A Systematic Literature Review

on Omnichannel

Seminar paper

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Abstract

This systematic literature review is a framework that consolidates the current state of research on the topic omnichannel. By means of all cutting-edge innovations in the so-called digital age (e.g., smartphones, tablets, ultrabooks, smart home devices, ...) and their technical option to easily use them for shopping, the quantity of possible sales channels increased steadily within the last years. For gaining a competitive advantage against other market players, many vendors must deal with the incoming enhanced requirements of these multichannel customers along their customer journey - for reaching a purchase completion in the end. In this context, the implementation of tailored omnichannel strategies is nowadays an important part of the (digital) business strategy of many customer-centric retailers.

The objective of this scientific contribution is to provide a solid and up-to-date basis for business practice and additionally for further academic work on omnichannel. This literature review includes the relevance of the topic omnichannel, its fundamentals, the opportunities, and emerging challenges, as well as derived research gaps. This research work is therefore primarily aimed for (marketing) managers, C-level managers, and for IS-researchers, as well as for research workers in marketing- and sales management related fields.

Keywords: Omnichannel, Literature Review, Research Agenda, Future Research

Table of Contents

1   Introduction

Customers place increasingly high demands on companies and their products ((Spychalska-Wojtkiewicz, 2020); (Sitel, 2020)). Of all interested stakeholders in the context of selling products and/or services, it is the final customer who has higher expectations in terms of delivery time, product and service quality, access to all relevant information and furthermore the support of the vendor throughout the customer journey ((Murfield et al., 2017); (Parmer et al., 2010)). Precisely these steadily increasing requirements and expectations regarding the "customer experience" (Lemon and Verhoef, 2016) force all vendors to align their actions with consumer needs to remain in the market - at the latest when competitors yield to these requirements of customers (Verhoef et al., 2015). The combination of fast-growing market standards and serious external effects (e.g., the pandemic situation) put entrepreneurs - especially nowadays - under significant pressure to manage their companies profitably ((Sandqvist and Wollmershäuser, 2021); (Signori et al., 2019)). These managerial challenges require optimized business processes that are adapted to the actual circumstances. As consumers increasingly use digital technologies (e.g., smartphones, tablets, laptops, and others), managers integrate these technologies in their selling process to increase sales and/or optimize costs ((Nash et al., 2013); (Verhoef et al., 2015)). That is why companies continuously provide more channels for their customers to easily buy the offered products and/or services (Chatterjee, 2006). As a result, besides typical local stores, multiple companies have expanded their e-commerce capabilities within the last years to handle the increased market demands (e.g., using online-shops, virtual reality solutions, online help desks, hotlines, and others) (Kozlenkova et al., 2015). Of course, so-called multichannel business-models are not an innovation nowadays (Huuhka et al., 2014). However, the coordination and connection of all the offered channels changed a lot within the last years (Rigby, 2011). Companies with an *omnichannel* strategy focus more on the option to offer *every* customer *every* channel at *every* time of their customer journey – so switching between these channels does not impact the customer's experience negatively (e.g., ((Rigby, 2011); (Shankar et al., 2011); (Brynjolfsson et al., 2009); (Gallino and Moreno, 2014); (Verhoef et al., 2015); (Bell et al., 2018)). Nowadays, also top consultancies recommend omnichannel approaches (e.g., à la Nike) as a requirement for survival (Briedis et al., 2021). That is why the previous multichannel offerings should not be limited to just one channel per business transaction.

An accessible definition of a sellers omnichannel strategy (in the maximum expansion level) might be "a coordinated multichannel offering that gives a seamless experience when using all of the retailers shopping channels" (Levy et al., 2013, p. 67) "which means consumers employ all channels, experiencing seamless integration" (Huang, 2021, p. 2).

It can be derived that the topic "omnichannel" is an upcoming and contemporary field of research with a high practical relevance and in case of this, potentially a far-reaching readership. That is why managers always need updated research contributions on this topic. For this reason, this review on the recent academic literature aims to support the state of research on omnichannel by providing all interested recipients a comprehensive, holistic, and updated framework of the topics underlying components. This is done by identifying, reviewing, and presenting the most *recent*, most *relevant*, and most *professional* scientific insights on this topic.

This paper deals precisely with this topic's (and the associated) questions. This review is intended to systematically examine the current state of research and make it more accessible. Thus, the following research questions can be derived for further elaboration: What is the state-of-the-art of academic literature on omnichannel, and what are the major dimensions of the omnichannel research? Finally, were do I see relevant gaps in the current research on this topic that requires further scientific work?

