

11-29-2018

# An IS-Perspective on Omni-channel Management: Development of a Conceptual Framework to Determine the Impacts of Touchpoint Digitalization on Retail Business Processes

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## Recommended Citation

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# AN IS-PERSPECTIVE ON OMNI-CHANNEL MANAGEMENT: DEVELOPMENT OF A CONCEPTUAL FRAMEWORK TO DETERMINE THE IMPACTS OF TOUCHPOINT DIGITALIZATION ON RETAIL BUSINESS PROCESSES

*Research in Progress*

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## Abstract

*The retail industry is continuously changing. Now, the digital transformation is yet again changing the way how retailers operate their business. After the introduction of different channel types, retailers now try to systematically manage these channels and thereby, blur the lines between those and the various customer touchpoints. This digitally-enabled channel management approach is called omni-channel management. One enabler of this approach is the digitalization of traditional customer touchpoints in brick & mortar stores. However, omni-channel management currently lacks an Information Systems (IS)-perspective and most publications mainly deal with technical or marketing aspects. Thus, the impacts and opportunities of the digitalization of specific customer touchpoints are not entirely clear, making it hard for retailers to prioritize their store innovation projects. Therefore, the overall goal of this research is the generation of a theory, which supports retailers with their decisions regarding the digitalization of customer touchpoints. In this article, a guiding conceptual framework is developed as a basis for the research design. This research design guides the ongoing research efforts to determine the impacts of customer touchpoint digitalization on retail business processes.*

*Keywords: Digital Transformation, Digitalization, Retail, Smart Retail, Omni-Channel, Touchpoint, Process Innovation, Context Awareness, Proactive*

## 1 Introduction

Just as a German saying states that “trade (retail) is change”, the retail industry is continuously changing (Lange & Velamuri 2014). Technological innovation was always a major driver and enabler of these changes (Renko & Druzijanic 2014; Agarwal & Yadav 2015; Hillebrand & Finger 2015; Willems et al. 2016). The most recent wave of changes is subsumed by the concept of Digital Transformation (DT). It describes the “continuous and complex undertaking” (Matt et al. 2015) of a company to exploit digital technologies for the improvement of existing processes and the exploration of technology-induced innovations such as digitally-enabled business models (Berghaus & Back 2016). Latter could be driven or enabled by data-driven insights as well as replaced or augmented products and services. Besides, the DT also deals with the digitalization of communication and sales channels (Haffke et al. 2016). Under the term multi-channel retailing, retailers have introduced a number of different sales channels from which the customer can choose from. However, these channels were often managed separately and weren’t technically linked (Beck & Rygl 2015; Verhoef et al. 2015; Saghiri et al. 2017; Hosseini et al. 2017). Now, the idea of omni-channel management (OCM) promotes the systematic management of all channels and the blurring of the lines between those and the various customer touchpoints through digitalization. The overall goal of OCM is to optimize the cross-channel customer experience and the channel performance (Verhoef et al. 2015; Hosseini et al. 2017).

According to Heuchert (2018) and Hosseini (2017), OCM currently lacks an Information Systems (IS) perspective. It is often discussed from a technological or marketing perspective, but the connection

between both views is missing. This is also supported by Pantano and Gandini (2017), who call for more research on technology-based innovation in retail, which blends the marketing perspective with other disciplines. The IS discipline can help to bridge one of the gaps between the disciplines and thereby, support retailers in enabling omni-channel retailing (Piotrowicz & Cuthbertson 2014; Gu & Tayi 2017). Mirsch et al. (2016, p.3) claim that omni-channel management offers “fruitful endeavours for IS research”. Following the BPM life-cycle (Wastell et al. 1994), the goal of this research is the generation of a new theory that supports the decisions related to the digitalization of customer touchpoints, which is related to the design and modeling of omni-channel processes. In this article, a guiding conceptual framework is developed as a basis for the research design. The underlying research question is: *What new technology affordances are enabled by digitalized touchpoints and how do they influence retail processes?*

The remainder of this manuscript is structured as follows. Chapter two introduces the theoretical background. Besides discussing the research gaps in the context of omni-channel management and touchpoint digitalization, the concepts, which enable the understanding of customer touchpoint digitalization from an IS-perspective, are introduced. Next, in chapter three a qualitative research design is presented. It is based on a conceptual framework, which has been developed by combining the previously explained concepts. Finally, section four concludes the article with a short outlook.

