

CHANNEL INTEGRATION TOWARDS OMNICHANNEL MANAGEMENT: A LITERATURE REVIEW

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Abstract

The evolution of technology and the constant digitalisation strongly influence how consumers behave, how markets develop, and how companies and consumers interact. By offering many channels, companies attempt to react to these developments. In recent years, researchers as well as practitioners have proposed omnichannel management as the best approach to offer several channels. An omnichannel strategy enables consumers to use channels seamlessly and interchangeably and experience the channels uniquely. However, reality looks different: many channel management approaches coexist in practice, and in research, terms to describe different concepts are used without clear distinctions. This paper seeks to eliminate ambiguities regarding the term omnichannel management. By delimiting the term from related approaches and understanding current topics discussed by omnichannel management research, this paper creates a common basis from which to fully understand the concept. Omnichannel management has shown relevance in many areas, but particularly in retailing, marketing, and information systems (IS) research. IS plays an important role in the implementation of the omnichannel approach because obstacles are often technology-related and companies are strongly dependent on information technology (IT). To move research on omnichannel management forward, this paper proposes directions for further research.

Keywords: omnichannel management, channel integration, multichannel, literature review

1 INTRODUCTION

Technological advancements have driven the proliferation of possible channels with which firms communicate with consumers, sell products, and render services available (Dimitrova & Rosenbloom 2010; Lewis et al. 2014; Schramm-Klein et al. 2011; Seck & Philippe 2013; Zhang et al. 2010). These changes have significantly influenced business models, sales channels, and more importantly, consumer behaviour and demand (e.g., Aubrey & Judge 2012; Backhaus & van Doorn 2007; Brynjolfsson et al. 2013; Dimitrova & Rosenbloom 2010; Verhoef et al. 2015). In addition to physical stores, hotlines, and catalogues, many companies operate, for example, websites, mobile apps, and social media presences (Piotrowicz & Cuthbertson 2014). Consumers willingly use new channels when those channels are offered. In many cases, consumers do not complete a purchase process using only one channel (Aubrey & Judge 2012). Of globally polled customers, 86% shop in various channels and want to use channels simultaneously (McPartlin & Feigen Dugal 2012). This indicates, for example, that consumers use their mobile devices in the physical store, retrieving information during the store visit on their mobile devices to gather more information regarding products or the best prices and offers. Of consumers who use their mobile devices in-store for information purposes, 71%, regard the mobile device to be an important component of their shopping experience (Krueger 2015). Additionally, consumers desire a seamless and unified experience across all phases of the purchase process and across all channels (Nunes & Cespedes 2003; Van Bruggen et al. 2010). Of consumers, 81% want to experience the brand as a whole across all channels, and 54% would consider cancelling their relation with a company if personalised content is not available (Mohapatra 2014).

As previously described, the evolution of technology and ongoing digitalisation have rendered consumers' interchangeable and seamless use of channels possible. Therefore, the lines between different channels increasingly blur (Brynjolfsson et al. 2013; Trenz 2015). Particularly in retailing, this trend implies significant change. Classical brick-and-mortar stores offer the uniqueness of consumers' being able to touch products with immediate satisfaction; however, online channels can lure with more information, price comparisons, and user-generated content such as ratings and reviews (Aubrey & Judge 2012; Kim 2002). Thus, retailers must adjust their channel management to provide the appropriate channel configuration and consumer experience (Brynjolfsson et al. 2013). Many retailers have previously adjusted their channel strategies towards multichannel retailing, i.e., offering a broad range of channels. This strategy has been established as the most significant and most dominant approach for many retailers (Beck & Rygl 2015; Lewis et al. 2014; Verhoef et al. 2015; Zhang et al. 2010). In many cases, these channel expansions were not the result of meticulous planning, but were driven by market developments and new consumer demands (Klaus 2013; Trunick 2015; Van Bruggen et al. 2010). However, to fully meet today's consumer needs for simultaneous channel use and seamless channel switching with a uniform brand perception, retailers must go one step further. The omnichannel strategy represents the vision of the ideal strategy to offer various channels with regard to the latest developments and to match today's consumer behaviour (Beck & Rygl 2015; Lewis et al. 2014; Verhoef et al. 2015; Zhang et al. 2010). Of globally polled retailers, 84% believe that a uniform consumer experience across channels is extremely important (Forbes 2015) to be competitive in a digitalised and constantly changing market environment (Piotrowicz & Cuthbertson 2014; Trunick 2015; Verhoef et al. 2015).

The management of several channels has been investigated in disciplines such as marketing, retailing, and information systems (IS). Research in these fields has primarily examined the consumer perspective, particularly multichannel shopper characteristics and behaviour across channels (e.g., Ansari et al. 2008; Venkatesan et al. 2007). Another research stream has focussed on the company perspective and analysed channels' effects on the performance of offline or online channel implementation (e.g., Avery et al. 2012; Geyskens et al. 2002; Homburg et al. 2014; Pauwels et al. 2011). In previous research on the management of several channels, studies primarily took a dichotomous viewpoint, making a clear distinction between online and offline channels. From a management perspective, the key question was whether a company should offer an online channel (e.g., Brynjolfsson et al. 2013; Chen & Ku 2013; Neslin et al. 2006; Trenz 2015).