In the subsequent processing, I will proceed as follows. At first, I declare the methodological approach of the systematic literature search and furthermore the corresponding literature selection (*Chapter 2 - Methodology*). Second, I present the topic's relevant dimensions and additionally I portray the literature review's findings on these dimensions (*Chapter 3 - Findings*). Finally, I discuss the findings, also with regards to their value for businesses and their managers, relate them to other research areas, and develop a future research agenda (*Chapter 4 - Discussion*) before I conclude by summarizing this research work briefly and relate the gained insights to the bigger part (*Chapter 5 - Conclusion*).

2　Methodology

A detailed and documented review process of the recent scientific literature on a specific topic is essential for every academic literature review. It ensures for all readers a traceability of the knowledge gained in the further course of processing and thereby it gives a certain "thread" to a research paper. Therefore, the following systematic literature review process is structured in three consecutive parts. First, the process starts with the systematic search of published (academic) literature on the topic omnichannel (Webster and Watson, 2002). Second, this search part is followed by a selection part to identify the relevant references for the intended literature review (Webster and Watson, 2002). The third and final step is the qualitative analysis of the chosen references according to a method proposed by Wolfswinkel et al. (2013).

2.1　Literature search

This section aims to find the largest possible solution space, consisting of any paper or other written contribution on the topic. That is why there are no more special requirements for the search results than a relation to the topic, because the results will be filtered in the next step. I conducted the systematic way of literature search proposed by Webster and Watson (2002), beginning with building keywords.

I started the search with the keywords "omnichannel", "omni-channel" and "omni channel" (Domański, 2021). At this point, I deliberately chose to avoid extended/connected search terms such as "omni(-)channel strategies", "omni(-)channel AND multi(-)channel" or similar search strings, as I intended not to overly narrowing down the results automatically to the intersection of keywords in this step of research. I queried the following databases with the mentioned single keywords: EBSCO, Science Direct, Web of Science, AISeL, IEEE Xplore, Google Scholar, World Cat, SpringerLink, Thompson Reuters, ZBW (EconBiz), Taylor & Francis, and others, as well as the top journals for scientific research. This includes, for example: Journal of Management Information Systems, Harvard Business Review, Sloan Management Review, Academy of Management, Information Systems Research, MIS Quarterly, and others.

2.2　Literature selection

To select the relevant literature for this paper's objectives only (the derived research questions portrayed in *Chapter 1 – Introduction*) and receiving valuable findings timely (before deadline), I filtered the identified literature stepwise. The initial step was deleting all duplicates caused by searching in different databases.

After deleting redundancies, I continued by filtering the results in three steps. At first, I selected the literature by title and the keywords. Second, I read the abstracts of the remaining papers. Third, I studied the body of the remaining papers. Therefore, I continued filtering the literature by excluding all the literature that does not meet the general principles of qualitative research. These principles are *validity, objectivity*, and *reliability* (e.g., (Wolf, 2010)). In doing so, I strongly focused on the recent and peer-reviewed literature that fitted to the scope and aim of this literature review's research questions. Additionally, I preferred primary research for the final selection. Finally, I applied a forward and backward search portrayed by Webster and Watson (2002). In the forward search, I used the listed databases again and checked them for results that cite the already selected literature. For applying a backward search, I examined the papers cited by the authors of the afore identified papers.

With the additional identified papers, I repeated the literature selection process as portrayed before to evaluate every paper's individual quality. After this step, 21 references remained to be used in the further course of elaboration. The closing date of the literature selection was November 1st, 2022.

2.3　Qualitative analysis

When conducting qualitative literature analyses, there are different methodological approaches possible ((James 2006); (James et. al., 2012)). Under the objective of gaining a contribution to the topic's research timely, I applied a nowadays frequently used and proven approach to ensure the value of this contribution for all recipients. Therefore, I chose the generally applicable *grounded theory* method for systematic literature analyses proposed by Wolfswinkel et. al. (2013).

This approach aims to find the meta dimensions (high-level components) of the selected papers with respect to the derived research questions from *Chapter 1 - Introduction*.

The process is done iteratively in the three following steps. The first step was the conduction of open coding by disaggregating the texts into pieces and gathering abstract codes from it. Second, I used axial coding for the identification of connections and relations between the pieces and for deriving different groups of these codes. Third, I used selective coding for addressing, and the specification of content groups, and afterwards for addressing the identified groups to the actual meta dimensions of this literature review on omnichannel.

3   Findings

In the following, I created an author-centric concept matrix as a visualized overview of the findings of the resulting papers from the previous chapter's procedure (Webster and Watson, 2002). Since many of the references were published/accepted in the last three years, it can be concluded that omnichannel is a modern and relevant field of research which repeatedly requires consolidating and updating frameworks. I identified four recurring dimensions in the selected literature. This chapter is structured by these four dimensions. In the next section I discuss each of the four dimensions with its individual (and underlying) aspects   in   more   detail.