## 2 Theoretical Background

### 2.1 Omni-channel Management and Touchpoint Digitalization

While multi- and cross-channel management has been discussed for many years, the literature on OCM is still in its infancy (Verhoef et al. 2015; Lemon & Verhoef 2016; Mirsch et al. 2016). According to Beck & Rygl (2015), an omni-channel retailer offers its customers all widespread channels to choose from. Furthermore, either the channel integration is fully controlled by the retailer and/or the channels are linked from a customer perspective by enabling full channel interaction. In an omni-channel environment, the channel borders disappear and customer, as well as retail employees, can seamlessly switch between the various channels and touchpoints (Verhoef et al. 2015). Lemon & Verhoef (2016) argue, that the focus shifts away from managing the distinct channels to having a closer look at the available customer touchpoints. Literature provides several definitions of customer touchpoints (e.g. Patrício et al. 2011; Dhebar 2013; Stein & Ramaseshan 2016). This work will follow Verhoef et al. (2015), Lemon & Verhoef (2016), and Heuchert et al. (2018) and define customer touchpoints as *an abstract interaction interface, which allows the customer to establish direct or indirect contact with a firm or a brand at specific stages within the customer journey*. A single channel comprises out of many different touchpoints. In a retail store, touchpoints can, for example, be the meat counter, price tags, discount signs, check-out points, or shop employees. In the context of omni-channel management, these touchpoints can be digitalized to increase the channel linkage. The smart retailing literature discusses the required technologies (e.g. Internet of Things technologies such as sensors and actuators) to achieve this linkage (e.g. Willems et al. 2016). Through digitalization, touchpoints can become smart and gain agency, autonomy and, authority (Verhoef et al. 2017). This enables them to perform information-processing tasks (Goldkuhl 2013) as well as collect, organize, store, and transform data (Srinivasan et al. 2005). This allows retailers to implement techniques in physical retail stores, which were once just available for online shops.

A huge variety of different retail technologies exist (e.g. Willems et al. 2016). However, research investigating the impacts of these is still sparse (von Briel 2018). Smart retailing literature mainly talks about distinct technologies, their acceptance, and adoption, as well as the impact on the customer and his shopping experience (e.g. Roy et al. 2016; Cruz et al. 2018; Pantano & Gandini 2017; Inman & Nikolova 2017). However, the overarching technical characteristics of smart retail solutions, which mostly comprise of different system parts (cf. Willems et al. 2016), have not yet been analyzed. Also, not many works provide guidance for the transition towards omni-channel management (cf. von Briel 2018). Only a few try to facilitate decision support for implementing the enabling technologies (e.g.

Willems et al. 2016; Inman & Nikolova 2017; Hosseini et al. 2017; Kumar et al. 2017). Still, the scientific literature lacks knowledge about the impacts of digitalized touchpoints on the retailer itself. For example, the impacts of touchpoint digitalization on the retailer's processes have not yet been investigated. Up to now, only a few publications focus on the technologies and their digital capabilities more broadly (e.g. Betzing et al. 2017; Betzing et al. 2018). In sum, there is a lack of multi-disciplinary knowledge on touchpoint digitalization. This may hinder cross-functional communication, which is one of the roadblocks for systematic channel management (Straker et al. 2015; cf. Percy 2008; Oh et al. 2012). Also, “knowledge of organizations, people, and technology” is required to proactively “develop new technological capabilities” (Srinivasan et al. 2005, p.992). The IS discipline can help to fill this gap. Therefore, the literature was screened for theories and concepts that could be used to connect an IT- and process-perspective. Leonardi’s (2011) “imbrication of human and material agencies” (Chapter 2.2) was the most suitable one because it allowed connecting the IT- (Chapter 2.3) and process-perspectives (Chapter 2.4) and explained their relationship within a socio-technical system. For example, the “Technology-Organization-Environment” framework (DePietro et al. 1990) was not chosen as it takes a broader view of digital innovation, reflecting not only these relationships but the overall technological, organizational and environmental context.

