of the organizational model as well as the firm’s stimulation and absorption processes helps to identify duplicate work, inefficiencies, or other weaknesses.

As summarized in Table 20, the specific characteristics, opportunities, and challenges of the identified organizational models require targeted managerial recommendations. By overcoming the respective organizational constraints, firms enhance their capabilities to tap digital interactions, and differences between the organizational models decrease. Nevertheless, certain differences will persist due to firm- and industry-specific drivers and barriers (see section 4.1).
Table 20: Specific recommendations for different organizational models

<table>
<thead>
<tr>
<th>Organizational model</th>
<th>Centralized model</th>
<th>Collaborative model</th>
<th>Integrated model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organizational</td>
<td>Digital responsibilities pooled, typically in</td>
<td>Selective diffusion of digital responsibilities with</td>
<td>Digital responsibilities merged into related extant</td>
</tr>
<tr>
<td>characteristics</td>
<td>marketing, sales, or communications</td>
<td>centralized, coordinating hub</td>
<td>functions, i.e., high level of diffusion</td>
</tr>
<tr>
<td>Generating</td>
<td>Low relevance</td>
<td>Medium relevance</td>
<td>High relevance</td>
</tr>
<tr>
<td>information</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Examples from</td>
<td>EMP, McDonald’s, SBB</td>
<td>Migros, SWISS</td>
<td>BMW</td>
</tr>
<tr>
<td>case analyses</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Opportunities</td>
<td>- High consistency</td>
<td>- Scalability and digital awareness</td>
<td>- Broad expertise at digital frontline</td>
</tr>
<tr>
<td></td>
<td>- Centralized control over all digital activities</td>
<td>- Centralized coordination</td>
<td>- Firm-wide involvement</td>
</tr>
<tr>
<td>Challenges</td>
<td>- Low scalability</td>
<td>- Cross-functional coordination and interdependencies</td>
<td>- Lack of coordination and inefficiency</td>
</tr>
<tr>
<td></td>
<td>- Focused expertise at digital frontline</td>
<td>- Risk of bloated bureaucracy</td>
<td>- Low control and inconsistencies</td>
</tr>
<tr>
<td></td>
<td>- Overall, limited digital awareness</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recommendations</td>
<td>- Develop internal digital awareness</td>
<td>- Continue to integrate line managers to ensure lean</td>
<td>- Promote cooperation and information exchange</td>
</tr>
<tr>
<td></td>
<td>- Expand knowledge and connections of centralized</td>
<td>structure</td>
<td>- Revisit structure and processes to reduce</td>
</tr>
<tr>
<td></td>
<td>digital managers</td>
<td>- Optimize direct exchange to avoid bottleneck effects</td>
<td>duplicate work</td>
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<td></td>
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</table>

6.4 Gradually developing the capabilities to tap digital interactions

Because the capabilities to tap digital interactions depend on firm-level characteristics as well as the specific organizational model and processes at the interaction level, firms have to gradually develop both at the same time. The resulting two interleaved loops combine the previously discussed managerial levers to stimulate valuable user-generated content and improve interaction processing (see sections 6.1 & 6.2) into an iterative, six-step approach:

1. **Determine possible fields of application**: Industry- and firm-specific characteristics temporarily or permanently limit the possibilities to tap digital interactions, like operational constraints, low digital affinity of the target group, or insufficient top management support. By specifying possible application fields, firms define the focus. The case findings and practical literature (e.g., Bughin et al., 2015) highlight that targeted experiments help to gain experiences before scaling the activities. In
tapping digital interactions, marketing represents a good experimental ground. For example, user-generated content and accruing data can help to better understand consumer interests in order to improve product communication. By testing different fields of application, firms can explore the possibilities for generating information and boundaries of their touchpoint portfolio.

2. **Check ideal task allocation:** Depending on the present organizational model and desired information, the selected application fields may require additional resources or specific expertise to solicit and process user-generated content. For example, crowdsourcing initiatives typically involve specialist managers to outline the tasks and evaluate user ideas. Thus, the ideal task allocation includes different levels of direct and indirect involvement, from permanent responsibilities to active participation in a project team or ad hoc information exchange.

3. **Consider stimulation of valuable user-generated content:** Solicitation tactics help to stimulate valuable user-generated content for the selected application fields. Content development and community management have critical roles to keep up engagement and create trust. Depending on the desired information, firms can solicit specific content or target users with specific expertise, such as expert communities.

4. **Check resources and capabilities:** To realize solicitation and absorption processes, firms have to check and if necessary build up new resources and capabilities, e.g., train expert managers, employ new analysts, introduce new IT tools, or establish informal cooperation networks.

5. **Absorb valuable information:** Identification depends on the scope of monitoring, analytics, and search efforts for valuable information. Beyond the originally selected application field, valuable information may also include unplanned, casual finds in other areas. After successful identification, firms have to assimilate and apply information to realize competitive advantages. Key preconditions are high levels of connectedness and digital awareness.

6. **Check and promote outcomes:** Development of a firm’s capabilities to tap digital interactions calls for continuous performance evaluation. A track record of generated information not only encourages further user participation, it creates showcases to increase the internal openness toward user-generated content. Outcomes help to pinpoint further fields of application and initiate the next iterations.
With its circular nature, the integrated, gradual approach is appropriate for firms of all maturity levels at tapping digital interactions. The six steps are intended to focus attention on relevant managerial levers and provide a basic checklist (see Figure 48). However, the speed of each cycle may vary, and firms can pass multiple iterations for different application scenarios simultaneously.

Figure 48: Gradually developing the capabilities to tap digital interactions
7 Conclusion

Key goals of the present study have been to better understand the determinants of a firm’s capabilities to tap digital interactions, and to identify managerial and organizational levers for improvement. Following the reality-oriented research paradigm (e.g., Tomczak, 1992; Ulrich, 1981) with the discovery-oriented approach (e.g., Kohli & Jaworski, 1990; Workman, et al., 1998), the empirical findings and comprehensive accompanying literature review have helped to look inside the ‘black box’ of firms, metaphorically speaking. The complex interplay of their interaction strategy, organizational model, and processes to stimulate valuable user-generated content as well as absorb valuable information comprise a firm’s capabilities to tap digital interactions and point to specific recommendations for improvement. The concluding sections of the present study discuss key findings, implications for theory and practice, and limitations as future research opportunities.

7.1 General discussion of the findings

Based on the main research question “How can firms develop their capabilities to best tap digital consumer interactions for valuable information?” and gaps in extant research, five research goals and corresponding questions have been defined for the present study. To determine how the empirical observations, in-depth case analyses, and theoretical considerations help to fill these research gaps, the key findings for each research question will be briefly summarized and discussed below.

Research question 1: How do external and internal factors drive or impede the development of a firm’s capabilities to tap digital consumer interactions for valuable information?

A firm’s capabilities to tap digital interactions build on its capabilities to stimulate valuable user-generated content and absorb valuable information. Because these capabilities are characteristic of interaction- and market-oriented firms (e.g., Day, 1994b; Narver & Slater, 1990; Ramani & Kumar, 2008), it comes as no surprise that the present empirical findings highlight the importance of a strategic customer focus. Across all case studies, the activities in interactive digital media trace back to high levels of customer orientation or coincided with respective initiatives. In addition, pioneers like BMW and SWISS feature an innovation-oriented, open organizational culture that has facilitated trial-and-error learning. Entrenched structures and silo thinking have created critical barriers for absorptive capacity (see section 5.1).
Beyond strategic and organizational barriers, interview partners from McDonald’s, SBB, and SWISS referred to *long planning cycles and operational constraints* as obstacles to developing their capabilities to tap digital interactions. As the limited practicability of inbound ideas and feedback is “frustrating” (TT, 79) for users and managers alike, the corresponding firms have set low priority on generating information and developing necessary capabilities. Similarly, professional reports and academic research have suggested different levels of enactment for social media (e.g., Li & Solis, 2013; Weinberg et al., 2013; Wilson et al., 2011) and technologies in general (e.g., Orlikowski, 2000). However, a valid investigation of industry effects on a firm’s proficiency in tapping digital interactions would require a bigger sample. Existing literature has suggested that information-intensive sectors like financial services and media benefit most from information in digital interactions (cf. McDonald, 2013c). To account for these structural constraints, the concluding *step-by-step guide* for firms to develop their capabilities to tap digital interactions starts with the definition of possible fields of application for information (see section 6.4).

*Research question 2*: How do a firm’s interaction strategy and organizational model influence its propensity to stimulate digital consumer interactions and solicit user-generated content?

Due to the different contextual factors, the analyzed firms each have a *different focus in digital interactions*, especially with regard to generating information. While branding and relational effects consistently have top priority and sales represent an implicit goal, only BMW and Migros seek information proactively. In particular, BMW maintains the exclusive M Power World community, solicits user ideas via its Virtual Innovation Agency, and offers irregular open innovation challenges through its Co-Creation Lab. Migros has established its Migipedia community for product-related feedback and crowdsourcing initiatives. In contrast, the other analyzed firms have only solicited user-generated content at times. Yet, the general content strategy, community management, and customer service may also have implicit solicitation effects. For example, EMP receives regular customer feedback and ideas based on its welcoming, personal communication style. To shape and balance a firm’s access to user-generated content, the empirical findings recommend a portfolio of different interaction channels (see section 6.1.1).

A firm’s *capabilities to stimulate valuable user-generated content* build on the allocation of its activities for content development, consumer integration, community management, and customer service in the given organizational model. The allocation
determines the internal standing, available resources, and access to further information for each activity. More specifically, content development requires a functioning internal network to produce relevant stories, as exemplified by the heterogeneous blogging teams of McDonald’s, SBB, and SWISS. For customer service, widespread connections and broad expertise are critical for the agents to ensure fast responses. Community management in turn requires a good instinct for user dynamics, and consumer integration calls for relevant expert knowledge.