References	Antecedents & Background	Definitions	Opportunities	Challenges
(Akter et al., 2020)	•	•	•	•
(Alang and Nguyen, 2022)	•	•	•	•
(Alonso-Garcia et al., 2021)	•	•	•	•
(Cui et al., 2021)	•	•	•	•
(Domanski, 2021)		•		
(Fisher et al., 2019)		•	•	
(Gallino and Rooderkerk, 2020)	•	•	•	•
(Gerea et al., 2021)	•	•	•	•
(Hilken et al., 2018)	•	•	•	•
(Huang, 2021)	•	•	•	•
(Huuhka et al., 2014)	•	•	•	
(Lazaris et al., 2021)	•	•	•	•
(Mishra et al., 2020)	•	•	•	•
(Pawlicka and Bal, 2022)			•	•
(Paz and Delgado, 2020)		•	•	
(Petrova, 2021)	•	•	•	•
(Rigby, 2011)	•	•	•	•
(Rodríguez-Torrico et al., 2020)	•	•	•	•
(Timoumi et al., 2022)	•	•	•	•
(Verhoef et al., 2015)	•	•	•	•
(Zhang et al., 2022)		•	•	•

Table 1.   Concept Matrix – Literature on Omnichannel

3.1   Antecedents & Background

A main aspect of many of the selected references - regardless of whether it is a research paper, journal, or other professional contribution to the topic omnichannel – is the "historical" background that leads nowadays companies to consider such omnichannel approaches in their (sales) strategy (e.g., (Huang et al., 2021); (Alang and Nguyen, 2022); (Gerea et al., 2021)).

During the review process, I identified that there were originally three relevant waves for describing the evolution of the present omnichannel age (Huuhka et al., 2014). Initially, in the mid-1990s, first vendors launched e-commerce channels that were characterized by being technology-driven, managed autarchic, and not connected with other channels (e.g., (Huuhka et al., 2014); (Riecke, 2019)). At second, (around 2005 – 2014) the increased and everyday use of modern technologies such as tablets, smartphones, ultrabooks/laptops, and similar devices in society led sellers to consider offering more than just one general (electronic) distribution channel for gaining a competitive advantage (multichannel era). From then on, it was feasible to offer every customer a shopping channel according to their own preference (e.g., (Huuhka et al., 2014); (Huang et al., 2021); (Rigby, 2011)). Finally, the third step of evolution of (electronically supported) channel management started (at the latest) in 2015 and is present up until now. Nonetheless, the actual aim of interconnectivity between channels was already known (Rigby, 2011). Since then, the rise of omnichannel approaches can be seen as a response to the actual shopping behavior of customers (e.g., (Huuhka et al., 2014); (Huang et al., 2021)). This is mainly because most customers always preferred using more than just one channel per actual purchase (Burke, 2002). A relevant practical example from the field of adapting to the actual consumer behavior (and to finally reach a purchase) is the assimilated "Click and Mortar" where companies have at least one electronic shopping channel and additionally at least one physical store (e.g., (Huang et al., 2021); (Otto and Chung, 2021); (Henning and Schneider, 2018)). For this reason, it can be concluded that the option of combining (existing) channels – also online and offline channels (e.g., "click-and-collect") – along just one customer journey was a measure to reach advantages for both: the buyer and the seller (Rigby, 2011). The strict differentiation between the multichannel age and the omnichannel age and in particular the actual reasons for the current evolution to omnichannel are important key takeaways from the review process, especially since strict differentiations between the terms "multichannel", "omnichannel", and other terms related to the topic are not considered in all the "older" literature (Beck and Rygl, 2015).

3.2   Definitions

Since omnichannel is a cutting-edge field of research in which I identified ambiguities (and less clearly explained definitions) regarding the associated terms, I see the relevance to understand the topic's theoretical foundations in the overall context (e.g., (Huang, 2021)). I continue with this category, because it should serve as a guideline for all recipients such as business managers, researchers, and other interested readers.

The term *singlechannel* (also single-channel or single channel) displays the basic sales strategy where a vendor of a product and/or a service reaches (potential) customers through only one distribution option, regardless of whether it is online (e.g., by e-mailing, an online-shop, or similar) or offline (e.g., in local store(s), face-to-face acquisition, etc.) (e.g., (Collins, 2019)). Consequently, this way of channel management considers only one so-called "touchpoint" for a potential customer to get in touch with the intended seller (and of course vice versa). Especially in the digital era, the addition of e-commerce channels to an existing channel can be seen as a disruptive technology for gaining a competitive advantage against the conventional (offline) singlechannel players in the same market (e.g., (Rigby, 2011)).