## 2.2 Understanding Touchpoint Digitalization as Digital Innovation

Information Systems deal with socio-technical interactions between humans and machines that are dependent on each other as well as cooperate and engage with each other (Gabriel 2016). To execute their tasks, humans and machines use specific routines and technologies. This connection is the so-called “imbrication of human and material agencies”, which is explained below (Leonardi 2011, see Figure 1). Following Leonardi (2011), human agency can be defined as “the ability to form and realize one’s goals” (1). Leonardi’s (2011) framework suggests that changes in technology (2) results in new material agencies (3). These describe “the capacity for nonhuman entities to act on their own, apart from human intervention” (p. 148). As the new material agency “can be repurposed by different actors or [...] [have] different innovation outcomes in different contexts” (Nambisan et al. 2017), the technological changes may result in planned and unplanned affordances of the nonhuman entity (3). These new affordances result in routine changes (4). Furthermore, while executing their (new) tasks, human workers may again discover that the existing technology may have specific constraints. For example, they may find more efficient or better ways to perform their routines or have innovative ideas based on the new technology. Thereby, further technological changes are motivated (Leonardi 2011).

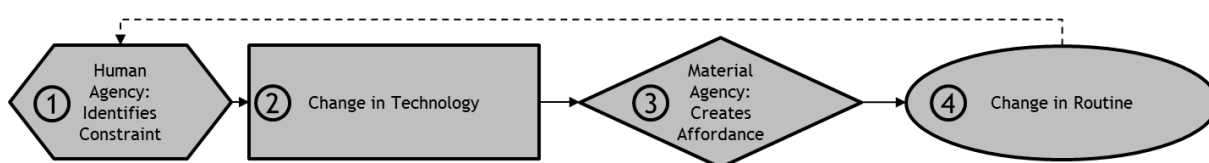


Figure 1. Imbrication of human and material agencies (Based on: Leonardi 2011, p.158)

This concept can help retailers to understand the impact of digital innovations on the organization and the cause-effect relationships incurred by customer touchpoint digitalization (cf. Matook & Brown 2016, p.329) and, thus, facilitate cross-functional communication. Therefore, the nonhuman entities need to be considered as digitalized touchpoints, which gain their capacities from specific material agencies. Following this idea, touchpoint digitalization not only improves the customer experience from a marketing perspective but also changes the existing routines of the retailers. Furthermore, it can be argued that the digitalization of touchpoints will cause an ongoing digitalization in the different retail channels, which might result in an omni-channel system.

## 2.3 Understanding Digitalized Touchpoints as IT Artefacts

Today’s technology enables the interconnection of people, objects, and physical environment. This facilitates their interaction and offers digital innovation potentials (Verhoef et al. 2017; Franco 2017).

However, to digitally transform an organization and develop innovative business models, IT departments should consider a systemic view of the organization (Franco 2017). This also applies to channel management. Following this idea, each channel that incorporates or is based on digital technology can be considered as an instantiation of an implemented system (e.g. website or digitalized physical store). Within an omni-channel environment, channels melt together into a unified omni-channel system comprising a collection of touchpoints as system parts that combine hard- and software (Benbasat & Zmud 2003; Verhoef et al. 2015; Heuchert et al. 2018). Following the definition of Hevner et al. (2004, p.77), these digitalized channels and touchpoints can be considered as IT artifacts (ITA).

The “framework for delineating and theorizing IT artifacts” developed by Matook and Brown (2016) is a tool, which enables researchers to theorize about the ITA. Therefore, it can help IS-researchers to fill one of the gaps explained in the last chapter. Matook and Brown state that “by drilling down into the characteristics of ITAs, one would gain a general understanding of the ITA being studied” (Matook & Brown 2016, p.310). Accordingly, ITA characteristics can provide technical insights that may help the IT to gain a deeper technical understanding of digital touchpoints. This may help to understand the new dynamics enabled by touchpoint digitalization within an omni-channel environment.