The differentiated analysis of activities to stimulate valuable digital interactions helps to advance theory development (see section 5.4) and suggests ideal-typical integration of each activity in a firm’s organizational structure and processes (see section 6.1.2). Prior research has largely focused on specific activities, like crowdsourcing or brand communities (see section 2.1.2), or remained abstract (see sections 2.2.3 & 2.2.4). By distinguishing among the various activities to stimulate valuable digital interactions and considering functional aspects, the present study offers a much more holistic, in-depth perspective that also considers manifold interrelationships.

**Research question 3:** How does the level of firm influence in digital consumer interactions impact the information value of user-generated content?

Through interactive digital media, firms have gained myriad new possibilities to listen, join, and influence consumer interactions – but they effectively have no control over user-generated content (e.g., Hoffman & Novak, 2012a; Schögel et al., 2008). Yet, the exploratory observations and extensive literature review for the present study suggest that different forms of digital interactions exist, each characterized by the direction (consumer-consumer, consumer-firm, firm-consumer, and consumer-media) and effective level of firm influence in digital interactions. To exert influence on user-generated content, firms have to provide an added user value. The success of a firm’s interaction strategy and tactics shows in the information value of user-generated content. Based on prior innovation and marketing research, the present study has defined information value by the volume, average quality, and variance in quality of user-generated content. Proposed quality dimensions are feasibility, originality, and business potential. The specified dimensions of information value have generalized prior conceptualizations to fit both solicited and unsolicited user-generated content (see section 2.1).

Beyond a firm’s general efforts to stimulate valuable digital interactions through engaging content, proactive community management, or fast customer service, the case findings suggest two specific solicitation tactics to control the information value
of user-generated content (see section 5.2): On the one hand, firms can try to target users with specific expertise. For example, BMW and Migros have aimed for brand enthusiasts and lead users in M Power World and Migipedia, respectively. To ensure relevant expertise for crowdsourcing challenges, both have partnered with third-party communities. On the other hand, firms can try to solicit specific content by guiding users. While the specific effects of these solicitation tactics on volume and quality of user-generated content remain ambiguous and call for further research, the findings reinforce the need for a well-balanced touchpoint portfolio that provides access to different user groups as well as the need for integrated content development, community management, and consumer integration capabilities to best stimulate user-generated content (see section 6.1).

**Research question 4:** How does interaction processing vary for different forms of digital interactions and user-generated content?

While prior research has long ignored consumers as a direct source of information (Gibbert et al., 2002; Prahalad & Ramaswamy, 2000), the emergence of interactive digital media has promoted rethinking in marketing and innovation research. Yet, the great majority of extant publications focuses only on purposeful user integration and neglects the information potential in vast amounts of readily available user-generated content. For absorptive capacity, a greater differentiation seems critical. Based on the respective levels of involvement and attention, the various forms of digital interactions (Berger et al., 2005) and characteristics of solicited and unsolicited user-generated content (Hoffman & Novak, 2012b) seem to call for different interaction processing capabilities.

For the **forms of digital interactions** (see section 2.1.1), the present study highlights significant differences in content and information value: Consumer-firm interactions typically represent service inquiries, complaints, or suggestions for improvement and, thus, require rapid response times and ideally reactions. In contrast, consumer-consumer interactions correspond to experience exchanges of like-minded users with less explicit references to consumer needs or interests. User-generated content in firm-consumer interactions largely depends on the provided stimuli, i.e., a firm’s content strategy or community management. Information from consumer-media interactions follows yet other mechanisms. The manifold characteristics reinforce the need for specific capabilities to identify, assimilate, and apply information from different forms of digital interactions.
In addition to the form of digital interactions, the level of firm influence affects the information value. Solicited compared to unsolicited user-generated content implies higher levels of firm influence on the information value. As volume, originality, feasibility, and business potential determine the ease of the absorption processes, a distinction between solicited and unsolicited user-generated content seems critical to a firm’s capabilities to identify, assimilate, and apply information from digital consumer interactions (see section 2.1.3). The case findings provide empirical support for this notion. For example, predefined requirements have helped McDonald’s to increase the feasibility of user ideas and to overcome operational constraints in the MyBurger campaign. Likewise, targeting of specific expert communities can enhance originality, feasibility, and business potential, as exemplified by BMW’s Urban Driving Experience Challenge and other projects of the Co-Creation Lab (see section 5.2).

As an important side effect of a firm’s efforts to solicit user-generated content, the case findings have pointed out the heightened internal attention. The use of monitoring and analytics on a targeted basis imply a basic interest in generating information. As a result, the present study has suggested a distinction between planned and unplanned identification processes (see section 5.5.1). While the planned identification builds on targeted monitoring, analytics, or the assessment of solicited user-generated content, unplanned identification refers to chance or casual finds. In addition to the level of attention, the case findings and prior research (e.g., Day & Schoemaker, 2004a; Fiol & O’Connor, 2003) suggest that the conspicuity of information also determines the identification process. While strong signals are easily identifiable through obvious patterns or accumulations, weak signals require heightened alertness. To improve the overall effectiveness and efficiency, firms should systematically vary search depth and breadth in identification (see section 6.2.1).

The degree of planning in identification has also been found to shape the assimilation and application processes. In planned identification, the responsible managers are typically involved, which reduces the need for dissemination of identified information and facilitates their integration. Alternatively, unplanned identification depends on specified escalation steps and well-established exchange processes (see section 5.5.2). Direct involvement of responsible managers in planned identification also facilitates later application in the form of knowledge gains or actions (see section 5.5.3). For the assimilation and application of information from user-generated content, some interview partners have reported persistent skepticism or even defensive behavior of select units or managers. Cross-checks with traditional market research or through other channels can help to validate acquired information and appease critics. To create
a digital mindset, firms should try to integrate other units (see sections 6.2.2 & 6.2.3). In addition, the developed gradual approach suggests systematic information campaigns to promote successes internally (see section 6.4).

**Research question 5:** How does a firm’s organizational model impact its absorptive capacity?

Responding to repeat research calls (cf. Lane et al., 2006; Volberda et al., 2010), the present study has adopted an integrated perspective in regard to interaction processing and analyzed a firm’s absorptive capacity in light of its organizational model. The bases for analysis have created the emergent sub-processes of absorptive capacity and organizational models. More specifically, the case findings suggest three dominant organizational models based on the diffusion of digital responsibilities and level of connectedness (see sections 4.3 & 5.3): In (1) the **centralized model**, the majority of digital responsibilities is pooled in marketing, communications, or sales. In contrast, the (2) **collaborative model** has distributed select tasks while maintaining a central hub for coordination, and (3) the **integrated model** has merged all digital responsibilities into existing functions and processes. By linking the functional and activity-based organizational perspectives, the three models expand digital business frameworks suggested by professional reports significantly (e.g., Owyang, 2010).

As the organizational models seem to differentially impact a firm’s capabilities to identify, assimilate, and apply information from user-generated content, the case findings provide empirical support for an **integrated perspective**. In the centralized model, the pooled responsibilities narrow the digital frontline and involvement of other units, while the centralized task force facilitates enforcement of high standards. On the other hand, firms with integrated organizational models score with a broad digital frontline but often lack coordination and control. Valuable information may seep away in boundary-spanning processes if the responsible managers are not open to user-generated content. The collaborative model combines high levels of cooperation with a minimum of control but also increases the internal complexity, especially if the central hub becomes too powerful. Overall, the differentiated perspective points to strengths and weaknesses of each organizational model that not only highlight specific capabilities to identify, assimilate, and apply information from user-generated content (see section 5.5) but also allow specific recommendations (see section 6.2 & 6.3).
7.2 Theoretical implications

Based on the significant research gaps in information about a firm’s capabilities to tap digital interactions, the present study has followed the discovery-oriented research approach (cf. Kohli & Jaworski, 1990; Workman, et al., 1998) to advance theory development and refine extant concepts. As a theoretical foundation, the present study has drawn on prior research in the fields of developing firm capabilities, tapping external information, and managing digital interactions (see section 1.2). Literature streams at the intersections have had particular relevance for the present study, namely tapping digital interactions, firm capabilities to manage digital interactions, and firm capabilities to tap external information. To highlight the theoretical implications of the present study, the contributions to research at each of these intersections will be summarized below.

**Tapping digital interactions:** By facilitating user activity and abolishing the trade-off between reach and richness, digital interactions have enhanced access to information from and about consumers. While prior research has long ignored consumers as a direct source of competence, more recent research on value co-creation (e.g., Gibbert et al., 2002; Prahalad & Ramaswamy, 2000) and open innovation (Chesbrough, 2003; Hippel, 2005) analyzed possibilities for user integration. However, the present study underscores the fact that purposeful consumer integration neglects great parts of the information potential in digital interactions. By considering different forms of digital interactions, distinguishing between solicited and unsolicited user-generated content, and establishing specific dimensions for the information value of user-generated content, the present study substantiates the understanding of digital interactions and lays important theoretical foundations to integrate digital interactions as a regular source of information in future research.

**Firm capabilities to manage digital interactions:** With user empowerment and enhanced connectivity, interactive digital media have transformed marketing and business practice, as discussed in innumerable professional reports (e.g., Owyang, 2010; Sayre et al., 2012). Scholarly publications on digital transformation are still rare, but the present study helps to advance theory in at least three important ways:

- The concept of interaction orientation propagates an organizational orientation toward individual customer interactions (Ramani & Kumar, 2008). Initial studies have established a positive performance effect and laid the foundations for the guiding research framework of the present study. Yet, prior research has not adequately discussed *how* firms can achieve and sustain organizational interaction
orientation. The present study with its fine-grained perspective helps to fill the blanks and suggests critical capabilities to stimulate and process interactions.

- While the concept of interaction orientation merely builds on individual customer information, the present study details how digital interactions also enhance *access to aggregate information*. The findings encourage future research to add aggregate-performance measures to adequately account for side effects on a firm’s knowledge base and innovation (cf. Danzinger, 2010; Pergelova, 2010).

- The increasing firm-wide prominence of marketing activities has promoted research on organizational aspects (e.g., Moorman & Rust, 1999; Workman et al., 1998). Yet, interactive digital media broaden the scope of marketing even further and propel the need for new organizational roles and structures (French et al., 2011). With its integrative view of functional and activity-based aspects, the present study suggests three *dominant organizational models for digital interactions* and gives new impetus to research on marketing organization.