However, this singlechannel distribution often has disadvantages compared to digitalized multichannel distributors – typically in the field of sales (e.g., poor scalable market range/missed selling opportunities) and costs (e.g., operation costs and often required expensive assets like stores, staff, etc.) - the main reason for some players to stick with a singlechannel approach is that this channel is cost-efficient and vendors only concentrate on this (beneficial) sales channel (fewer overhead costs, easier organization/management, simplified data analytics, etc.) (Billbee, 2021).

Nonetheless, as mentioned before in *Chapter 3.1 – Antecedents & Background*, at the latest with the beginning of the digital age, there was a noticeable rethinking regarding the concentration on just one sales channel (Huuhka et al., 2014).

The competitive advantage that could possibly be reached through the targeted use/integration of modern technologies led a lot of managers to evaluate the possibility to add further channels to the existing one. The frequently used word *multichannel* (also multi-channel or multi channel) refers to a seller's effort to add distribution channels (Levy and Weitz, 2009). For this reason, customers must have at least more than just one channel for doing purchases. The main goal for managers is the increased probability that the seller is present when the actual purchase decision is made because the customer's preferred sales channel is offered/available (no losses of potential sales) (Bendoley et al., 2005). Therefore, multichannel can be seen as a first approach regarding the actual consumer behavior (considering customer satisfaction), and furthermore as a measure for sales growth from the business perspective (Rigby, 2011). The typical reasons for sales growth and/or optimized costs when offering various distribution channels (especially internet-based applications) are shared risk, improved reachability, personalized data collection (customer characteristics) and easier data transfer to existing IT-systems, wide range/low marginal scaling costs, etc. (e.g., (Billbee, 2021)).

Nevertheless, a steady extension of distribution channels leads to problems. The preparation of such an extended shop system is the main challenge. At first, before having a running extended distribution system, the complex decision for the selection of channels will become necessary. Therefore, managers should consider market data, the KPI's and a well-documented selection phase (Lazaris et al., 2021). Second, higher investment costs are casual for the implementation and integration of advanced tools (e.g., interfaces with ERP-systems, CRM-systems, HR-systems) – especially for complex applications with a high grade of automation. That is why the evaluation of the actual use is the next challenge (cost/benefit consideration) (Chatterjee, 2006). Third, when receiving the expected benefit (e.g., more market data, increased sales, etc.) managers must deal with accompanying issues. Examples for these issues are data processing, deriving new measures, better fulfillment, … (Flavián et al., 2020). Finally, every multichannel offering still does not consider a seamless data transfer (e.g., entries on settings, on the intended purchase, etc.) when switching between the channels along the customer journey (e.g., (Huang et al., 2021); (Rigby, 2011)). A restart of the whole ordering process would be the result.

The *cross-channel* (also cross channel) management can be seen as the first measure for dealing with this problem. The customer-centric cross-channel approach considers that a purchase takes time for decision making and (the optional) channel switching leads furthermore to customer satisfaction (Rigby, 2011). Consequently, users can start a customer journey on any channel and finish it on any other available channel - without any time delay - because of a seamless transmission of data between all channels (Billbee, 2021). Cross-channel distribution also has many advantages for vendors. Initially, the customer-centric approach leads to customer satisfaction which impacts the customer lifetime value (loyalty) significantly (Shankar et al., 2011). Furthermore, connected channels allow tailor-made marketing campaigns. The interconnectivity of channels allows vendors to understand customers better (data on behavior, preferences, etc.) and to create personalized advertisement (market segmentation and targeting) – also on other channels. Moreover, a so-called re-targeting on other channels is possible as well – especially when a purchase is not finished (Herhausen et al., 2015). Cross-channel management can be therefore seen as the second necessary approach or measure (after multichannel) to achieve a higher customer satisfaction.

In the end, I derived that *omnichannel* (also written omni-channel or omnichannel) should not be seen as a kind/characteristic or actual way of managing/organizing a company's existing shopping channels, in particular, because cross-channel management already aims to offer various channels and additionally a preferably seamless shopping experience through interconnectivity and less borders between channels. The real idea of omnichannel is far more complex, hence it is an abstract requirement (without clarified specifications, KPIs and further regulations) that the interconnectivity of channels is used as far as possible (e.g., (Domański, 2021); (Hajdas et al., 2020); (Alang and Nguyen, 2022)). Considering this fact, there are many views on the degree of achieving such a seamless customer-centric channel management.

I suggest defining a working omnichannel management as the situation when channel switching during an ongoing process (ordering/support/complaints etc.) does not impact the customer experience in any negative way **nor** the vendor.