However, in today's digitalised environment, the question of *whether* online channels should be implemented is no longer the focus. More important is the question of *how* the many channels can be handled synergistically to maximise the consumer experience. Against this background, research has focussed on the concept of omnichannel management. However, in the academic literature, the term omnichannel is rather new, first mentioned in April 2012 in Aubrey and Judge's (2012) article 'Re-imagine retail: Why store innovation is key to a brand's growth in the "new normal", digitally connected and transparent world'. When analysing omnichannel research in detail, one observes numerous variations and terms to describe strategy concepts using several channels and that the omnichannel concept is not yet fully established (Trenz 2015). Terms such as multichannel management, crosschannel management, omnichannel management, channel integration, and other variations coexist. Such terms are often used interchangeably and without demarcation, which leads to uncertainty and a lack of distinction regarding the underlying concept (Beck & Rygl 2015; Klaus 2013). Many articles refer to the concept of multichannel and use the concept as an umbrella term to describe different strategies, regardless of the channel configuration (Beck & Rygl 2015; Verhoef et al. 2015). However, subsuming all channel concepts under the term multichannel does not appropriately express channel integration and the seamless, interchangeable use of channels (Neslin et al. 2006; Rigby 2011). Therefore, some authors are using the term omnichannel management to capture the new capabilities and features of this advanced channel management concept (e.g., Beck & Rygl 2015; Brynjolfsson et al. 2013; Piotrowicz & Cuthbertson 2014; Trunick 2015; Verhoef et al. 2015) or suggest the extension of other terms (Trenz 2015). Trenz (2015) argued that there is '*a mismatch between this conceptualization of multichannel applied in research and today's market realities. It demonstrates that this conceptualization may no longer be sufficient to fully encompass the complexity of a converging multichannel environment*' (p. 10) and that channel settings exist that are not covered by the currently prevailing multichannel concept. Considering omnichannel management as a distinct concept is promising because the term raises specific and relevant questions that were not relevant in the multichannel context and may be fruitful endeavours for IS research. Important topics include, but are not limited to, data integration, organisational change, pricing across various channels or the aligned management of a broad range of channels.

In this paper, we seek to answer the following research questions: (1) How can omnichannel management be defined and differentiated from other management concepts of several channels? (2) What is the status quo of omnichannel research? (3) What are avenues for further omnichannel research?

To answer these research questions, we conducted a systematic literature review encompassing research from different disciplines. The contribution of this paper is threefold. First, this research reduces the fuzziness of the term omnichannel management and provides a clear demarcation between multichannel and crosschannel management. Second, this study provides a consolidated overview of the body of knowledge regarding omnichannel management. Third, the paper offers proposals for further research based on the state of current omnichannel management research.

This paper is structured as follows: First, we present our elaborated definitions and distinction between the concepts multichannel, crosschannel, and omnichannel management. Subsequently, we provide an overview of existing research on omnichannel management. Finally, we summarise the primary conclusions and propose avenues for further research to drive omnichannel research forward.

2 OMNICHANNEL MANAGEMENT

To provide a comprehensive overview of the existing research on the management of multiple channels, we conducted a literature review in December 2015. To identify relevant literature regarding the management of multiple channels in general and more specifically, the concepts multi-, cross-, and omnichannel management, we followed the methodology proposed by vom Brocke et al. (2009). First, we performed a search spanning multidisciplinary databases providing access to academic journals and conference proceedings. We applied the search in the fields title, keywords, and abstract and divided the queries into four phrases to better understand the occurrence of the results. Afterwards, we excluded

duplicates, articles not published in journals, articles presented in conferences, and articles not published in English (993 articles). Subsequently, we examined the sum of identified articles (1683) to evaluate whether the articles could contribute to this paper. We excluded articles not topic-related, for example, articles regarding multiple channel EEG telemetric systems or multichannel ad hoc networks. After this evaluation, we determined 69 articles on the management of multiple channels to be relevant for this paper.

In addition to the consolidated definition of omnichannel management and the clear distinction from the other two concepts in section 2.1, it is our goal to provide a full overview of previous literature on omnichannel management as presented in section 2.2. Because the term omnichannel management is rather new and not used by all authors, we had to extract all papers from the previously identified body of knowledge (69 articles) that either used the term explicitly or at least referred to the underlying concept of omnichannel management. To identify relevant articles, we thoroughly analysed the entire stock of 69 selected articles by reading the channel concepts and strategy descriptions. Then, we compared the resultant insights into the definition of omnichannel management presented in section 2.1. As soon as the characteristics of the described strategies or concepts unquestionably matched the description of the omnichannel concept, we assigned those characteristics to this concept, no matter the terms used by the authors to identify their concept or strategy. For example, Mueller-Lankenau et al. (2006) described a concept with their multichannel integration strategy that foresees channels ‘*as complementary components of a multi channel system that aims to provide a high level of convenience to customers, e. g. through supporting channel hopping in and between transaction phases*’(p. 9) and also referred to the harmonisation of (offline and online) presences and extensive integration. This description matches the characteristics of the omnichannel approach. Using this procedure, we identified a total of 18 relevant articles.