**Firm capabilities to tap external information:** Organizational learning processes and the concept of prior related knowledge, as key tenets of absorptive capacity and market orientation research, have established the theoretical basis for interaction processing capabilities in the present study (e.g., Cohen & Levinthal, 1989; Jaworski & Kohli, 1993, Kohli & Jaworski, 1990). The fine-grained perspective of the in-depth case analyses expands extant theory in three ways:

- Prior research on absorptive capacity and market orientation has focused on market research, professional experts, or corporate partnerships as largely stable knowledge sources (cf. Lane et al., 2006; Sinkula, 1994; Volberda et al., 2010). For digital interactions, the present study suggests that firms can influence the information value of user-generated content by stimulating digital interactions, targeting users with specific expertise, or soliciting specific content. By defining *user-generated content as a potentially malleable construct* the findings extend the concept of absorptive capacity and the information processing perspective on market orientation. Furthermore, the integrated perspective links the investments in digital touchpoints to the available interaction processing capabilities (cf. Koput, 1997; Laursen & Salter, 2006).

- While absorptive capacity is commonly defined as a firm’s capabilities to identify, assimilate, and apply external information (Cohen & Levinthal, 1990), the present study calls for a more differentiated perspective. Foremost, monitoring, analytics, and the analysis of solicited user-generated content imply different levels of
attention than casual or chance finds at the digital frontline. In addition, the identification of strong versus weak signals and the form of application necessitate distinct capabilities. In refining the understanding of absorptive capacity, the emergent capabilities call for reviews of extant conceptualizations (e.g., Flatten, Engelen, Zahra, & Brettel, 2011; Lichtenthaler, 2009).

Using an integrated perspective to look at dominant organizational models and absorptive capacity for tapping digital interactions, the present study highlights the multifaceted influence of the diffusion of digital responsibilities and level of connectedness. More specifically, the organizational model seems to differentially impact a firm’s capabilities to identify, assimilate, and apply information from user-generated content. In line with previous calls for further research (cf. Lane et al., 2006; Volberda et al., 2010), the findings strongly advise consideration of organizational determinants in future research.

In summary, the findings of the present study culminate in a conceptual framework that refines key variables and relationships of tapping digital interactions. As an integrative overview, the framework can help to guide future research. Starting points for inquiries provide the 22 research propositions, which have been derived from the case findings and matched with prior research. More specifically, the propositions tackle four core domains: tactics to stimulate valuable user-generated content, characteristics of the emergent organizational models, a firm’s propensity to stimulate user-generated content, and capabilities for interaction processing (see Table 18).

7.3 Managerial implications

By facilitating direct consumer contact and access to user-generated content, digital interactions represent a rich source for firms to gain valuable information, especially considering the accelerating market complexity. However, empirical evidence has suggested that firms struggle to tap the full potential of digital interactions. All too often, valuable information goes unnoticed, seeps away, or responsible managers ignore user-generated content as individual opinions. To identify determinants for a firm’s capabilities to tap digital interactions, the present study has conducted six in-depth case studies and matched findings with other empirical observations, prior literature, and professional reports. The conclusions allow some general recommendations and point to specific managerial and organizational levers to stimulate (more) valuable user-generated content or improve effectiveness and efficiency of interaction processing, which have been detailed in section 6 and will be briefly summarized below.
In general, a firm’s capabilities to tap digital interactions for valuable information stand or fall with its *customer orientation* and the employees’ *perceived relevance of digital interactions*. Although this finding hardly comes as a surprise, the clarification is important to realize that firms will not automatically generate valuable information by simply establishing new digital touchpoints or engaging with consumers. According to large-scale executive surveys, access to consumer insights represents a key business priority in digital interactions (e.g., Brown & Sikes, 2012; Bughin et al., 2015; Gottlieb & Willmott, 2014). However, these expectations will not be met if firms do not have or create the appropriate conditions. The fundamental strategic decisions that shape a firm’s structure, processes, resources, and core capabilities also predefine its capabilities to tap digital interactions. Accordingly, the analyzed firms show great diversity in the relevance of generating information, even though high proficiency in digital interactions was the main criterion in the case selection.

At the most basic level, firms *tap digital interactions* for crisis prevention, and they only react to criticism with incremental improvements. At the other end of the continuum, firms purposefully seek and employ user-generated content as a regular information source, so that the employees have to become “*hunters of information rather than gatherers*” (Harrysson et al., 2012, p. 85). By purposefully engaging users, firms can try to proactively influence the information value, defined as volume and quality of user-generated content. By delineating different forms of digital interactions, distinguishing between solicited and unsolicited user-generated content, and specifying dimensions of information value, the present study provides a basis to *evaluate the information potential of specific digital touchpoints*. For the stimulation of (more) valuable user-generated content, the case findings suggest three managerial and organizational levers (see section 6.1):

- **Use a portfolio approach to optimize access to information**: Consumers will only share experiences, provide feedback, or participate if they expect some added value in return. To engage users, firms have to build up and update consumer knowledge and digital expertise iteratively. Yet, proliferating digital channels and limited resources suggest a portfolio approach to reach a maximum range of consumers and ideally balance insights. In the portfolio approach, the specific characteristics of each digital touchpoint define its role in generating information. For instance, proprietary communities should serve in-depth personal exchange with brand enthusiasts, while independent external sites represent a possible source for unbiased feedback (see section 6.1.1).
- **Step up content development and community management:** To continuously grow and engage users in interactive digital media, firms have to produce a constant flow of stimulating content and ensure quick response times. To accomplish this, content and community managers often depend on the input of other units. Information campaigns, integration in content production, and success stories can help to enhance the firm-wide levels of digital awareness and cross-functional cooperation. In addition, the case findings lead to conclusions about ideal-typical structures and processes for both content development and community management (see Figure 44 and Figure 45 in section 6.1.2).

- ** Employ tactics to stimulate valuable user-generated content:** The focus of a firm’s digital content, community management, and customer service strategy predefines user-generated content. However, firms can try to influence the information value in order to overcome common challenges in absorption processes, like operational constraints, wrong timing, or misunderstanding based on the user’s wording and lack of detail (cf. Di Gangi et al., 2010). Particularly, the case findings suggest targeting users with specific expertise and/or soliciting specific content. Experimentation with these two tactics helps firms to gradually build up experience in purposeful user activation, identify possible fields of application, and establish user-generated content as a valid source for valuable information.

To what extent firms are able to realize competitive advantages from user-generated content depends on their capabilities to identify, assimilate, and apply valuable information (cf. Cohen & Levinthal, 1990). A key determinant is the active interest in generating information, as it defines the level of attention and involvement of relevant decision makers. Based on the case findings, the present study has derived specific managerial and organizational levers to improve the effectiveness and efficiency of interaction processing (see section 6.2).

- **Systematize the identification processes:** To find valuable information in the enormous volumes of user-generated content, the present study establishes a stepped approach (see Figure 46 in section 6.2.1): While macro-level monitoring and analytics broadly scan for trends or ambiguities, the meso level focuses on select issues and topics, and the micro level takes a direct look at user comments and feedback. The three levels point to ideal-typical processes for identification and have implications for task diffusion (see Figure 47 in section 6.2.1). Thus centralized monitoring or analytics experts and generalist community managers have important gatekeeper functions in identification that require a broad knowledge base and well-established connections.
- **Facilitate assimilation:** By integrating decision makers in the identification processes, firms reduce the need for dissemination and increase the chance that valuable information gets due attention. In contrast, additional links threaten the integration of identified information. A number of success factors and design parameters to facilitate dissemination and integration of acquired information have emerged from the present study, particularly to optimize information flows, access, and comprehensibility as well as to ensure the right skills and acceptance of employees.

- **Make application more transparent:** Application processes significantly differ for planned and unplanned finds. By default, planned finds aim at application and, thus, involve responsible managers and predefined deliverables. In contrast, application of casual or chance finds depends on skilled, empowered employees at the digital frontline. While performance tracking may be more difficult, the whereabouts of casual or chance finds should be closely monitored. Transparency not only helps to maximize the impact, it encourages further iterative optimizations and creates an internal success record. In addition, regular progress updates will encourage further user feedback and contributions.

Because the organizational model greatly defines a firm’s capabilities to tap digital interactions, the present study has highlighted **specific needs for action for the three emergent organizational models:** In centralized models, the pooled digital responsibilities limit the possibilities to tap digital interactions, so that development of firm-wide awareness and gradual integration of other units should have priority. Collaborative models build on a hub-and-spoke structure, with the central hub ideally coordinating all processes performed by the responsible line managers. Yet, this power balance is threatened if the hub lacks internal support or appropriates too many tasks. The integrated model involves high diffusion of digital responsibilities and promotes broad solicitation and application of information, but formal or informal networks are necessary to promote cross-functional cooperation and avoid silo thinking, duplicate work, and other inefficiencies. All recommendations are summarized in Table 20 (see section 6.3).

To develop a firm’s capabilities to tap digital interactions, the present study introduces a **six-step approach** by which firms can gradually activate the identified managerial and organizational levers to iteratively adapt their capabilities: (1) Determine possible fields of application, (2) check ideal task allocation, (3) consider stimulation of valuable user-generated content, (4) check resources and capabilities, (5) absorb valuable information, and (6) check and promote outcomes of generated information.
7.4 Limitations and future research opportunities

Evident business challenges inherent in tapping the full information potential of digital interactions, along with significant research gaps in this area, have called for inductive theory development. In following the discovery-oriented research approach, the present study has aimed to refine and expand existing theory as a valuable first step for subsequent quantitative validation (Workman et al., 1998). More specifically, the inductive analysis of six in-depth case studies has helped to improve understanding of a firm’s capabilities to tap digital interactions for valuable information. The conceptual framework and research propositions aim to guide and encourage further research. Furthermore, the present study itself – like all empirical research – has limitations that provide directions for future research. After reviewing the preventive measures for high rigor, limitations based on the case selection and various starting points for future studies will be discussed in the following.