3.3   Opportunities

In the preceding chapter, I derived that omnichannel is an ideal with lots of positive effects on customers and sellers - worth to come as close as possible to it. The aim of this chapter is to structure the positive impacts of an omnichannel integration and to understand the causality of these effects. Therefore, I present the opportunities of omnichannel, and afterwards I discuss potentials of upcoming research areas that might impact omnichannel in a positive way, as highlighted in the reviewed literature.

First, the literature agreed that omnichannel strategies lead to customer satisfaction and loyalty – especially because of the seamless data integration between channels, which can be seen as the major customer-centric approach (e.g., (Lazaris et al., 2021); (Huang et al, 2021); (Nash et al., 2013); (Schramm-Klein et al., 2011)). Initially, Shankar et al. (2011) assumed that a consistent way of presenting gathered information along different channels could have a positive impact on the retention (loyalty) of customers and their value for vendors. This might be the uniform way of highlighting special discounts or further product information (Verhagen and Dolen, 2009) and additionally a personalized real-time advertisement across channels ((Andrews et al., 2016); (Verhoef et al., 2017)). From the point of view of a single channel player, the omnichannel approach (with more than just one distribution channel) is generally better, hence the research found out that more channels lead to pleased clients ((Pantano and Viassone, 2015); (Swoboda et al., 2021)). Additionally, an advanced and connected online appearance can lead to increased offline sales in total (Sands et al., 2010). This synergy effect between channels is mentioned repeatedly and displays the relevance of a seamless connection – notably because customers always preferred the option of combining channels along their customer journey (e.g., (Otto and Chung, 2000); (Burke, 2002); (Pantano and Viassone, 2015); (Swoboda and Winters, 2021)). Moreover, analyses show that sellers that are using an omnichannel approach reach a 250% higher sales ratio, 13% higher selling prices, a 90% higher customer relationship and a 13,5% increased interaction rate compared to singlechannel distributors (Collins, 2019). The empirical research from Fisher et al. (2019) also analyzed the positive impact on sales and cost optimization for sellers. Furthermore, show- and webrooming are frequently used terms when portraying the importance of seamless data integration between channels for reaching an excellent customer experience and journey as well as finally a purchase. It means that omnichannel players can avoid that their local store(s) or their web-presence are just used for receiving information about a distinct product (or service), but the final purchase is done somewhere else ((Akter et al., 2020); (Zhang and Oh 2013)). These so-called "free riders" are becoming less a problem when using the synergy of channels instead of seeing them as autarchic alternatives (Zhang et al., 2018), especially when the easy transmission of data between channels allows purchases from any offered distribution channel without any time loss for customers when switching.

As mentioned in the beginning of this chapter, the reviewed papers also highlight the cutting-edge technologies' impact on omnichannel. Hilken et al. (2018) assumed a synergy effect between nowadays upcoming augmented reality applications on lots of mobile devices and omnichannel. Furthermore, the developments in the field of data science can impact omnichannel management in a positive way (Cui et al., 2019). Cui et al. (2021) mentioned that developments in the field of data science are becoming relevant when there is no log-in information from a special client that allows the clear identification of a distinct customer (e.g., research on deterministic tracking) – especially when cookies are used less. They also highlighted the relevance of innovative options of the so-called probabilistic tracking which allows a kind of mathematical assumption regarding the identity of a user without log-in information (e.g., just based on the settings of a device, its location, and the type of use). Finally, Cui et al. (2021) opened the field of cyber-security. They mentioned that the upcoming potentials of data science can impact omnichannel in a good way (e.g., personalized advertisement, re-targeting). However, privacy becomes a reasonable problem. The authors presented the blockchain's opportunities (e.g., manipulation security) as a "solution" that allows the work with such private data for commercial use also in future.

3.4   Challenges

All meaningful innovations which can have positive impacts on the industry should be analyzed holistically. For this reason, in addition to the opportunities, the challenges for a "successful" implementation and use are portrayed afterwards as well.

As the identified problems from the literature on omnichannel are from different thematic origins or time periods, this chapter is sub-divided in (A) the state-of-the-art of research (focusing its gaps on useful/helpful knowledge for managers), (B) the implementation of this interconnected ideal, and (C) the final use and administration of it.

Omnichannel is nowadays an upcoming aim of vendors from different branches/industries all over the world. For this reason, the research is still ongoing. During the literature review, I identified several aspects where the professional authors see significant problems for managerial practice. Additionally, they presented in this way the relevance of (practical) knowledge on omnichannel to ensure the positive impact for lots of companies.