Table 1 shows the four applied search phrases and the results of the literature search.

Database	Search Phrase 1 ("multichannel" OR "multi- channel") AND (management OR strategy)	Search Phrase 2 ("crosschannel" OR "cross- channel") AND (management OR strategy)	Search Phrase 3 ("omnichannel" OR "omni- channel") AND (management OR strategy)	Search Phrase 4 "multiple channel" OR "channel integration" OR "integrated channels"
EBSCOhost	376	14	4	289
AISel	72	16	2	0
ScienceDirect	906	83	14	723
Emerald	131	11	6	29
Excluded articles				993
Total identified articles				1683
Total identified multiple-channel-management articles				69
Total identified omnichannel articles				18

Table 1. Results of Literature Search

2.1 Defining and differentiating Multi-, Cross- and Omnichannel Management

Consumers tend to use increasingly more channels within the customer journey, either in the search, purchase, or after-sales phase (Neslin et al. 2006; Weinberg et al. 2007). Channels are the sum of routes or paths by which a company delivers products, services, or information to recipients (Mehta et al. 2002).

Channels represent ‘*a customer contact point or a medium through which the firm and the customer interact*’ (Neslin et al. 2006, p. 96). Channels are, for example, a store, a hotline, or a website.

Meanwhile, the consumer using multiple channels has become the norm. Therefore, a channel strategy matching market and consumer needs is crucial for businesses, particularly in today’s competitive environment (Lewis et al. 2014; Payne & Frow 2004; Verhoef et al. 2015; Zhang et al. 2010). A channel strategy represents a ‘*broad set of principles by which a firm seeks to achieve its distribution objectives*’ (Mehta et al. 2002, p. 430). The channel strategy describes the manner in which channels contribute to the company’s overall objective (Mehta et al. 2002).

As previously stated, using multiple channels is a strategy widely employed by retailers as the key to satisfying consumer needs with the objective of increasing sales (e.g., Mueller-Lankenau et al. 2006; Verhoef et al. 2015). This approach is an answer to changed shopper behaviour rather than the result of meticulous channel and strategy planning (Lewis et al. 2014; Verhoef et al. 2015; Zhang et al. 2010). A company’s channel management must consider many conditions. Channel management describes the process by which a company analyses, plans, organises, and controls their channels (Mehta et al. 2002). Channel management considers all channels regardless of their function, such as communication, customer service, or distribution of products and services (Stone et al. 2002). Channel management can range from the complete separation of channels with individual considerations to total integration with full channel coordination (Neslin et al. 2006). Nevertheless, between those two extremes exist many graduations and strategies (Trenz 2015).

In this section, we define the terms multichannel, crosschannel, and omnichannel management, which are mentioned within the context of the management of multiple channels. Defining these terms will lead to a shared understanding of the term omnichannel and differentiate this concept from related channel management approaches.

2.1.1 Multichannel Management

Multichannel management refers to ‘*the set of activities involved in selling merchandise or services to consumers through more than one channel*’ (Zhang et al. 2010, p. 2). According to Neslin et al. (2006), this set of activities encompasses ‘*the design, deployment, coordination, and evaluation of channels to enhance customer value through effective customer acquisition, retention, and development*’ (p. 96). Multichannel management primarily indicates that a company offers multiple channels. For example, a retailer with a website and a physical store may offer the possibility of ordering a product online although the product ordered online is not returnable to the store. This approach suggests that the channels are not interconnected. In fact, the channels are treated separately and generally managed by different teams, each with its own agendas and goals. This configuration also indicates that the teams are incentivised differently. Furthermore, there is no channel integration and therefore no exchange of data across channels. The focus of multichannel management is on each channel (Beck & Rygl 2015; Verhoef et al. 2015).

2.1.2 Crosschannel Management

Beck and Rygl (2015) described the crosschannel strategy as a partial integration of several channels. Crosschannel strategy indicates the possibility for a consumer to switch between certain, but not between all, available channels. For example, the customer can return a catalogue-ordered product to a physical store, or she can redeem a voucher in a store that she received via email. A crucial characteristic of the crosschannel approach is that there is a certain degree of interaction and integration among individual channels or touchpoints (De Faultrier et al. 2014). The crosschannel approach is not limited to channels; this approach also considers touchpoints (Beck & Rygl 2015). A touchpoint represents any point of contact between the consumer and the company and is not necessarily marked by interaction. Touchpoints are ‘*an episode of direct or indirect contact with a brand or firm*’ (Verhoef et al. 2015, p. 175). Touchpoints include, TV, billboards, or radio (Verhoef et al. 2015).

However, full integration across all available channels and touchpoints within the crosschannel approach is lacking. Therefore, within this strategy, the management and goal setting is per channel, per touchpoint, or per specific integration of channels or touchpoints. In addition, because of this setting, data cannot be shared across all channels and touchpoints. We regard crosschannel management to be an intermediate step between multichannel and omnichannel management.