To meet the highest validity and reliability standards in case study research, the present study has carefully described all research actions taken (cf. Beverland & Lindgreen, 2010; Gibbert & Ruigrok, 2010; Yin, 2009). For construct validity, the present study has triangulated multiple data sources and asked key informants to review the draft case study report. In addition, numerous direct quotes and cross-case tables have aimed to strengthen the chain of evidence. To establish internal validity, emergent patterns were matched across all cases. External validity has been considered with the multiple case study design and theoretical sampling. A standardized interview guideline, documentation of data, and disclosure of all analytic steps have helped to ensure reliability. Finally, emergent constructs and relationships were challenged with additional empirical observations, professional reports, and extant literature, notably research on interaction orientation, absorptive capacity, market orientation, co-creation, open innovation, and crowdsourcing.

For the necessary depth, the case analyses in the present study focused on six highly interactive Swiss and German business-to-consumer firms that represent different industries, firm types, and interaction strategies. The case selection followed theoretical sampling and considered the most common contextual factors brought forward by academic and professional literature to best guard against systematic biases. Nevertheless, future research should consider several additional influence factors to validate the emergent constructs and relationships outlined in the conceptual framework and corresponding research propositions:
- **Cross-national differences in organizational and managerial levers**: In the present study, the focus on Swiss and German firms has helped to control for country-specific and cultural influences. Yet, prior research has reported societal differences in knowledge management and marketing organization. For instance, Nonaka & Takeuchi (1995) has identified differences in the use of tacit and explicit knowledge between Japanese and US firms, and Workman et al. (1998) have provided evidence for a higher sales focus and cross-functional dispersion of marketing activities in German compared to US firms. Thus, societal differences represent possible moderators that might require a different focus in a firm’s capabilities to tap digital consumer interactions.

- **Level of interactivity and digital transformation**: By focusing on highly interactive firms, the present study has ensured a certain level of digital interactions. That way, variances in the information value of user-generated content directly pointed to the interaction strategy and managerial as well as organizational levers. Future studies should validate the findings in a large-scale survey and check the effects of the identified levers in less interactive firms. Most likely, the level of interactivity correlates with digital maturity, so that other organizational models may emerge or dynamics differ, as suggested in professional reports (e.g., McDonald, 2013c; Owyang, 2010).

- **Industry-specific information intensity**: In the case studies, long-planning cycles and operational constraints have repeatedly stood out as limiting factors for a firm’s capabilities to tap digital interactions. These limitations call attention to the industry-specific information intensity (cf. Glazer, 1991). Information-intensive firms like media, transportation, and financial services are expected to attach higher relevance to generating information (cf. McDonald, 2013c). The present study did not reveal any industry-specific differences, yet further analyses, possibly a large-scale survey, would be worthwhile, especially as digital interactions increasingly feed into CRM databases and help to enrich individual customer profiles.

Beyond these contextual influence factors, the findings of the present study and additional observations have provided multiple starting points for additional research:

- **Value of information from user-generated content**: Both the case findings and prior research suggest that the information potential of digital interactions largely depends on user characteristics (e.g., Kristensson et al., 2004; Magnusson, 2009; Ulwick & Leonard, 2002). User-generated content is not necessarily valid for the entire target audience; it is shaped by prior experiences and knowledge of the
respective user groups. To evaluate possible fields of application for information from digital interactions, further research on the different forms of digital interactions and user-generated content is necessary and should also compare potential insights to other sources, including traditional market research.

- **Aggregate and individual consumer insights:** The present study has largely focused on aggregate consumer insights since the possibilities to gain individual customer knowledge are still limited. With the rise of mobile applications, advanced tracking tools, and investments in IT infrastructure, however, interactive digital media increasingly help to enrich customer profiles in CRM databases. Accordingly, the relevance of digital interactions will further increase, though the focus in generating insights and necessary capabilities may change. For instance, the case findings suggest that analytics require advanced statistical and modelling skills, which are not easily decentralized. To delineate differences in a firm’s capabilities to tap digital interactions for aggregate and individual consumer insights, more detailed research is needed.

- **Influencing user-generated content:** Drawing on open innovation research (e.g., Girotra et al., 2010), the present study has discussed key dimensions to assess the information value of user-generated content and developed research propositions on the impact of a firm’s tactics to stimulate valuable digital interactions. Yet, some of the effects remain ambiguous, as the desired knowledge outcomes have to be taken into account. Additional quantitative analyses are necessary to refine the suggested measures, validate the effects, and give firms more clarity on how to design interaction strategy and tactics.

- **Cross-cultural differences in online consumer behavior:** Prior research suggests that cultural factors not only affect the firm but also online communication of consumers (e.g., Chau, Cole, Massey, Montoya-Weiss, & O'Keefe, 2002; Chu & Kim, 2011). To better understand cross-cultural differences in a firm’s possibilities to tap digital interactions, it would be worthwhile to investigate the dynamics and characteristics of user-generated content across different countries. For example, the present conceptualization of information value (see section 5.2) enables comparison of volume and quality of user-generated content. Combined with cultural characteristics (e.g., Hofstede, 1980), emergent patterns could highlight differences in online communication.

- **Business-to-business context:** The present study has only focused on business-to-consumer firms. However, prior research has emphasized the importance of
organizational interaction orientation for business-to-business firms (e.g., Danzinger, 2010). As the customer and communication relationships are quite different for each business context, additional research seems necessary. While interactive digital media have also gained importance for business-to-business firms, digital interactions may serve other goals (e.g., support established customer contacts, open innovation) and require different organizational capabilities.

- **Organizational models**: By mapping all interaction-related activities to specific functions, the present study has identified three dominant organizational models for digital interactions. However, there is need for a large-scale survey that validates the emergent models. Professional reports have suggested more organizational models but with focus on different maturity levels (e.g., McDonald, 2013c; Owyang, 2010). For further clarification, the present study recommends a large-scale survey that follows the integrated perspective of the present study and looks at both interaction-related activities and functions.

- **Interaction processing capabilities**: The present study has specified the learning processes inherent to absorptive capacity to account for different attention levels in planned and unplanned identification, openness to weak and strong signals, and different forms of application. These refined processes have helped to both discuss firm-specific capabilities to tap digital interactions as well as delineate strengths and weaknesses of the three emergent organizational models. Yet, the argumentation only builds on observations in a very small sample. Although matched with prior research, the constructs and relationships warrant further validation with cluster analyses in a large-scale survey. In particular, future research could help to find ideal diffusion of digital responsibilities and solve for which activities or in what situations a coordinating hub is beneficial.

- **Longitudinal case studies on managerial and organizational levers**: The rapid digital development and pace in business transformation call for longitudinal case studies to validate the causal effects of the identified managerial and organizational levers over time. Not least, several of the analyzed firms already underwent significant organizational change during the course of data collection and analysis for the present study. In a similar approach, Bosch et al. (1999) have investigated the evolution of absorptive capacity and organizational determinants in longitudinal case studies of two publishing firms that have adapted to the multimedia age.

- **Individual employees**: In digital transformation, individual employees play key roles. Although the present study has not analyzed individual characteristics in
detail, the case findings have highlighted the importance of firm-wide openness to consumer insights and digital awareness. In focusing on the roles of employees, future studies could identify additional individual drivers and barriers for digital transformation and a firm’s capabilities to tap digital interactions. Such research should particularly address the effects of trainings, personal integration in content production, and reward structures, as managerial levers suggested by this study.

- **Open marketing**: Except for BMW, the case studies barely fall back on external partners in digital interactions. Migros even back-sourced community management on Migipedia to be in direct contact with its customers. These findings do not align with prevalent calls for “open marketing” (Day, 2011, p. 189) to increase a firm’s adaptive capabilities in increasingly complex environments. Therefore, a deeper investigation of situations and domains where the integration of external partners is most appropriate seems valuable. Depending on the form of cooperation, firms have to develop different capabilities (cf. Schögel, 2006).

- **Performance effects**: The present study has ended with the application of generated insights and omitted their actual performance impact. To justify and better direct investments in a firm’s capabilities to tap digital interactions, further research on the contribution of insights from user-generated content would be helpful. For example, a firm may want to focus on its capability to respond to user input only, if insights from traditional market research are generally more meaningful. Evaluation of the performance of generated insights should not be limited to measurement of sales – it should also consider broader image and relational effects from buzz.
References


Appendix

1 Exploratory observations and analyses

A research project on the relevance of social media and attendance at various top management workshops and presentations helped to refine the research questions and specify key issues of managing and processing digital interactions.

1.1 Research project on the relevance of social media

As part of a research project in cooperation with PricewaterhouseCoopers, six leading marketing managers (see Table 21) from retail and consumer goods industries were asked about the importance of social media for their firms.