The framework is based on systems thinking (cf. Checkland 1988; Von Bertalanffy 1972) and comprises of seven characteristics: First, *integration* deals with the level of amalgamated of components within the ITA. In contrast to this, *connectivity* captures the degree to which parts of the ITA are connected to its surrounding environment (e.g. other channels). *Complexity* deals with the number of interdependent relations of the ITA. In an omni-channel environment, channels should have a high complexity (i.e. full channel integration and interaction). The fourth characteristic of ITA is the ability to maintain and store a *state*. This characteristic is already known from web shops that maintain a state over the whole channel (Matook & Brown 2016). By digitalizing touchpoints, this can be transferred to the physical channels. Next, *self-adoption* and *adoption* are the fifth and sixth characteristic of ITA. In the context of touchpoint digitalization, they deal with the ability of a channel and its digital touchpoints to adapt based on their own or controlled by other systems. Finally, *synchronicity* describes the dynamics of communication within the system or between the system and its environment (i.e. other channels). Communication can happen synchronously in real-time or asynchronous. Besides, several other works deal with different characteristics of ITA, which can inform the investigations about the impacts of touchpoint digitalization. One example is “the ambivalent ontology of digital artifacts” presented by (Kallinikos et al. 2013): They summarize that ITA are *editable* (touchpoints could be modified or updated), *interactive* (touchpoints could provide alternatives pathways to activate functions), *distributed* (touchpoints in an omni-channel environment are “spread over information infrastructures and the Internet”) as well as *open* (touchpoints are accessible by other ITA) and *reprogrammable* (touchpoints are modifiable by other ITA).

## 2.4 Understanding the Impact of Touchpoint Digitalization on Processes

As discussed in chapter 2.2, changes in technology may result in routine changes. Kumar et al. (2017, p.97) argue that the “adoption of innovative technologies affect retailers’ organizational routines and impact overall performances”. This is in line with von Briel (2018) who argues that the omni-channel improves operational productivity and impacts the way traditional retailers operate. Therefore, to fully understand the impacts of customer touchpoint digitalization, retailers should not only focus on its customer but also on its routines. Organizational routines are “a set of repetitive, functionally similar [and sequential] patterns of action with a degree of precision” as a response to defined stimuli in a business context (Pentland & Rueter 1994). As such, organizational routines are recurring, clearly defined, and slightly flexible business processes. From an IS-perspective, a business process can be defined as a „completely closed, timely and logical sequence of activities which are required to work on a process-oriented business object” (Becker et al. 2014).

Nowadays, IT plays a major role in the execution of business processes (Chan 2000), and it is widely known that IT can help to drive innovation in business processes. The foundations of business processes innovation through IT date back to 1990 where Davenport et al. (1990, p.17) first talked about

“IT capabilities and their organizational impacts.” Later, Davenport (1993, pp.49–55) discussed IT as an enabler for process innovation and argued that the current IT infrastructure may raise opportunities and constraints. This idea is connected to the “incubation of human and material agencies” described above, which also considers the different affordances and constraints of technology. Overall, the following capabilities of IT that may reshape processes were reported in these publications (cf. Chan 2000): Transactional (“transform unstructured processes into routinized transaction”), geographical (“transfer and coordinate information with rapidity and ease across large distances”), automational (replace or reduce human labour), analytical (“improve analysis of information and decision making”), informational (“capture vast amounts of detailed process information for purpose of understanding”), sequential (“enable changes in the sequence of tasks in a process, often allowing parallelism”), knowledge management (“capture and dissemination of knowledge and expertise to improve the process”), tracking (“detailed monitoring of process status, inputs, and outputs”), disintermediation (“connect two parties within a process and eliminate intermediaries from a process”), integrative (“coordinate tasks and processes”) and intellectual (“capture and distribute intellectual assets”).

This article argues that the digitalization of customer touchpoints in physical retail channels may have similar impacts on the business processes. Based on the reviewed literature, six broad preliminary categories of possible impacts could be derived:

- First, processes may become more *modifiable* through the digitalization of touchpoints. This, on the one hand, may allow easier changes to the process flows (Kallinikos et al. 2013). On the other hand, digitalization may facilitate rapid up- or down-scaling of the resources required in the processes (Nambisan et al. 2017).
- Second, it is known from Davenport and Short (1990, p.17) that “IT can transform unstructured processes into routinized transaction”. Therefore, it can be argued that retailers could be able to establish completely *new routines* to control and/or contribute to the customer journey.
- Third, companies may be able to provide *alternative pathways* throughout the customer journey, which may make the processes more interactive and borderless (Kallinikos et al. 2013). This includes possibilities for alternative start and end points, new routes within the processes, enabled parallelism, looseness of pathways, disintermediation and more complex individual process flows (Kallinikos et al. 2013; Chan 2000).
- Connected to this is the fourth category called *distributed agency* (cf. Nambisan et al. 2017). Here, the process flow remains the same, but the process components (i.e. material and human agencies) can be exchanged. One could argue that just as the underlying systems, the processes become fluid and transfigurable (Kallinikos et al. 2013). This could make processes location independent and allow the automatization of tasks by replacing human work with IT-systems (Chan 2000). In the context of omni-channel linkage, this type of change is enabled by integrated and interconnected touchpoints, which, within others, allows the seamless switch between them (Heuchert et al. 2018).
- The fifth category of change is the *smartness of processes*. Most of the previous changes were already supported by the ability of digital touchpoints to collect data and thus, allow the monitoring of processes and the analysis of information for decision making (Chan 2000). This ability could also allow touchpoints and the connected processes to establish and retain a state. Once a customer returns to a digitalized touchpoint the process could ensure that it restores the previous state (Matook & Brown 2016). This is already common in web shops that identify customers through several means (e.g. cookies) when they return to the website. Furthermore, big data enables retailers to analyze the in-store purchasing behavior of its customers almost in real-time (Hartmann et al. 2014). Through the digital connectivity, people, consumption, and experience become “digitally visible” and thereby manageable (Ng 2014, p.9). Therefore, previously stored states and interactions of the customer at the touchpoint could enable context and situation-aware processes (Homburg et al. 2017; Willems et al. 2016). This is connected to the IT artifact characteristic of self-adaptation, which refers to a systems ability to change. Adaptive systems can learn from past

(customer) experiences and improve their performance over time (Matook & Brown 2016). Furthermore, through integration, connectivity, and synchronicity between the different digital touchpoints, context and situation awareness could be extended across several touchpoints and channels. Thereby, touchpoint crossing recommender systems could improve the processes (Matook & Brown 2016). Overall, an omni-channel environment with digitalized and linked touchpoints could enable new, reactive, proactive, predictive and personalized process flows within and between touchpoints (Lemon & Verhoef 2016; Homburg et al. 2017; Hosseini et al. 2017; Kowalkiewicz et al. 2017; Kowalkiewicz et al. 2016; Leyer et al. 2017). Here, the digital touchpoints can act in an integrative manner and coordinate the processes (Chan 2000). Furthermore, as IT artifacts are open and reprogrammable, processes may also be able to adapt the digital touchpoint itself and thus, indirectly alert the customer journey and the underlying retail processes (Kallinikos et al. 2013).

- Finally, digital touchpoints could be *information enriched*. They could not only record data but also communicate and disseminate knowledge and information, which can improve the process performance for the customer or for the employee (Chan 2000).

### 3 Research Design

As the topic of OCM is still in its infancy (Verhoef et al. 2015; Lemon & Verhoef 2016), an explorative qualitative research design was chosen. In the following, it will be explained following Maxwells' (2009) interactive research design.

The goal of this research in progress is the generation of a new theory that supports retailers with their decisions regarding the digitalization of customer touchpoints. Following the guidelines for hierarchically structuring research questions (Emory & Cooper 1991; cf. Recker 2013, p.29) the managerial question is: *How does the digitalization of touchpoints influence retail processes?* The underlying research question was then inspired by the “new logics of theorizing about digitization of innovation” by Nambisan et al. (2017). One of their questions was adapted to the context of touchpoint digitalization to formulate the following research question: *“What new technology affordances are enabled by digitalized touchpoints and how do they influence retail processes?”*