2.1.3 Omnichannel Management

Omnichannel management represents an evolutionary step of the multichannel and crosschannel concept. Compared with the two previously described concepts, the barriers between all channels and touchpoints vanish completely. In fact, freely moving and switching by consumers among all contact points is not only anticipated but favoured (Piotrowicz & Cuthbertson 2014; Verhoef et al. 2015). The primary difference between the multichannel or crosschannel and the omnichannel approaches is the degree of channel coordination and integration. According to Bendoly et al. (2005), channel integration refers to the degree to which various channels in a channel environment interact with one another. This integration allows a seamless customer experience, a unique brand image, data sharing, and overall management. In general, the omnichannel concept is the most extensive approach offering several channels and touchpoints (Verhoef et al. 2015).

To define omnichannel management, we follow Verhoef et al. (2015). Although Beck and Rygl (2015) defined the omnichannel approach similarly, we believe that the definition provided by Verhoef et al. (2015) better expresses the characteristics of omnichannel management (see Table 2) and better describes the underlying concept. Verhoef et al. (2015) defined omnichannel management as *'the synergetic management of the numerous available channels and customer touchpoints, in such a way that the customer experience across channels and the performance over channels is optimized'* (p. 176). In addition, we highlight their statement that *'[c]hannels are interchangeably and seamlessly used during the search and purchase process'* (Verhoef et al. 2015, p. 175). Although this factor is implied in their definition, such a concept merits emphasis because this statement represents the key evolutionary step that distinguishes the omnichannel from the multichannel and crosschannel approaches. The synergetic management implies that the channels and touchpoints are managed as a unit. This unity of all possible contact points between the company and the consumer results in interaction and linkage among all channels and touchpoints as well as the possibility of simultaneous use. Thereby, the consumer experiences not simply the channel or touchpoint, but the brand as a whole (Piotrowicz & Cuthbertson 2014; Verhoef et al. 2015). Consumers can select their most preferred channel for every situation in their relation with the company. For example, a consumer may be attracted by a promoted product on a billboard that mentions a website. Later, at home, this consumer gathers more information and places the chosen product in the shopping basket but does not complete the purchase. While commuting to work by train, this consumer opens the company's own shopping app, in which the product is also in the shopping basket. This consumer then completes the purchase via the app and chooses store pick-up. As this example illustrates, consumers can switch from one channel to another without interrupting their transaction stage. If the consumer switches channels during the purchase phase, for example, from an online shop to a mobile app, this shift does not result in the loss of the progress the consumer has made. The omnichannel strategy aims at a seamless and unique experience regardless of the purchase phase the consumer is in or the channel the consumer uses (Brynjolfsson et al. 2013; Piotrowicz & Cuthbertson 2014; Rigby 2011; Rosenblum & Kilcourse 2013).

Another important characteristic of omnichannel management is data integration. Compared with the multichannel and crosschannel approaches, more data are fuelling the databases. New opportunities for data sources are provided, particularly by social and mobile channels. Insights regarding transactions and interactions can be generated. To leverage the opportunities for vast amounts of data gathered in the omnichannel environment, companies must integrate consumer data from all channels and have the ability to analyse that data. Only then can a company create customer insights and correctly and personalised address the right consumer to enhance the experience (Brynjolfsson et al. 2013; Trenz 2015).

Table 2 presents a comprehensive overview of the characteristics of each channel management approach.

Characteristic	Multichannel	Crosschannel	Omnichannel
Path of Product/Service/ Information Delivery	Channels	Channels and touchpoints	Channels and touchpoints
Integration	No switching between channels possible	Switching between certain channels and touchpoints possible	Seamless switching among all channels and touchpoints possible
Management	Separated by channel	By channel or connected channels and touchpoints	Across all channels and touchpoints
Goals	By channel	By channel or connected channels and touchpoints	Across all channels and touchpoints
Interaction	Two-way	Any type	Any type
Data	Data are not shared across channels	Data are partially shared across channels	Data are shared across all channels

Table 2. *Differentiation of Channel Management Concepts*

2.2 State of Research on Omnichannel Management

In this section, we describe in detail the insights generated by these three streams of omnichannel research. When analysing the omnichannel literature, we discovered that all authors considered at least the channels store and web in combination; however, some authors focussed solely on these two channels. Many of the authors additionally considered the channels catalogue, telephone, and mobile devices. Only a few authors included the channels social media, sales or service force, and new technologies such as virtual channels. Analysing the omnichannel literature, we identified three primary topics: strategy conceptualisation and requirements, transformation towards omnichannel management, and the obstacles and benefits of omnichannel management.