Table 21: List of interview partners in exploratory research project

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>Firm</th>
<th>Date</th>
<th>Place</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monica Glisenti</td>
<td>Head of Corporate Communications</td>
<td>Migros</td>
<td>July 20, 2011</td>
<td>Phone (60 min.)</td>
</tr>
<tr>
<td>Frank Horn</td>
<td>Marketing Director, Int. Digital (Cosmetics)</td>
<td>Henkel</td>
<td>Aug. 4, 2011</td>
<td>Phone (35 min.)</td>
</tr>
<tr>
<td>Nadja Nabholz</td>
<td>Head of Marketing</td>
<td>Knorr Switzerland</td>
<td>Aug. 12, 2011</td>
<td>Phone (30 min.)</td>
</tr>
<tr>
<td>Ales Drabek</td>
<td>Head of E-Marketing and E-Commerce</td>
<td>Metro Cash &amp; Carry</td>
<td>Aug. 19, 2011</td>
<td>Phone (40 min.)</td>
</tr>
<tr>
<td>Silke Pretzlick</td>
<td>Project Leader, Corporate and Brand Strategy</td>
<td>Otto Group</td>
<td>Sept. 21, 2011</td>
<td>Phone (40 min.)</td>
</tr>
<tr>
<td>Christian Gisi</td>
<td>Head of Marketing Communications</td>
<td>Mammut</td>
<td>Sept. 30, 2011</td>
<td>Phone (35 min.)</td>
</tr>
</tbody>
</table>

Interviews were conducted in-depth open and semi-structured in order to focus on the topic and not constrain the interview partners. The following guideline set the basic structure for each interview (in German):

1. Aktuelle Bedeutung von Social Media

- Welche Rolle bzw. Bedeutung haben Social-Media-Aktivitäten im Vergleich zu anderen Kommunikationskanälen? Warum?
- Können Sie ungefähr beziffern, wie hoch der Anteil von Social Media am Kommunikationsbudgets ist?
- Wie unterscheidet sich die Rolle von Social Media abhängig von Produkt, Marke und Kommunikationsziel? Welche Kriterien entscheiden über Einsatz und Ausgestaltung?
2. "Optimaler" Einsatz von Social Media aus?
   - Wie schätzen Sie das Engagement Ihres Unternehmens im Vergleich zu Wettbewerbern ein? Wo hat Ihr Unternehmen noch Nachholbedarf? Wer und was sind Benchmarks?
   - In welche Richtung wird sich der Einsatz von Social Media in Ihrem Unternehmen weiterentwickeln? Was hat funktioniert, was nicht? Was ist in naher Zukunft geplant?
   - Wie läuft die Entwicklung neuer Social-Media-Ideen und -Massnahmen ab?
   - Zu einzelnen Anwendungen konkret nachfragen:
     - Welche Bedeutung haben soziale Netzwerke als Vertriebs-/Verkaufskanal – aktuell sowie zukünftig?
     - Wie beurteilen Sie die Eignung und künftige Bedeutung für Produktentwicklungs-, Innovations-, und Markt-/Konsumentenforschungs-Aktivitäten?
     - Welche Herausforderungen haben Sie bei der Integration von Social Media in die Gesamtstrategie festgestellt?
   - Ausgehend von Ihren Erfahrungen, welche Empfehlungen können Sie anderen Unternehmen für die Koordination des Kommunikationsmix geben?

3. Fähigkeiten und Ressourcen
   - Welche Abteilungen und Personen sind für die Social-Media-Aktivitäten verantwortlich? Wie funktionieren die Kooperation und Abstimmung zwischen diesen verschiedenen Stellen?
   - Welche Anpassungen waren bzw. sind durch Social Media noch notwendig?
     - Weiterbildung der Mitarbeiter, neue Positionen etc.?
     - Organisatorische Struktur/Entscheidungswege, Befugnisse, Guidelines?
     - Anforderungen an IT/IT-Sicherheit und Datenschutz?
   - Inwieweit arbeiten Sie beim Social-Media-Einsatz mit Agenturen zusammen? Welche Aufgaben lassen sich Ihrer Meinung nach outsourcen? In welchen und warum macht es in anderen Bereichen keinen Sinn?
   - Welche Chancen und Risiken sind mit dem Einsatz von Drittanbieter-Plattformen verbunden?
   - Wie wird der Erfolg gemessen und beurteilt?
     - Wie verändern Social Media die Unternehmenskommunikation allgemein? Spüren Sie auch in anderen Bereichen einen Kommunikationswandel?
     - Inwiefern müssen die übergreifenden Marketing-Ziele, -Strategien und -Massnahmen angepasst werden?
1.2 Management workshops and presentations

As part of her work at the Institute of Marketing, University of St. Gallen, the author had the chance to gain insights into practice and exchange ideas with managers at various workshops and presentations (see Table 22).

Table 22: Overview of management workshops and presentations

<table>
<thead>
<tr>
<th>Content</th>
<th>Participants</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interactive marketing, workshop*</td>
<td>Participants of the intensive seminar “Interactive Marketing”</td>
<td>Oct. 4-8, 2010 (Oct. 8, 2010)</td>
</tr>
<tr>
<td>Entrepreneurial marketing</td>
<td>Circle of Marketing (University of St. Gallen and top contacts)</td>
<td>Jan. 13-14, 2011</td>
</tr>
<tr>
<td>Community building and new media</td>
<td>Partnering firms of research programs “Sales Driven Company” and “Reales Marketing”</td>
<td>April 12, 2011 &amp; May 10, 2011</td>
</tr>
<tr>
<td>Interactive marketing</td>
<td>Various guest lecturers in seminar for master students</td>
<td>Spring semester 2011</td>
</tr>
<tr>
<td>Organizing for social media*</td>
<td>Partnering firms of research program “Best Practice in Marketing”</td>
<td>Nov. 9-10, 2011 &amp; Jan. 17-18, 2012</td>
</tr>
<tr>
<td>Silicon Valley study trip</td>
<td>Leading managers from different firms and industries</td>
<td>Feb. 4-8, 2012</td>
</tr>
<tr>
<td>Interactive marketing</td>
<td>Various guest lecturers in seminar for master students</td>
<td>Spring semester 2012</td>
</tr>
<tr>
<td>Organizing for social media*</td>
<td>Partnering firms of research program “Best Practice in Marketing”</td>
<td>March 16, 2012</td>
</tr>
<tr>
<td>Channel management and interactive marketing</td>
<td>Participants of Diploma of Adv. Studies “Marketing Executive”</td>
<td>March 13-17, 2012</td>
</tr>
<tr>
<td>Organizing for social media</td>
<td>Employees, Davies Meyer Multi Channel Agency GmbH</td>
<td>June 25, 2012</td>
</tr>
<tr>
<td>Digital marketing*</td>
<td>Social media managers, Hero AG</td>
<td>Dec. 11, 2012</td>
</tr>
<tr>
<td>Silicon Valley study trip</td>
<td>Leading managers from different firms and industries</td>
<td>Feb. 3-7, 2013</td>
</tr>
<tr>
<td>Digital and marketing transformation*</td>
<td>Partnering firms of research program “Best Practice in Marketing”</td>
<td>March 19, 2015</td>
</tr>
</tbody>
</table>

* Workshop (partly) prepared or moderated by the author.
## 2 Relevant prior research on the organizational integration

<table>
<thead>
<tr>
<th>Authors</th>
<th>Research goal</th>
<th>Key construct</th>
<th>Approach</th>
<th>Key findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alba et al., 1997</td>
<td>Examine implications of interactive home shopping for retailers, manufacturers, and consumers.</td>
<td>Interactive home shopping: Electronic commerce with enhanced opportunities to locate and compare different offerings.</td>
<td>Conceptual</td>
<td>Product manufacturers and retailers have to develop different capabilities to master interactive home shopping. Key capabilities are order fulfillment, database management, and information presentation skills.</td>
</tr>
<tr>
<td>Barwise &amp; Farley, 2005</td>
<td>Study the state of interactive marketing in five large developed markets and two key emerging markets.</td>
<td>Interactive marketing: use of interactive media, mainly the Internet, in marketing communication and promotion, funded by the marketing budget</td>
<td>Phone survey (n = 908 key inf., B2B &amp; B2C)</td>
<td>Rapid growth of interactive marketing in all sectors (especially B2B) and in all the countries studied except for Japan and France. Firms in China and Brazil already spend slightly higher proportion of their marketing budgets on interactive marketing than do French firms.</td>
</tr>
<tr>
<td>Bayus, 2013</td>
<td>Explore nature of an individual’s ideation efforts in an online community (Dell IdeaStorm).</td>
<td>Crowdsourcing: gather ideas for new products and services from a large, dispersed crowd of non-experts (e.g., consumers).</td>
<td>Model based on 2 years of data from Dell IdeaStorm</td>
<td>Ideators early successes reduce innovativeness of further ideas; findings highlight challenges in maintaining an ongoing supply of quality ideas from the crowd over time</td>
</tr>
<tr>
<td>BenMark, 2014</td>
<td>Discuss which unit should “own” social media channels to best engage customers.</td>
<td>Social customer care: customer service via social media.</td>
<td>Conceptual</td>
<td>Integrate social customer-care efforts with service operations but also boost cross-functional coordination of social-media functions to engage customers.</td>
</tr>
<tr>
<td>Bijmolt et al., 2010</td>
<td>Discuss state of the art of models for customer engagement and implementing problems.</td>
<td>Customer engagement: Behavioral manifestation from a customer toward a brand or a firm which goes beyond purchase behavior.</td>
<td>Conceptual</td>
<td>Data availability allows for more detailed and advanced analytical models for customer engagement than traditional models based on customer transactions.</td>
</tr>
</tbody>
</table>