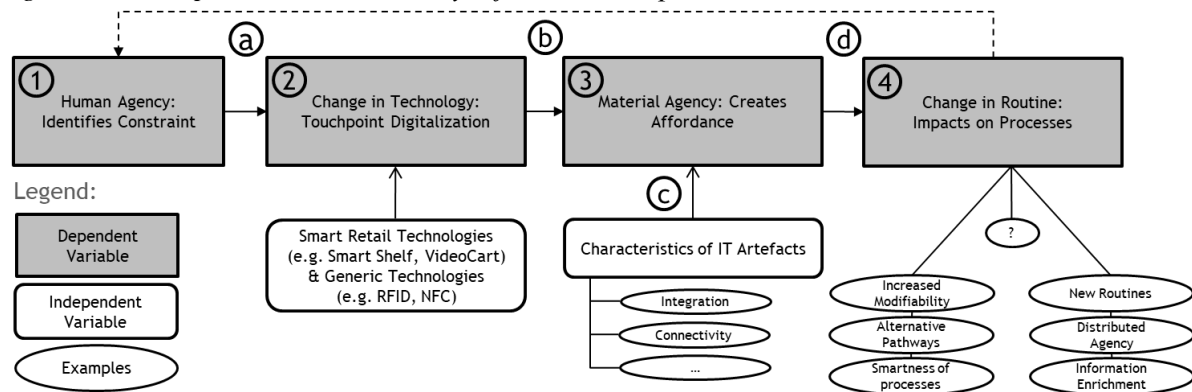


Figure 2. Conceptual Framework: Impacts of Touchpoint Digitalization on Retail Processes

To answer this research question and to refine the process impacts as well as capture the theoretical relationships, the process of Eisenhardt (1989, p.533) for theory building from case study research will be followed. Besides defining the research question in the first step, Eisenhardt (1989, p.536) explains that “a priori specification of constructs can [...] help to shape the initial design of theory-building research”. Maxwell (2009) refers to Miles and Huberman (1994, p.18) and states that a conceptual framework “explains, either graphically or in narrative form, the main things to be studied—the key factors, concepts, or variables—and the presumed relationships among them.” Such a guiding conceptual framework can be created by combining the concepts introduced in the theoretical background (see Figure 2). As explained in chapter 2.2, the digitalization of customer touchpoints might be motivated by humans that identify technological constraints in their current routines (1). This, in turn, may cause the introduction of new digital touchpoints such as specific smart retail technologies, or the

digitalization of existing touchpoints through generic technologies to satisfy the identified constraints (2). These digitalized touchpoints have material agency (3). Examples could be the channel-internal integration of touchpoints within a specific channel or the connectivity of those across channels. These new characteristics create affordances, which have an impact on the processes (4). Within the proposed framework, a theoretical relationship between a specific affordance and the change of a routine exist, if the digitalization of a customer touchpoint as an impact on a retail process (cf. Matook & Brown 2016). In the end, the changed routines can again trigger the identification of constraints and cause further changes in technologies. As described above, digital transformation is a continuous process that strongly impacts a company and its operations (Matt et al. 2015). Therefore, it can be argued that this cyclic digitalization is also omnipresent in the retail environment. Repeated and ongoing research efforts may be necessary to capture the impacts of the digitalized touchpoints over time.

Based on the developed framework and following the guidelines for hierarchically structuring research questions, four investigative questions can be derived, which will help to answer the research question: (a) *What motivates the digitalization of customer touchpoints?* (b) *What affordances can be created through the digitalization of customer touchpoints?* (c) *What ITA characteristics enable these affordances?* (d) *What abstract and practical process changes result from these affordances?*

As a next step, the cases need to be selected (Eisenhardt 1989, pp.536–537). While it is planned to select retailers with different degrees of digitalization, suitable and willing candidates have yet to be identified. However, the sample may include participants such as Chief Transformation Officers / Chief Digital Officers, managers of in-store innovation projects, touchpoint owners, store employees, customer service employees, logistics employees, loyalty team employees, IT service employees, or digital marketing employees.

Third, instruments and protocols need to be crafted (Eisenhardt 1989, pp.537–538). In the first place, qualitative interviews will be performed. Interviews are especially suited in this context, as technology affordance and constraints that may impact organizational routines “are constituted in relationship between people and the materiality of the things with which they come in contact” (Leonardi 2011). Furthermore, the semi-structured nature keeps some flexibility to identify further impacts, while at the same time following the structure of the developed framework (Mayer 2009, p.37). According to the interview method of Mayer (2009, p.38), the second step after the sample selection is the creation of a sensitizing concept. This concept is represented by the conceptual framework discussed above. It allows the informed and structured development of interview guidelines, which are subject to the next step and should ensure that all relevant aspects are covered (Mayer 2009, p.43). The developed interview guidelines consist out of three sections, which are summarized in Table 2:

Section	Subsection	Section Goal	Exemplary Question
Introduction	/	Introduction of the interviewee to determine his/her experience and the fit for the interview.	How does your work relate to customer touchpoints?
Customer Touchpoints	/	Provide a general introduction to customer touchpoints to generate a common understanding and inspire the interviewee to think about existing touchpoints. Thereby, unrecognized touchpoints are identified. By asking questions about the involved stakeholder, possibilities and necessities for further interviews are identified.	How do you understand the term customer touchpoint?
Customer Touchpoint Digitalization	Current State	Determine the current state and stimulate thinking.	Which touchpoint is digital?
	Motivation	Determine the motives behind the touchpoint digitalization. Also, it should be investigated if this motive arouses from previous digitalization.	Why did you digitalize these touchpoints?
	Technological Background	Determine the necessary changes in technology, preconditions, and challenges to get an idea of how touchpoints are digitalized. Information on	How are these touchpoints digitalized? Who manages the involved IT systems?



		the IT-systems and their managers, possibilities for further interviews are identified.	
	Characteristics	Determine the new characteristics of digitalized touchpoints and get an idea of the new affordances due to digitalization. The characteristics are later brought in a relationship to the process impacts.	Which (new) features do these digitalized touchpoints provide and what makes them special?
	Process Impacts	Discuss the changes of retail processes that arose from the new affordances.	What are the implications for the configuration of the enterprise's processes?
	New Opportunities or Constraints	Give an idea about the cyclic nature of the touchpoint digitalization in the context of the digital transformation.	Have you identified any new opportunities or constraints that you were not aware of before the digitalization?
	Outlook	Facilitate thinking about further improvement potentials and future projects.	Which touchpoints are not yet digitalized or integrated?

Table 2. Interview Guidelines: Sections, Goals and Exemplary Questions

Before the data collection is started, it is planned to perform pre-test interviews with experts to further improve the interview guidelines (Mayer 2009, pp.45–46). During the interviews, notes will be taken to keep track of the most critical aspects and, if the participants agree, all interviews will be recorded. The data analysis will follow the approach proposed by Meuser & Nagel (2010, p.466 ff.) and comprise of the transcription, paraphrasing, sorting by topic, thematic mapping, conceptualization, and theoretical generalization. To be able to adapt the interview guidelines further and talk about preliminary results, the data analysis will be performed simultaneously to the interviews (Eisenhardt 1989, p.538). By talking about preliminary results across company borders, further opportunities can be identified. When companies understand the opportunities, they may be more willing to participate in further data collection efforts. Secondary data such as documents, processes, and observations can be collected to enrich the data obtained from the interviews (cf. Eisenhardt 1989, p.533, “flexible and opportunistic data collection methods”). Based on the results, the hypotheses can be shaped and compared to existing literature in an iterative manner until saturation is reached (Eisenhardt 1989, pp.541–545). Thereby, the constructs and the overall theory are refined and internal validity (Eisenhardt 1989, p.533) as well as “transferability” (Maxwell 2009, p.246) is ensured. Validity threats will be identified continuously to rule them out through respondent validation and triangulation (Maxwell 2009).

## 4 Outlook

In this research in progress paper, a qualitative research design was presented, which should help to investigate, how the digitalization of customer touchpoints can impact the retail processes. As a first step to capture the relationships between digitalized touchpoints and the process changes as well as to gain access to secondary data, semi-structured interviews will be performed.

From a theoretical perspective, this research follows the call for systematic theorizing involving the ITA (Matook & Brown 2016). Furthermore, it will contribute to the knowledge-base by viewing omni-channel management from a new IS-perspective. A conceptual framework is especially suited to reach such a contribution, as it is a way of research formulation, which helps to structure a research phenomenon (Matook & Brown 2016) in its “initial stage of scientific inquiry” (Shapira 2011, p.1314).

From a managerial perspective, the results are expected to improve decision support for the digitalization of customer touchpoints in the retail industry. Overall, an IS-perspective can enhance cross-functional communication (Straker et al. 2015; Oh et al. 2012). Following the BPM life-cycle (Houy et al. 2010), the results of this research could be used to apply, for example, the “Process Analysis and Design Methodology” of Wastell et al. (1994) and support the strategy development, definition, modeling, and implementation in an actual retail business. In the next step, the changes within the processes incurred by the digitalization of the touchpoints could be measured during the execution of the omni-channel processes. Finally, these measures could be used to optimize the processes further.

## Acknowledgment

This work is part of a project that has received funding from the European Union's Horizon 2020 research and innovation program under the Marie Skłodowska-Curie Grant agreement No 645751.

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