2.2.1 *Strategy Conceptualisation and Requirements*

This stream of omnichannel research focuses on the strategic aspects of the omnichannel approach and the requirements for an omnichannel strategy. Mueller-Lankenau et al. (2004), de Faultrier et al. (2014), and Beck and Rygl (2015) developed an overview of different approaches to manage several channels. Based on the cases of four retail companies that conduct different multiple channel strategies, Mueller-Lankenau et al. (2004) classified and illustrated four types of multichannel strategies, from which one approach describes an omnichannel strategy. The identified core strategies differ in channel interdependence and range from the complete isolation of channels to full integration. This view of differentiation was also adopted by de Faultrier et al. (2014), who identified eight retail channel strategies. In a later publication, Mueller-Lankenau et al. (2006) suggested a further distinction between four different developed typologies of multichannel strategies: offline focussed strategy, online focussed strategy, isolation strategy, and integration strategy (Bahn & Fischer 2003; Doolin & McQueen 2003; Gulati & Garino 2000; Venkatesh 1999). Mueller-Lankenau et al. (2006) based this further distinction on the existence of a broad variety of strategies that retailers apply, even when the integration strategy is described as the most preferred strategy. Based on this knowledge, those authors stated, ‘*there is no single best approach to multi channel retailing*’ (Mueller-Lankenau et al. 2006, p. 188); however, any approach must be strongly dependent on the company’s overall strategy, market, and products. To support channel strategies, Mueller-Lankenau et al. (2006) developed a model of strategic channel alignment and applied that model to four retailers to illustrate the different approaches applied in practice. Beck and Rygl (2015) categorised the different approaches of multiple channel management within the retail context. Their work is based on a review of the multiple channel literature. Beck and

Rygl (2015) synthesised their results to subsequently develop a taxonomy of multiple channel retailing. Their results render it clear, consistent with Mueller-Lankenau et al. (2006), that in addition to the developed categorisation and subcategories, there are many variations of the channel strategies.

Berman & Thelen (2004) described the requirements for '*a well-integrated multi-channel*' (p. 147) retail strategy: integration of promotions, consistency of products across channels, and integrated information systems that are capable of capturing data regarding customers, price, and inventory across all channels. Furthermore, consumers should be able to initiate a purchase in one channel and complete it in another, perceive the company as one entity, and be offered various channel options within one channel system. Tate et al. (2004) also mentioned these characteristics in their conceptualisation of an omnichannel strategy. Additionally, Tate et al. (2004) mentioned logistics and customer management, process engineering, and market sensing as success factors. Kernaghan (2013), who broached the integration and migration of service channels, focussed on the '*removal of political and legal, structural, operational and managerial, and cultural barriers*' (p. 135). All works emphasise that the channels should be perceived as a component of the overall mission without being treated as separate silos with their own agendas (Berman & Thelen 2004; Kernaghan 2013; Mueller-Lankenau et al. 2004; Mueller-Lankenau et al. 2006; Tate et al. 2004).

2.2.2 Transformation towards Omnichannel Management

This stream of omnichannel research focuses on the drivers, the need, and the process of transforming multiple channel strategies towards the omnichannel approach. Several of the articles on omnichannel management discussed technological developments and evolving customer needs. Technological developments and the change in customer needs are the primary drivers for companies to adapt an omnichannel strategy as a new and contemporary approach with several channels. This shift is described as an opportunity, particularly in retailing, which can be an advantage as long as retailers construct an ecosystem of connected offline and online channels within an omnichannel environment (Aubrey & Judge 2012; Brynjolfsson et al. 2013; Hansen & Sia 2015; Piotrowicz & Cuthbertson 2014; Trenz 2015; Verhoef et al. 2015). In particular, mobile devices and location-based services (Aubrey & Judge 2012; Brynjolfsson et al. 2013; Hansen & Sia 2015; Piotrowicz & Cuthbertson 2014; Verhoef et al. 2015) and social media (Hansen & Sia 2015; Piotrowicz & Cuthbertson 2014) are named as the primary drivers of this channel transformation. The majority of the authors focussed on the gap between offline and online channels because the lines between offline and online channels are constantly blurring caused by the increasing number of channels that connect the offline and online dimensions (Aubrey & Judge 2012; Brynjolfsson et al. 2013; Hansen & Sia 2015; Piotrowicz & Cuthbertson 2014; Trenz 2015).

Hansen and Sia (2015) noted that companies must focus on changes in technology infrastructure and organisational practices to successfully transform towards an omnichannel strategy. Additionally, those authors identified four key learnings: (1) '*embrace your channel partners in the omnichannel strategy*' (p. 62). This means that every channel, in this case the business-to-business partners of a company, must be considered, sensitised regarding the strategy, and integrated. Another learning is (2) '*recognize that a successful omnichannel strategy requires deep change*' (p. 62), noting that the transformation to an omnichannel approach is not simply adding up channels, but committing to deep technological, organisational, and mind-set changes. The learning (3) '*leverage the strategic role of chief digital officer*' (p. 63) also refers to the omnichannel mind-set that must be established in all areas of the company. Hansen and Sia (2015) noted the importance of the alignment of IT with business strategy during the transformation towards omnichannel management. The last key learning, (4) '*evolve the role of CIO in enabling an omnichannel strategy*' (p. 65), refers to the extension of the boundaries of IT to lead the transformation process towards omnichannel management. By successfully extending IT, the company may benefit from this transformation process by increasing sales (Hansen & Sia 2015; Weinberg et al. 2007), brand awareness and visibility; improving e-commerce capabilities (Hansen & Sia 2015); and creating a unique brand image (Weinberg et al. 2007).

Using focus groups, Piotrowicz and Cuthbertson (2014) identified primary issues and trends in omnichannel management related to the role of technology and implementation in retailing. In addition

to current technological in-store drivers of omnichannel strategies such as virtual screens, fitting rooms with virtual mirrors, intelligent self-services, or dynamic menus, Piotrowicz and Cuthbertson (2014) postulated that wearable technology and 3D printing will drive the transformation even further.