^51 Publications listed in alphabetical order. Information have been taken over verbatim or paraphrased for the purposes of the present study.
<table>
<thead>
<tr>
<th>Authors</th>
<th>Research goal</th>
<th>Key construct</th>
<th>Approach</th>
<th>Key findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blazevic &amp; Lievens, 2008</td>
<td>Explore customer roles in coproduction of knowledge and their resultant influence on different innovation tasks from a service provider view.</td>
<td>Knowledge coproduction: Degree to which customers and companies create new knowledge through mutual interactions.</td>
<td>Qualitative study (data and case studies)</td>
<td>Customer coproduced knowledge can contribute in every stage of the innovation process and also substitute market research in daily business. Although dialogues often relate to existing products and services, companies can still infer latent needs.</td>
</tr>
<tr>
<td>Breene &amp; Whipple, 2011</td>
<td>Examine challenges of real-time marketing and how interactive digital channels can promote customer relationships.</td>
<td>Real-time marketing: Organizations can reach customers in real time, all the time, anytime.</td>
<td>Large scale survey (n = 600 CMO &amp; CIO)</td>
<td>Digital and interactive channels enable personalized, timely, and relevant offerings to customers wherever they are, but preset that marketing and IT professionals collaborate.</td>
</tr>
<tr>
<td>Brown et al., 2013a</td>
<td>Look at the strategic use of big data and data analytics by corporations.</td>
<td>Big-data analytics</td>
<td>Conceptual</td>
<td>Without sufficient senior leadership, it’s difficult to catalyze the widespread organizational change needed to capture data-analytics opportunities.</td>
</tr>
<tr>
<td>Brown et al., 2013b</td>
<td>Investigate role and adoption of digital-enterprise trends as well as their business impact, and obstacles.</td>
<td>Digital-enterprise trends: Big data, digital engagement with all stakeholders, digital innovation, and automation</td>
<td>Survey (n = 850 key inf., B2B &amp; B2C)</td>
<td>Businesses continue to embrace digital tools and technologies and C-level executives are increasingly involved in shaping and driving digital strategies. Organizational alignment is critical to seeing real business impact from digital.</td>
</tr>
<tr>
<td>Bughin et al., 2013</td>
<td>Examine use of social technologies in interactions with internal and external stakeholders.</td>
<td>Social technologies: interaction tools and technologies, e.g., videoconferencing or social networks.</td>
<td>Survey (n = 2,690 key inf., B2B &amp; B2C)</td>
<td>Shares of firms using social technologies in their business is high but leveling out. Social technologies facilitate substantial organizational change, but at the same time require large-scale business transformation.</td>
</tr>
<tr>
<td>Authors</td>
<td>Research goal</td>
<td>Key construct</td>
<td>Approach</td>
<td>Key findings</td>
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</tr>
<tr>
<td>Coviello et al., 2003</td>
<td>Assess the role of e-Marketing relative to other contemporary marketing practices.</td>
<td>E-Marketing: Using the Internet and other interactive technologies to create and mediate firm-customer dialogue</td>
<td>Survey (n = 149 key informants)</td>
<td>E-Marketing is often combined with other marketing practices, but does not drive marketing practice. Growing importance of information technologies necessitates organizational transformation.</td>
</tr>
<tr>
<td>Danzinger, 2010</td>
<td>Conceptualize customer interaction competence and explore its effects on new product success and performance.</td>
<td>Customer interaction competence: combination of interaction and learning orientation.</td>
<td>Interviews; survey (n = 229 key inf., B2B)</td>
<td>Positive effects of interaction- and learning-oriented values &amp; norms (e.g., customer problem understanding, experimentation and openness) and to a lesser extent practices &amp; processes (e.g., intra-organizational exchange, customer value management) on firm performance and new product success.</td>
</tr>
<tr>
<td>Day, 1994</td>
<td>Examine how market orientation can be achieved and sustained.</td>
<td>Market-driven organizations</td>
<td>Conceptual</td>
<td>Distinctive capabilities of market-driven organizations are their mastery of the market sensing and customer linking capabilities.</td>
</tr>
<tr>
<td>Day, 1998</td>
<td>Determine consequences of interactivity on organization structure, skills, and activities.</td>
<td>Interactive marketing: capability to repeatedly address customers as individuals in light of previous contacts.</td>
<td>Conceptual</td>
<td>Need for greater dispersion of information and decision-making throughout the organization, more flexible structure, and willingness to take risks and learn from experiments.</td>
</tr>
<tr>
<td>Day, 2011</td>
<td>Discusses possibilities to keep up with effects of technology-empowered customers.</td>
<td>Adaptive capabilities: augment and extend the existing dynamic capabilities so that rapid adjustments can be made.</td>
<td>Conceptual</td>
<td>To close the widening marketing capabilities gap, firms have to develop adaptive capabilities: vigilant market learning, adaptive market experimentation, and open marketing</td>
</tr>
<tr>
<td>Authors</td>
<td>Research goal</td>
<td>Key construct</td>
<td>Approach</td>
<td>Key findings</td>
</tr>
<tr>
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</tr>
<tr>
<td>Deshpandé &amp; Zaltman, 1982</td>
<td>Evaluate several factors affecting the attention given to or use of market research information by marketing managers.</td>
<td>Market research information: research results that help reduce uncertainty in decision-making.</td>
<td>Survey (n = 176 key inf., firms and research agencies)</td>
<td>Factors found to be especially important for market research information use are organizational structure, technical quality, surprise, actionability, and researcher-manager interaction.</td>
</tr>
<tr>
<td>Di Gangi et al., 2010</td>
<td>Examine how firms can get customers’ ideas to work.</td>
<td>Online user innovation community</td>
<td>Single case study</td>
<td>Conclude with seven recommendations for how to overcome challenges in managing user innovation communities.</td>
</tr>
<tr>
<td>Fitzgerald et al., 2014</td>
<td>Better understand how businesses succeed or fail in using digital technology to improve business performance.</td>
<td>Digital transformation: use of social media, mobile, analytics or embedded devices to enable major business improvements.</td>
<td>Survey (n = 1,559 key inf.)</td>
<td>Firms invest in technology, but often feel they get routine results and think that pace of change in their organization is too slow. Most frequently cited obstacle to digital transformation is lack of urgency.</td>
</tr>
<tr>
<td>Foss et al., 2011</td>
<td>Examine how organizational practices influence the assimilation of external innovations or knowledge.</td>
<td>Interaction with customers: extent to which the focal firm involves customers in its innovation activities.</td>
<td>Survey (n = 169 key inf., large B2B &amp; B2C firms)</td>
<td>To gain the full potential of customer interactions, firms have to develop new organizational practices (delegation of responsibility, knowledge incentives, and internal communication).</td>
</tr>
<tr>
<td>Gibbert et al., 2002</td>
<td>Identify different approaches to managing customer knowledge for value creation.</td>
<td>Customer knowledge management: manage knowledge ‘from’ (i.e., resident in) customers.</td>
<td>Conceptual, including case examples</td>
<td>Customer knowledge management (e.g., prosuherism, team-based co-learning, and communities of practice) requires an open mindset as well as appropriate skills and processes to take full advantage of collaborative techniques.</td>
</tr>
<tr>
<td>Gottlieb &amp; Willmott, 2014</td>
<td>Large-scale survey on digital spending, work organization, goals, challenges, and best practices.</td>
<td>Digitization: Digital business initiatives.</td>
<td>Survey (n = 850 key inf.)</td>
<td>Organizations’ efforts to go digital and drive growth through digitization are increasing, but organizational challenges and dearth of talent prevent firms from scaling up their digital efforts.</td>
</tr>
<tr>
<td>Authors</td>
<td>Research goal</td>
<td>Key construct</td>
<td>Approach</td>
<td>Key findings</td>
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</tr>
<tr>
<td>Kim et al., 2004</td>
<td>Compare perception of integrated marketing communications concept in South Korea to Western countries.</td>
<td>Integrated marketing communication: Use comprehensive communications plan to maximize impact of different channels.</td>
<td>Survey (n = 109 key inf. of clients and agencies)</td>
<td>Social, cultural, and institutional differences impact client and agency situation so that development, diffusion, and acceptance of the integrated marketing communication concept vary across countries.</td>
</tr>
<tr>
<td>McDonald, 2013a; McDonald, 2013b; McDonald, 2013c</td>
<td>Discuss possible allocation of Chief Digital Officer based on study of business priorities and CIO strategies.</td>
<td>Chief Digital Officer: responsibility for all digital activities concentrated into a single executive position.</td>
<td>Survey (n = 2,053 CIOs, B2B &amp; B2C)</td>
<td>Chief Digital Officer can be a powerful catalyst to bring an organization together but not every firm needs one. The right type of digital officer is scoped by revenue/policy responsibilities and line/staff resources. The right reporting relationship depends on the enterprise information intensity.</td>
</tr>
<tr>
<td>Muñiz &amp; Schau, 2011</td>
<td>Examine how consumer-generated content fits in with larger firm objectives.</td>
<td>Consumer-generated content Reflection of previous qualitative studies</td>
<td></td>
<td>True reward for customer-generated content is the process, so that semiotic manipulation, narrative manipulation and brand development represent key levers.</td>
</tr>
<tr>
<td>Nambisan &amp; Baron, 2007</td>
<td>Analyze determinants of customer participation in virtual customer environments.</td>
<td>Virtual customer environments: enable firms to involve their customers in innovation and value creation.</td>
<td>Survey (n = 1,155 participants)</td>
<td>Customers’ perceptions of interaction-based benefits shape their future participation in virtual environments and attitude towards the firm.</td>
</tr>
<tr>
<td>Authors</td>
<td>Research goal</td>
<td>Key construct</td>
<td>Approach</td>
<td>Key findings</td>
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</tr>
<tr>
<td>Olanrewaju et al., 2014</td>
<td>Share seven traits that successful digital enterprises share.</td>
<td><em>Digital enterprises:</em> Digital is ‘hard wired’ into structures, processes, systems, and incentives.</td>
<td>Conceptual</td>
<td>Traits of effective digital enterprises: unreasonably aspirational, acquire capabilities, cultivate talent, challenge everything, are quick and data driven, follow the money, customer-focused.</td>
</tr>
<tr>
<td>Owyang, 2010;</td>
<td>Explore different ways that firms can advance their social business efforts, including organizational aspects.</td>
<td><em>Social business readiness:</em> advanced firms establish governance, define real-time processes, foster a culture of learning, and organize into a scalable formation.</td>
<td>Survey (n = 144 key inf., B2B &amp; B2C)</td>
<td>To become advanced, firms must climb the social business hierarchy of needs. Thereby, the organizational structure typically develops through five stages: from organic, to centralized, to hub and spoke, to multiple hubs and spokes, and finally to a holistic framework.</td>
</tr>
<tr>
<td>Owyang, 2010; Owyang,</td>
<td></td>
<td></td>
<td>Conceptual</td>
<td>Disclose opportunities and challenges as well as implications of different organization types for digital marketing: formal vs. informal, centralized vs. decentralized, in-house vs. outsourced, functional vs. customer focus.</td>
</tr>
<tr>
<td>Jones, Tran, &amp; Nguyen,</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2011</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parsons et al., 1998</td>
<td>Develop an integrated perspective on leveraging interactive media for marketing.</td>
<td><em>Digital marketing:</em> leverage capabilities of interactive media to create new forms of interactions and transactions; integrated in the marketing mix.</td>
<td>Conceptual (based on research with 12 B2C firms)</td>
<td></td>
</tr>
<tr>
<td>Pergelova, 2010</td>
<td>Explore the concept of interactivity and understand its effect on marketing assets and firm performance.</td>
<td><em>Interactiveness:</em> dynamic capability composed of dialogue culture, various tactical activities and market response integration.</td>
<td>Survey (n = 129 key inf., B2B &amp; B2C)</td>
<td>Interactiveness positively influences customer and brand assets as well as stakeholder involvement and innovation efficiency, which in turn enhance customer engagement and performance.</td>
</tr>
<tr>
<td>Prandelli et al., 2006</td>
<td>Maps the web-based mechanisms supporting collaborative innovation.</td>
<td><em>Web-based tools</em> to support interaction with customers at different stages of their innovation process.</td>
<td>Quantitative analysis of websites (B2C)</td>
<td>Web-based tools primarily support early stages of the innovation process stages of the innovation process. Primarily large multinationals and well-established brands involve consumers directly.</td>
</tr>
<tr>
<td>Authors</td>
<td>Research goal</td>
<td>Key construct</td>
<td>Approach</td>
<td>Key findings</td>
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</tr>
<tr>
<td>Ramani &amp; Kumar, 2008</td>
<td>Conceptualize and validate interaction orientation as a composite construct; test performance effects and key influence factors.</td>
<td><strong>Interaction orientation</strong>: firm’s ability to interact with individual customers and use that information to achieve profitable customer relationships.</td>
<td>Survey (n = 211 key inf., B2B &amp; B2C)</td>
<td>Interaction orientation (belief in customer concept, interaction response capacity, customer empowerment, value management) leads to superior performance. Also identify environmental factors (e.g., institutional pressures, customer-initiated contacts, and employee reward system).</td>
</tr>
<tr>
<td>Reinartz et al., 2004</td>
<td>Study functional and organizational competencies that are necessary for effective, profitable CRM activities.</td>
<td><strong>CRM process</strong>: systematic, proactive management of relationships across all customer-facing contact channels.</td>
<td>Survey (n = 211 key inf., B2B &amp; B2C)</td>
<td>Alignment of organizational structure, trainings, reward system, and software is critical to the CRM implementation effort.</td>
</tr>
<tr>
<td>Sayre et al., 2012</td>
<td>Identify key challenges and best practices to capitalize on digital media.</td>
<td><strong>Digital capabilities</strong>: Internet, social media, and mobile technologies.</td>
<td>Benchmarking study, n &gt; 30 experts, B2B &amp; B2C</td>
<td>Firms have to align digital strategy to business goals and restructure their marketing organization. Best-in-class firms have established a digital center of excellence but also distribute expertise and responsibilities firm-wide.</td>
</tr>
<tr>
<td>Sawhney et al., 2005</td>
<td>Analyze how the Internet has impacted customer engagement in product innovation.</td>
<td><strong>Collaborative innovation</strong> benefits from extended reach, increased speed, and higher flexibility in virtual environments.</td>
<td>Case studies</td>
<td>The Internet allows firms to engage customers in innovation more comprehensively. Yet, organizational changes need to accompany the adoption of collaborative innovation.</td>
</tr>
<tr>
<td>Swaan Arons, van den Driest, &amp; Weed, 2014</td>
<td>Large-scale survey on strategies, structures, and capabilities to excel in digital media.</td>
<td><strong>Social and digital media</strong></td>
<td>Survey (n &gt; 10,000 key inf.)</td>
<td>High performers excelled in their ability to leverage customer insight and deliver a rich customer experience. They also demonstrated superior cross-functional collaboration, strategic focus, organizational agility, and training.</td>
</tr>
<tr>
<td>Authors</td>
<td>Research goal</td>
<td>Key construct</td>
<td>Approach</td>
<td>Key findings</td>
</tr>
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</tr>
<tr>
<td>Thalmann &amp; Brettel, 2012</td>
<td>Determine the impact of organizational culture, structure, and leadership style on interaction orientation.</td>
<td><em>Interaction orientation</em>: cf., Ramani &amp; Kumar (2008)</td>
<td>Survey (n = 381 key inf., B2B &amp; B2C)</td>
<td>Adhocratic organizational culture is most effective in advancing interaction orientation, while market culture has a negative impact. Less formalized structures and highly facilitative management behavior support interaction orientation.</td>
</tr>
<tr>
<td>Trainor et al., 2011</td>
<td>Investigate how marketing, IT, and business resources combined lead to e-Marketing capability</td>
<td><em>e-Marketing capability</em>: competence in using the Internet and other information technologies to facilitate rich interactions with customers©</td>
<td>Survey (n = 522 key inf., B2B &amp; B2C)</td>
<td>Complementary business, human, and information technology resources, when combined, create an e-Marketing capability and positively influence firm performance. Antecedents are market and technology orientation, and business environment.</td>
</tr>
<tr>
<td>Urban &amp; Hauser, 2004</td>
<td>Explore methods for ‘listening in’ on process-generated data when customer surf online</td>
<td><em>Listening in</em>: Tapping data from a virtual adviser that links users’ responses to possible benefits</td>
<td>Modeling</td>
<td>Virtual advisers can listen in on customer dialogues and identify combinations of customer needs that are not fulfilled by existing products.</td>
</tr>
<tr>
<td>Vollmer &amp; Premo, 2012</td>
<td>Identify capabilities that firms need to transform their strategies, skills, and processes for social media</td>
<td><em>Social media and digital activities</em></td>
<td>Survey (n = 117 key inf., in-depth interviews)</td>
<td>Evolution of community management, content development, and real-time analytics capabilities helps firms to generate business value by building powerful, lasting relationships with consumers through digital communities.</td>
</tr>
<tr>
<td>Wikström, 1996</td>
<td>Identify prerequisites for applying consumer interactions in consumer markets</td>
<td><em>Company-consumer interactions</em>: exchange from which both parties will benefit</td>
<td>Conceptual</td>
<td>Consumer role has expanded to the entire value-creating process but strategic advantages from a firm perspective depend on organizational alignment, new communication channels, competence of the front-line staff, and a consumer-oriented culture.</td>
</tr>
</tbody>
</table>