At first, Mishra et al. (2020) mentioned that industrial and emerging markets have serious differences regarding local conditions (e.g., infrastructure, budget, staff, etc..). They assumed that these differences make further research necessary, because it is not possible to apply the omnichannel experiences from wealthy states on markets where local restrictions do not allow the use of omnichannel in such an advanced way. Alang and Nguyen (2022) found out that more empirical research is important, especially for analyzing the customer experience of omnichannel users during their customer journey (e.g., (Piotrowicz and Cuthbertson, 2014); (Shi et al., 2020)). Additionally, more data are required on the view of the actual customers on specific aspects of omnichannel, in particular the purchase intention and the channel preference ((Xu and Jackson, 2019); (Shi et al., 2020)).

Furthermore, Alang and Nguyen (2022) identified major gaps in research on the different branches. They showed that omnichannel should ensure the optimized customer experience, but if the omnichannel application is not tailored to the company, it cannot be developed for the final customer as well. Alonso-Garcia et al. (2021) confirmed this way of thinking when they reminded of the differences between business-to-business (B2B) customers and casual consumers (B2C market). Additionally, Leek and Christodoulides (2011) mentioned the relevance of the strict distinction regarding the standards of different types of customers. When comparing usual consumers and professional procurement managers, I assume that different aspects are important for reaching an order. Considering this fact, I conclude that there is not just one right way of dealing an omnichannel distribution under managerial objectives.

Alonso-Garcia et al. (2021) also criticized the insufficient scientific work on omnichannel for its use in business-to-business transactions. They underlined the meaning of professional knowledge on the potential of B2B-omnichannel, hence the United Nations Conference on Trade and Development analyzed that the volume of trade between companies (B2B) is much larger than the volume of trade between companies and consumers (B2C) ((Garcia-Alonso et al., 2021); (UNCTAD, 2020)).

Furthermore, Gerea et al. (2021) supported the relevance of further research on omnichannel in the context of B2B by highlighting the share of research of omnichannel in the field of B2B. They found out that almost 96% of all professional scientific works on omnichannel are with focus on enterprises with products and/or services for consumers. They mentioned that this high share displays the actual origin of omnichannel. The authors explained that omnichannel is relatively novel and originates from the business-to-consumer branches with actual products (typically retailers), and this is the reason for the very focused research on retailers.

For this reason, Gerea et al. (2021) identified one relevant gap in the current omnichannel research field by explaining the meaning of distinguishing between selling products and selling services, because nowadays knowledge on omnichannel is focused on omnichannel for business-to-consumer companies with real products. According to Gerea et al. (2021), identifying the key components of omnichannel for service-selling companies and its customers is a relevant next step for updating the state-of-the-art of research on omnichannel for further managerial use.

The last challenge caused by identified research gaps on omnichannel which impede more use in the practice is the insufficient scientific work on possible synergies with other upcoming high-tech fields. Pawlicka and Bal (2022) assumed high potentials when using the synergy effects of omnichannel and Artificial Intelligence (AI) for reaching best results regarding the satisfaction of customers.

Second, I identified that the planning and preparation (time before the actual integration of the omnichannel solution in the sales strategy) causes major challenges for managers in business practice – especially because omnichannel can be seen as an utopian ideal (e.g., (Hajdas et al., 2020); (Gerea et al., 2021)). Considering this fact, I highlight these identified challenges for reaching an improved planning period in the following.

Initially, since the planning and preparation of the integration of such an advanced solution takes time (and costs), every potential decision maker should evaluate the actual relevance of this solution in his/her field of business before adding and connecting various company-touchpoints ((Chatterjee 2006); (Huang et al., 2021)). Lazaris et al. (2021) and Cui et al. (2021) saw this as a serious challenge – especially the estimation of the final benefit of the potential integration for reaching a maximized customer satisfaction (cost-benefit consideration) is complex. They added the pertinence of special frameworks considering the meaningfulness for the different branches and the various integration strategies. Furthermore, such frameworks should allow a sufficient operationalization of the required components for reaching the improved customer experience (Gerea et al., 2021). Just few authors started working on scientific contributions on integration strategies (e.g. (Timoumi et al., 2022)). Domański (2021) worked on this planning problem before integration as well by highlighting the question of the maturity/readiness of an exemplary omnichannel project. He mentioned increased sales as an option to measure the (potential) benefit, hence there is a connection. However, managers should also have options to evaluate the achievement of the integration without a clear (market-)reference or a before/after comparison. A maturity model specifically designed for omnichannel (and its readiness) could be an appropriate framework according to the author.