2.2.3 *Obstacles and Benefits of Omnichannel Management*

Within this stream of omnichannel research, the focus is on obstacles during the implantation or the management and benefits of the omnichannel approach. Lewis et al. (2014), Neslin et al. (2006), Goersch (2002), and Stone et al. (2002) elaborated on challenges that must be addressed to benefit from an omnichannel strategy. Lewis et al. (2014), Neslin et al. (2006), and Stone et al. (2002) emphasised these obstacles. Those authors noted the obstacles to understanding the need to acquire and change resources and channel integration, which are closely connected. Further obstacles are the enabling of a seamless and consistent consumer experience across all channels; the sharing of common resources; the generation and integration of analysable data across all channels, achieving a seamless view of the consumer; and the use of certain channel synergies. These tasks are challenging for many retailers. Often, channels are simply added to existing systems instead of providing a new IT infrastructure dedicated to an omnichannel setting. Moreover, with these challenges comes another: investment to acquire or switch resources to achieve channel integration (Lewis et al. 2014; Stone et al. 2002). Because not only the redesign is an obstacle, the ensuing investment for the right IT infrastructure must also be addressed when several channels are managed in an integrated system. A further challenge is the justification of channels because channels are measured separately. In isolation, a channel may not be profitable; however, within the omnichannel setting, a single channel may support overall performance. Therefore, the true performance of single channels is more difficult to evaluate. Additionally, Neslin et al. (2006) named resource allocation across channels as an obstacle, which is also challenging because of the isolated evaluation of channels. Moreover, Stone et al. (2002) mentioned the removal of organisational borders as a challenging task, and Goersch (2002) remarked that before benefits can be achieved, it is necessary to improve customer acquisition, customer extension, and customer retention; and a company must provide integrated branding across channels, channel cross-promotions, consistency, integrating logistics, channel-specific capabilities, and information management.

Goersch (2002), Stone et al. (2002), Neslin et al. (2006), and Lewis et al. (2014) also highlighted benefits resulting from an omnichannel strategy. Goersch (2002) noted that a successfully conducted omnichannel strategy leads to increased awareness, trust, control over the customer, enhanced support, ubiquitous personalisation, and customer convenience. Additionally, Stone et al. (2002) mentioned the benefits of increased customer value, an improved consumer experience, increased customer loyalty, increased efficiency by channel synergy, increased organisational flexibility, and improved customer knowledge because of an improved database. Neslin et al. (2006) also noted better knowledge of customers as a benefit in addition to economies of scale, differentiated offerings on channels (Zettelmeyer 2000), reduced channel conflicts, price consistency (Tang & Xing 2001; Zettelmeyer 2000), improved intra-organisational communication, improved customer-firm relations, increased service quality (Sousa & Voss 2006), and the ability to compensate for a channel's weakness with another channel's strength (Achabal et al. 2005). In sum, Table 3 presents an overview of the literature on omnichannel management.

Author and Title	Research Area	Term Used for Channel Concept	Topic Cluster
Aubrey & Judge (2012): 'Re-imagine retail: Why store innovation is key to a brand's growth in the "new normal", digitally-connected and transparent world'	Marketing	Seamless Cross-Channel; (Integrated) Omnichannel Retail	Transformation towards Omnichannel Management
Beck & Rygl (2015): 'Categorization of multiple channel retailing in multi-, cross-, and	Retailing	Omni-Channel Retailing	Strategy Conceptualisation and Requirements

omni-channel retailing for retailers and retailing'			
Berman & Thelen (2004): 'A guide to developing and managing a well-integrated multi-channel retail strategy'	Retailing	Well-integrated Multichannel Retail Strategy	Strategy Conceptualisation and Requirements
Brynjolfsson et al. (2013): 'Competing in the age of omnichannel retailing'	Retailing	Omnichannel Retailing	Transformation towards Omnichannel Management
De Faultrier et al. (2014): 'Defining a retailer's channel strategy applied to young consumers'	Retailing	Multichannel Strategy (Transactional Integration)	Strategy Conceptualisation and Requirements
Goersch (2002): 'Multi-channel integration and its implications for retail web sites'	IS	Multichannel Integration	Obstacles and Benefits of Omnichannel Management
Hansen & Sia (2015): 'Hummel's digital transformation toward omnichannel retailing: Key lessons learned'	IS	Omnichannel Strategy	Transformation towards Omnichannel Management
Kernaghan (2013): 'Changing channels: Managing channel integration and migration in public organizations'	Public Administration	Service Channel Strategy (Integrated Service Delivery)	Strategy Conceptualisation and Requirements
Lewis et al. (2014): 'Drivers and technology-related obstacles in moving to multichannel retailing'	Retailing	Multichannel Retailing Strategy	Obstacles and Benefits of Omnichannel Management
Mueller-Lankenau et al. (2004): 'Developing a framework for multi channel strategies. An analysis of cases from the grocery retail industry'	IS	Multichannel Integration Strategy	Strategy Conceptualisation and Requirements
Mueller-Lankenau et al. (2006): 'Strategic channel alignment: an analysis of the configuration of physical and virtual marketing channels'	IS	Multichannel Integration Strategy	Strategy Conceptualisation and Requirements
Neslin et al. (2006): 'Challenges and opportunities in multichannel customer management'	Service	Multichannel Strategy/ Integration	Obstacles and Benefits of Omnichannel Management
Piotrowicz & Cuthbertson (2014): 'Introduction to the special issue information technology in retail: Toward omnichannel retailing'	Retailing	Omnichannel Retailing	Transformation towards Omnichannel Management
Stone et al. (2002): 'Multichannel customer management: The benefits and challenges'	Marketing	Multichannel Customer Management	Obstacles and Benefits of Omnichannel Management
Tate et al. (2004): 'Theory and practice in multi channel e commerce strategies: A case study of an apparel and home-ware retailer'	IS	Multichannel E-Commerce Strategy	Strategy Conceptualisation and Requirements
Trenz (2015): 'The blurring line between electronic and physical channels: Reconceptualising multichannel commerce'	IS	Multichannel Continuum	Transformation towards Omnichannel Management
Verhoef et al. (2015): 'From multi-channel retailing to omni-channel retailing: Introduction to the special issue on multi-channel retailing'	Retailing	Omnichannel Management	Transformation towards Omnichannel Management
Weinberg et al. (2007): 'Multichannel marketing: Mindset and program development'	Marketing	Multichannel Marketing	Transformation towards Omnichannel Management