*Interaction orientation* refers to the extent to which an organization encourages and facilitates interactions with customers. *e-Marketing capability* refers to the ability to use the Internet and other information technologies to facilitate rich interactions with customers. *Listening in* refers to the process of gathering and analyzing data from virtual advisers to identify customer needs. *Social media and digital activities* refer to the methods used by firms to engage with consumers through social media and digital channels. *Company-consumer interactions* refer to the interactions between companies and consumers, which can benefit both parties.
<table>
<thead>
<tr>
<th>Authors</th>
<th>Research goal</th>
<th>Key construct</th>
<th>Approach</th>
<th>Key findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Workman et al., 1998</td>
<td>Explore how organization and role of marketing vary across business contexts</td>
<td>No direct relation to interactions; comprehensive perspective on marketing organization</td>
<td>Interviews (n = 72 key inf., B2B &amp; B2C)</td>
<td>Develop a holistic framework of determinants and dimensions of marketing organization and develop illustrative propositions for structural location of marketing, cross-functional dispersion of marketing activities, and on the relative power of the marketing subunit.</td>
</tr>
<tr>
<td>Zerfaß &amp; Linke, 2012</td>
<td>Analyze strategies and competencies for the structural integration of social media in communications</td>
<td>Social media governance: formal and informal framework for any activities within the social web</td>
<td>Survey (n = 596 key inf., B2B &amp; B2C)</td>
<td>Social media governance implementation is still low. Firms should build up rules and resources for social media communications instead of mainly investing in communication activities.</td>
</tr>
</tbody>
</table>
3 In-depth case analyses

3.1 Interview partners

For the in-depth case analyses, 26 interviews (3-6 per firm) with 29 managers were conducted, each lasting between 30 and 120 minutes. In addition, one informant answered the questions by mail. Table 23 lists all interviews in chronological order by firm. The positions refer to the date of the interviews.