Cui et al. (2021) mentioned the challenge of data mining and the processing (handling) to plan the integration of omnichannel measures. For reaching the advantages of omnichannel potential companies must use the existing information about their customers. Therefore, understanding the customers' wishes is the actual task (Juaneda-Ayensa et al., 2016). In doing so, managers must consider all information on executed customer journeys. Furthermore, they must analyze all relevant communications and activities between the user of existing channels and the company (and additionally its business partners). Especially the information along the whole customer journey is important when analyzing the data for further use (Cui et al., 2021). Managers should avoid just considering the so-called lessons learned in the way of post purchase information (e.g., claims and feedback) ((Frasquet et al., 2017); (Frasquet et al., 2019); (Miquel-Romero, 2020)). Doing longitudinal studies for understanding the whole customer experience holistically – and not just the end of the journey - is a relevant aspect managers must consider ((Shen et al., 2018); (Mahrous and Hassan, 2017); (Goraya et al., 2020); (Herhausen et al., 2019); (Xiao, 2018); (Herhausen et al., 2015); (Zhang et al., 2018); (De Silva et al., 2019); (Li et al. 2018)). Furthermore, Cui et al. (2021) and Wilder-James (2016) assumed that the silo-thinking inside of companies can be a serious challenge that impacts the necessary cooperation between departments in a negative way. Considering that most of the data are already available – but in different data types (Neumann et at., 2019), various levels of detail (Wathne et al., 2000), and different storage locations ((Cui et al., 2021); (Wilder-James, 2016)) – it becomes clear that the handling is difficult.

Joo and Park (2008) and Huang et al. (2021) identified a significant challenge when thinking about the integration and connection of further channels. They portrayed the missing interfaces between the given channels as a main problem when assuming the potential of (further) connected channels. A relevant argument when considering further and connected channels is that the synergy and quality are more important than just the number of available channels ((Banerjee, 2014); (Herhausen et al., 2015); (Sousa and Voss, 2006); (Wu and Chang, 2016)). Huang et al. (2021) supported this argument when saying that the integration quality itself is the major key when offering a seamless service quality across multiple channels. They described channel service configuration and integrated interactions as the components for reaching that.

Also, Rigby (2011) agreed on this point by highlighting his most relevant omnichannel components: the integration itself, seamless channel switching for a satisfying customer experience, the planned coordination of the channels and using their synergies steadily. Shi et al. (2020) added flexibility as a main aspect of omnichannel. Already in 2002 Steinfield et al. (2002) said that generally channel integration, synergy and coordination are complex but relevant tasks. According to Kwon and Lennon (2009) a consistent corporate image management is one relevant example for reaching the same brand appearance across multiple channels and lowering the impact when switching between channels.

The final challenges I analyze in the following are the problems managers must deal with when the seamless migration of data across the various channels is implemented. Therefore, a closer look on the challenges for keeping this process on track for ensuring the desired loyalty of customers is taken in the following.

Bendoly (2005) highlighted that the first general problem when deciding to leave a casual singlechannel distribution way is that managers must administrate many different channels (e.g., online and offline channels) at the same time (which have different difficulties and requirements). Hübner et al. (2016) presented this as the logistics and administration challenge in the omnichannel context. Furthermore, Flavián et al. (2020) agreed on that by portraying that the data analyses when combining channels during a customer journey become a major issue. Nevertheless, it is necessary to use/transfer the combined data continuously to ensure a satisfying customer journey for everyone (also in future) on the one side and to allow support services at any time on the other side. Orús et al. (2019) described the relevance of building trust when using such advanced selling methods (otherwise companies can lose clients). Therefore, it is important that the customers have the feeling that the seller has an overview of his/her systems at any time of an ordering process. Gallino and Rooderkerk (2020) explained that a continuous data generation and preparation require a clear cooperation with the users. I can find different cooperation forms between customers and the omnichannel-vendors. Typically, the customer provides the omnichannel system with personalized data. Hereby, the relevance of trust in the seller and its systems is underlined. The customer must understand that the loss of privacy happens to achieve benefits for him/her and not only for the seller. Cui et al. (2021) also mentioned that omnichannel and privacy are conflicting demands. Nevertheless, they explained that reaching a high level of cyber-security is still possible and necessary. It should be also seen as a challenge omnichannel distributors must deal with. This leads me to the next challenge managers must face when implementing omnichannel measures. Cui et al. (2021) described in their contribution that omnichannel players must rethink the currently existing "borders" of their business. They explained that omnichannel management is a complex task, so outsourcing is a common issue companies must evaluate when keeping it on track. Typical reasons for strategic partnerships or mergers are for example: very complex administrative data preparation tasks that require special IT knowledge, receiving more data, enhanced cyber-security requirements, etc.

Ailawadi and Farris (2017) found out that the incoming challenges of any omnichannel implementation do not stop with the management of the distribution channels. They highlighted the increased relevance of customer-centric communication channels as well. For this reason, when offering omnichannel services, managers should consider the incoming increased requirements of customers, which challenge internal and external communication capabilities significantly (e.g., support services/help desks, product/service information from suppliers, and professional after-sales-services).