Table 3. Literature on Omnichannel Management

2.3 Discussion of the Findings

When analysing the omnichannel literature, one notes that research describing the need for a shift towards omnichannel management is rather new (2012-2015). The majority of studies agree that omnichannel management is the approach that companies should focus on; however, in reality, many companies apply different approaches (Mueller-Lankenau et al. 2006; Trenz 2015). This dichotomy may be an indicator that there is not a single established approach for companies; the channel management approach strongly depends on each company's factors, such as industry, products, or customers, as Mueller-Lankenau et al. (2006) stated. The dichotomy could also indicate that it is challenging to present strategic and practical guidance to create the ideal picture of an omnichannel strategy. Research has presented a clear picture of omnichannel management but lacks the guidelines to obtain there. Existing approaches either do not consider the latest technological developments (Berman & Thelen 2004) or are case-specific (Hansen & Sia 2015; Kernaghan 2013), which renders generalisability difficult. Furthermore, by focusing predominantly on the offline-online gap, research does not provide a holistic view of omnichannel management, as Trenz (2015) stated. In addition to the missing view on all channels, the perspective on social media is rarely considered.

The majority of research focuses on the existing gap between offline and online channels and the underlying goal of merging the two channel dimensions. This focus is most likely because the majority of existing research was conducted within the retail context. This research is particularly important for retailers, who are often trying to connect their stores with their online presences to enhance the consumer experience (Piotrowicz & Cuthbertson 2014). In particular, mobile technologies are important considering the gap between offline and online channels. Mobile devices can bridge that gap because those devices can take the online experience into the brick-and-mortar store because of a comprehensive Internet connection and the independence of the location. In addition, the obstacles these studies noted may explain the gap between the ideal picture of omnichannel management proposed by research and the applied approaches in reality. Research noted that channel integration is an obstacle in many companies. To achieve full channel integration, companies are required to change IT infrastructure, establish an overall mission, and develop the appropriate mind-set. Companies must break down organisational silos and establish an omnichannel mind-set and overall mission. Hansen and Sia (2015) in particular highlight the role of IT. IT and business strategy must overlap and collaborate. Bharadwaj et al. (2013) noted the necessity of overthinking the role of IT and merging IT with business strategy. The development of this consciousness and commitment within a company towards omnichannel management is crucial for successful channel integration and management. The cross-functional mind-set and willingness to share all types of information and data across competencies and functions are important in building seamless customer knowledge across channels. Sharing data is also crucial to providing personalised consumer experiences in the channel environment. Maintaining the silo mentality that prevails in a multichannel setting prevents the transformation towards omnichannel management and prevents the free flow of any type of information.

Financial commitment is also deemed important. With regard to the obstacles to the integration process in a company, there is consensus regarding the challenge to acquire and change resources. This type of transformation requires extensive change and, therefore, greater investment. Because simply adding channels to an existing IT infrastructure is not sufficient, it is necessary to implement an entirely new system that can encompass the capabilities of an omnichannel setting, which requires a large investment. Small companies may not desire or may not be able to commit to a large investment and therefore cannot provide omnichannel management.

3 AVENUES FOR FURTHER RESEARCH

The previous section regarding the state of research on omnichannel management provides insights into the addressed topics. These findings open opportunities and create inspiration, which may constitute fruitful avenues for further research in the omnichannel domain. The proposed research questions were identified from previous works on omnichannel management. We identified relevant questions from the

identified literature, adopted these questions, or used them as a basis to formulate new questions. In addition, we developed research questions based on the newly developed omnichannel insights and the gaps in previous research. In general, further research should focus on how companies can address obstacles to the transformation and channel integration process, how the omnichannel approach improves the customer experience, and how overall performance can be measured. Moreover, when conducting further studies on the topics mentioned in Table 3, researchers should consider the entire channel environment and provide guidance on integrating additional channels (e.g., social media). Table 4 presents the proposed research questions for further research on omnichannel management aligned with the previously identified clusters. Furthermore, Table 4 presents subcategories to provide more detailed information regarding the proposed research questions and their proposed direction.