Table 23: Overview of interview partners for the in-depth case analyses

<table>
<thead>
<tr>
<th>Firm</th>
<th>Name</th>
<th>Code</th>
<th>Position</th>
<th>Date</th>
<th>Place</th>
</tr>
</thead>
<tbody>
<tr>
<td>BMW</td>
<td>Florian Resinger</td>
<td>FR</td>
<td>Head of Online Communication and Web Marketing</td>
<td>July 30, 2013</td>
<td>Munich, DE (60 min.)</td>
</tr>
<tr>
<td>BMW</td>
<td>Marie-Luise Lorenz</td>
<td>ML</td>
<td>Project Manager, Web Analytics</td>
<td>July 30, 2013</td>
<td>Munich, DE (30 min.)</td>
</tr>
<tr>
<td>BMW</td>
<td>Peter Gallinger</td>
<td>PG</td>
<td>Program Manager, Customer Orientation</td>
<td>May 28, 2014</td>
<td>Phone (45 min.)</td>
</tr>
<tr>
<td>BMW</td>
<td>Dr. Matthias Meyer</td>
<td>MM</td>
<td>Project Manager, Innovation</td>
<td>July 9, 2014</td>
<td>Phone (50 min.)</td>
</tr>
<tr>
<td>EMP</td>
<td>Ronny Lethmate</td>
<td>RL</td>
<td>Head of Marketing and Sales</td>
<td>Dec. 26, 2012</td>
<td>Phone (60 min.)</td>
</tr>
<tr>
<td>EMP</td>
<td>Petra Arentzen</td>
<td>AR</td>
<td>Social Media Manager</td>
<td>Aug. 12, 2013</td>
<td>Lingen, DE (105 min.)</td>
</tr>
<tr>
<td>EMP</td>
<td>Stephan Michaelis</td>
<td>MI</td>
<td>Social Media Manager</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EMP</td>
<td>Bärbel Rinne</td>
<td>BR</td>
<td>Head of Customer Service</td>
<td>Aug. 12, 2013</td>
<td>Lingen, DE (30 min.)</td>
</tr>
<tr>
<td>EMP</td>
<td>Katja Sinani</td>
<td>KS</td>
<td>Customer Service Agent</td>
<td>Aug. 12, 2013</td>
<td>Lingen, DE (30 min.)</td>
</tr>
<tr>
<td>EMP</td>
<td>Ulrike Ruthke</td>
<td>UR</td>
<td>Customer Service Agent</td>
<td>Aug. 12, 2013</td>
<td>Lingen, DE (30 min.)</td>
</tr>
<tr>
<td>EMP</td>
<td>Oliver Herbers</td>
<td>OH</td>
<td>Product Manager</td>
<td>Aug. 22, 2014</td>
<td>Mail</td>
</tr>
<tr>
<td>McDonald’s Switzerland</td>
<td>Thomas Truttmann</td>
<td>TT</td>
<td>Marketing and Communications Director</td>
<td>July 25, 2013</td>
<td>Zug, CH (85 min.)</td>
</tr>
<tr>
<td>McDonald’s Switzerland</td>
<td>Marius Truttmann</td>
<td>MT</td>
<td>Manager, Consumer Insight and Planning</td>
<td>Aug. 9, 2013</td>
<td>Phone (50 min.)</td>
</tr>
<tr>
<td>McDonald’s Switzerland</td>
<td>Aglaë Strachwitz</td>
<td>AS</td>
<td>Communications Manager</td>
<td>June 6, 2014</td>
<td>Phone (40 min.)</td>
</tr>
<tr>
<td>Migros</td>
<td>Monica Glisenti</td>
<td>MG</td>
<td>Head of Corporate Communications</td>
<td>July 4, 2013</td>
<td>Zurich, CH (45 min.)</td>
</tr>
<tr>
<td>Name</td>
<td>Position</td>
<td>Organization</td>
<td>Date</td>
<td>Duration</td>
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<td></td>
</tr>
<tr>
<td>Marcel Schaniel</td>
<td>Head of Customer and Web Intelligence</td>
<td>Migros</td>
<td>Aug. 7, 2013</td>
<td>90 min.</td>
<td></td>
</tr>
<tr>
<td>Sergio Mare</td>
<td>Director, Online Communication</td>
<td>Migros</td>
<td>Aug. 16, 2013</td>
<td>80 min.</td>
<td></td>
</tr>
<tr>
<td>Yvonne Miller</td>
<td>Dep. Director, Online Communication</td>
<td>Migros</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dirk Worring</td>
<td>Director, Digital Marketing</td>
<td>Migros</td>
<td>May 22, 2014</td>
<td>40 min.</td>
<td></td>
</tr>
<tr>
<td>Patrick Comboef</td>
<td>Director, E-Business (Passenger Traffic)</td>
<td>SBB</td>
<td>June 17, 2013</td>
<td>120 min.</td>
<td></td>
</tr>
<tr>
<td>Olivier Cornet</td>
<td>Head of Digital Lab (Passenger Traffic)</td>
<td>SBB</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jeannine Pilloud</td>
<td>Head of Passenger Traffic Division</td>
<td>SBB</td>
<td>July 11, 2013</td>
<td>30 min.</td>
<td></td>
</tr>
<tr>
<td>Reto Meissner</td>
<td>Head of Marketing Communication (Passenger Traffic)</td>
<td>SBB</td>
<td>Aug. 7, 2013</td>
<td>55 min.</td>
<td></td>
</tr>
<tr>
<td>David Wenger</td>
<td>Crossmedia Expert (Real Estate)</td>
<td>SBB</td>
<td>Aug. 7, 2013</td>
<td>70 min.</td>
<td></td>
</tr>
<tr>
<td>Eliane Tschudi</td>
<td>Head of Social Media (Communication)</td>
<td>SBB</td>
<td>July 9, 2014</td>
<td>45 min.</td>
<td></td>
</tr>
<tr>
<td>Dr. Frank Maier</td>
<td>Head of Products and Services</td>
<td>SWISS</td>
<td>June 28, 2013</td>
<td>St. Gallen, CH (50 min.)</td>
<td></td>
</tr>
<tr>
<td>Christian Lüdi</td>
<td>Social Media Manager</td>
<td>SWISS</td>
<td>July 4, 2013</td>
<td>Zurich, CH (65 min.)</td>
<td></td>
</tr>
<tr>
<td>Gianrico Monsch</td>
<td>Project Coordinator, Core Customer Management</td>
<td>SWISS</td>
<td>July 4, 2013</td>
<td>Zurich, CH (60 min.)</td>
<td></td>
</tr>
<tr>
<td>Bernadette Mölder-Thabrew</td>
<td>Head of Customer Services Operations</td>
<td>SWISS</td>
<td>May 27, 2014</td>
<td>Phone (45 min.)</td>
<td></td>
</tr>
<tr>
<td>Manuel Vidal</td>
<td>Social Media Team Leader</td>
<td>SWISS</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
3.2 Interview guideline

To ensure that each interview covered all relevant aspects, a general guideline was developed based on the refined guiding framework. The interview guideline consisted of the following six sections:

1. Introduction
   - Background: Interactive digital media grant access to rich consumer knowledge by facilitating communication and collaboration with consumers. The extent to which firms are able to leverage digital interactions, however, depends on their capabilities to recognize, assimilate, and apply this external information.
   - Goal of the research project is to identify levers by which firms can better tap digital interactions.
   - Definitions:
     - Interactive digital media: Have empowered consumers and increased the overall level of connectivity, so that firms gain access to an extensive array of user-generated content (e.g., social and mobile media).
     - Consumer insights: Information on current, latent, or future consumer needs.
   - Are you okay if we record the interview (facilitates later analysis)?
   - Goal of this interview: To understand strategic, organizational, and process integration of digital interactions. Therefore, it is important that you mention all details even if they seem obvious to you.

2. Interview partner
   - Before we start, could you please briefly describe your main tasks and fields of responsibilities with regard to digital interactions?
   - Where in the organizational structure is the position located?

3. Strategic relevance of interactive digital media
   - How are interactive digital media important to your company?
     - To what end does your company (primarily) use interactive digital media?
     - How do these goals tie in with your company’s strategic orientation?
   - How are digital interactions and consumer insights important for your company?
     - How do digital interactions help you gain relevant consumer insights?
     - Do you specifically encourage consumers to share feedback or to collaborate in innovation? If yes, how (examples)?
4. Organizational perspective
   - How are digital interactions managed in your organization?
     - Which managers, groups, and units are directly or indirectly involved in the stimulation and processing of digital interactions?
     - How do these functions cooperate (e.g., regular reports, meetings, direct)?
     - Who defines the content to stimulate digital interactions?
     - Who moderates the communities and interacts with users?
     - How much is consumer service involved?
     - Who generates information and uses analytics?
     - For which tasks do you use external partners (agencies, developers, etc.)?
     - Which organizational hurdles have you encountered to a deeper integration of valuable information from digital interactions?
     - How do you perceive the openness toward information generated from digital interactions throughout the company?
     - How does top management support digital interactions and particularly the generating of valuable information from user-generated content?
     - How do you sensitize employees who are not in direct consumer contact to digital interactions and generating valuable information?

5. Interaction-level processes
   - How do you identify valuable information in digital interactions?
     - How does your company make sure that valuable information is identified in digital interactions?
     - How does your company make sure that valuable information from digital interactions is correctly understood and interpreted?
     - How do you assimilate the identified insights?
     - How do you receive insights from user-generated content? Or how do you make sure that they reach the responsible manager, respectively?
     - How much did (or do) you have to adapt your internal learning and exchange processes?
     - How does your company make sure that identified valuable information is integrated with extant knowledge? Does a knowledge management or sharing platform exist?
     - How do you make use of valuable information from user-generated content?
       - In which fields has user-generated content already provided input (e.g., for product or service innovations)?
       - Do you recall any specific examples?
- How have organizational factors impacted your company’s capabilities to tap digital interactions?
- How have organizational structure and culture helped in leveraging digital interactions? Which challenges did you face? How have you handled these?
- How have IT systems and resources supported or hindered the use of valuable information from user-generated content?

6. Concluding question and remarks
- How would you evaluate your company’s readiness to tap digital interactions for valuable information (compared to other firms or an ideal world)?
- Where do you see room for improvement?
- What is your vision for digital interactions in your firm?
- Do you have any additional material that could help me in the analysis?
  - Internal documents or presentations (organizational chart, process maps)
  - Published articles or presentations, academic publications
- Which other interview partners would you recommend to gain a full perspective on this topic?
4 Curriculum vitae

Personal information

Name Kirsten Mrkwicka
Date of birth April 11, 1984 in Frankfurt a. M. (DE)

Educational Background

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
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<tbody>
<tr>
<td>09/2010 - present</td>
<td>Ph.D. Candidate in Marketing, University of St. Gallen</td>
</tr>
<tr>
<td>08/2013 - 07/2014</td>
<td>Visiting Scholar, Kelley School of Business, Indiana University (US)</td>
</tr>
<tr>
<td>07/2013</td>
<td>Summer School, Social Science Data Analysis, University of Essex (UK)</td>
</tr>
<tr>
<td>02/2006 - 06/2006</td>
<td>Semester abroad at Tartu Ülikool (EE)</td>
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Professional Experience

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<tbody>
<tr>
<td>09/2010 - present</td>
<td>Graduate Research Assistant, Institute of Marketing, University of St. Gallen (CH)</td>
</tr>
<tr>
<td>01/2010 - 08/2010</td>
<td>Head of Marketing and Communications, Faculty of Economic Sciences, Georg-August-Universität Göttingen (DE)</td>
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<tr>
<td>04/2009 - 12/2009</td>
<td>Project Coordinator, International Journalists’ Programmes e. V., Berlin (DE)</td>
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<tr>
<td>05/2008 - 09/2008</td>
<td>Student Research Assistant, Chair of Information Management, Georg-August-Universität Göttingen (DE)</td>
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<td>05/2007 - 03/2008</td>
<td>Tutor, Institute of Marketing and Retailing, Georg-August-Universität Göttingen (DE)</td>
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<tr>
<td>08/2004 - 10/2004</td>
<td>Intern, teltarif.de, Göttingen (DE)</td>
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