Cluster	Topic	Research Question	Source
Transformation towards Omnichannel Management	Conceptualisation	<ul style="list-style-type: none"> • How different are the approaches to transform towards omnichannel management for offline retailers and online retailers? • How does the type of industry, company, or product influence the omnichannel strategy? • How can omnichannel management increase customer loyalty? • When should companies strive for omnichannel management? • Is omnichannel management (always) desirable? 	Verhoef et al. 2015; Own
	Pricing	<ul style="list-style-type: none"> • How must pricing be rethought in an omnichannel setting? 	Aubrey & Judge 2012; Hansen & Sia 2015; Trenz 2015
	Realisation	<ul style="list-style-type: none"> • How can full channel integration be achieved to transform towards omnichannel management? • How can operational issues of channel integration be resolved? • How should an omnichannel setting be configured (company and consumer perspectives)? • Should customers be steered through the omnichannel environment based on revenue? 	Hansen & Sia 2015; Kernaghan 2013; Piotrowicz & Cuthbertson 2014; Verhoef et al. 2015; Own
	Channels and Touch-points	<ul style="list-style-type: none"> • How broad should the range of offered channels be? • How can specific customer contact points improve the omnichannel performance? • Which role do social media play in the omnichannel environment? 	Piotrowicz & Cuthbertson 2014; Verhoef et al. 2015; Own
	Unity	<ul style="list-style-type: none"> • What is required to provide a seamless omnichannel customer experience? • How can companies achieve a unified view of the customer across channels? 	Piotrowicz & Cuthbertson 2014; Verhoef et al. 2015
	Mobile	<ul style="list-style-type: none"> • What is the role of mobile devices in the omnichannel environment? • How can companies exploit the in-store possibilities of mobile channels regarding omnichannel retailing? 	Aubrey & Judge 2012; Brynjolfsson et al. 2013; Hansen & Sia 2015; Lewis et al. 2014; Piotrowicz & Cuthbertson 2014; Verhoef et al. 2015
Obstacles and Benefits of Omnichannel Management	Conceptualisation	<ul style="list-style-type: none"> • Do the benefits of an omnichannel strategy outweigh the costs? 	Own
	Channels and Touch-points	<ul style="list-style-type: none"> • At what point does the integration of channels create additional value? 	Verhoef et al. 2015

Further	Conceptualisation	<ul style="list-style-type: none"> • Which types of omnichannel services provide additional customer value over existing offline and online alternatives? 	Verhoef et al., 2015
	Performance	<ul style="list-style-type: none"> • How should channels in an omnichannel strategy be evaluated? • How can the overall omnichannel performance be measured? 	Weinberg et al. 2007; Own
	Channels and Touch-points	<ul style="list-style-type: none"> • How do purchase specifics, external influences and individual differences influence consumers' choices of more or less IT-driven channel options? • Which models can be applied to represent and understand consumer choices within the omnichannel environment? • Which models and theories can be applied to study the customer journey within omnichannel environments? 	Verhoef et al. 2015
	Realisation	<ul style="list-style-type: none"> • How should companies be configured (technologically/organisationally) to provide a beneficial basis for omnichannel management? • How can IT governance improve omnichannel management? • How should third party channels be managed within an omnichannel environment? 	Own

Table 4. Proposed Research Questions for Further Research on Omnichannel Management

4 CONCLUSION

The evolution of technology and the increase in digital channels have been noted by many authors to be the key drivers of the latest channel management developments. Some of the concepts regarding managing several channels appear outdated and await replacement with new, more capable concepts. The omnichannel approach represents an appropriate measure with which to satisfy contemporary needs and respond to the latest technological developments. Companies are adjusting their multiple channel management strategies but apply countless variations of strategies and struggle with full channel integration. For companies, this venture is complex and requires considering many influences, such as being always and everywhere online, highly informed consumers asking for the best price and the best experience, strong competition, and an always-changing channel environment. In addition, companies face organisational, technological, and financial decisions and changes when transforming towards omnichannel management. Particularly for IT, this transformation is a major task because IT must provide the infrastructure for the new requirements and the capability to drive the integration.

An examination of the literature shows virtual consensus regarding the ideal management strategy for multiple channels: the omnichannel approach. However, studies leave open questions on how to achieve a perfect picture of fully integrated channels within an omnichannel setting. It appears that the path to full integration is unclear for many practitioners or that obstacles are insuperable. Studies also question whether there is in fact "the" best approach to manage multiple channels. This paper's listed questions help to move the topic of omnichannel management forward by reducing the fuzziness of the term omnichannel management and delimiting it to multichannel and crosschannel management, by showing the state of omnichannel research and its current issues and by presenting proposals for further research based on the developed insights. Thus, we hope to reduce the gap between research and applied strategies in the real world. IS research should focus on this topic in the future. Omnichannel management must address multifaceted, technology-related, constantly developing issues and changes. Thus, the role of IT becomes even more important because it is IT that combines omnichannel management and business strategy.

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