Furthermore, Gerea et al. (2021) identified that there is not a clear and standardized lessons-learned framework. That is why managers must gather the information on customers by their own, and then they must derive individual measures.

Finally, Akter et al. (2020) reminded that such advanced selling systems might lead to ethical problems after some time of operation. They are designed to make customers pleased, and to increase sales and achieve a better cost-policy as well. Mass layoffs are probably typical problems the society must deal with when extending revenue-oriented omnichannel measures (e.g., more online-sales, less stores, etc.). Additionally, the competitive advantage can lead to bankruptcy of other players and then to increased unemployment numbers.

4   Discussion

The previous chapter of this paper presented that omnichannel is a modern field of research with serious potentials and challenges for managerial practice. For this reason, it is becoming increasingly relevant to make this topic accessible for all interested recipients. According to the selected literature, this interdisciplinary field of research is on the rise since the mid-2010s, and it combines IS research and the research on (strategic) management and its related research areas (e.g., IT security management, consumer behavior, and marketing/sales management, etc.) ((Huuhka et al., 2014); (Cui et al., 2021)).

With reference to the way and kind of research, I derived that originally just few of the reviewed papers have typical empirical research approaches (e.g., (Alang and Nguyen, 2022); (Fisher et al., (2019)). The scientific work in the analyzed literature was primary theoretic-conceptual with a typical literature-based approach (e.g., (Huang et al. (2021)). Xu and Jackson (2019) and Shi et al. (2020) confirm this finding. However, I see that omnichannel is more and more becoming a field for empirical research methods in the last time (e.g., (Timoumi et al., 2022); (Zhang et al. 2022)). That is why case studies and deriving methods from empirical research works (e.g., on measuring the benefit of a potential integration or the integration strategy itself) currently become a subject to study. For this reason, I can conclude that the empirical research especially focuses on the challenges I identified in the preceding findings section (*Chapter 3.4 - Challenges*).

The main objective of this paper was to provide a holistic and up-to-date framework including deriving the main dimensions of the topic omnichannel. That is why it should be seen as a fundamental contribution to theory that should lead to further and more aspect-oriented research on omnichannel in future – for example with further empirical research that makes concepts continuously more accessible for the managerial practice.

I found out that there is a common understanding of the relevant potentials and problems of such a customer-centric interconnected channel "ideal". Especially, in the way of portraying the benefits, the papers' authors focused on the causality between customer satisfaction and managerial success (e.g., (Huang et al., 2021); (Lazaris et al, 2021)). Nevertheless, I identified that the state of research regarding the accompanying problems was varying in the actual research depth and breadth along the reviewed literature. Some papers gave a rough overview in the beginning by highlighting a general guideline of many of the incoming challenges and describing them afterwards (e.g., (Gerea et al., 2021); (Cui et al., 2021)). Other contributions mentioned relevant aspects without a specific "higher problem guideline" (e.g., (Akter et al., 2020). Nevertheless, these different ways of portraying the incoming challenges along the different literature allowed me to extend the challenge section successively and to organize it still in the three-divided structuring.

I still identified that along the reviewed literature, there are no clear and standardized definitions and differentiations of all the relevant words related to this topic (e.g., (Huang et al., 2021); (Gerea et al., 2021)). That is why I decided to portray the relevant terms for the further course of elaboration in the beginning by a clear definition. Surprisingly, just few authors mentioned that "omnichannel" is not an actual way of channel management, hence it does not have a real degree of achievement and is furthermore strongly dependent on the point-of-view of the actual user (e.g., (Gerea et al., 2021); (Hajdas et al., 2020). Nonetheless, omnichannel still represents an important ideal or aim with a high practical relevance managers can see as an "unreachable" objective worth to come as close as possible to it.

With regards to the findings on challenges, I can conclude that the topic's research is not yet completed, not only because of its age. I come to this conclusion because of different identified aspects. Initially, one identified meta-category in the findings section contains the relevant definitions and delimitations. That suggests that deep knowledge about the topic and the related taxonomy is currently not self-evident. Additionally, the fact that the references focus on the potentials and/or challenges shows that the views on omnichannel are still controversial, and the research is still in progress.

In consideration of the concept matrix' dimensions in the previous chapter, the contribution of this paper becomes apparent. The advantage of this paper is that it provides an updated and holistic perspective and guideline on omnichannel, especially for managers in practice.

The importance of the practical use of this paper is the guideline it provides for the potential decision-makers. First, the relevant background information is portrayed, considering the relevance and the theoretical foundation. Second, the paper emphasizes the importance of omnichannel by outlining all relevant opportunities and potential outcomes a channel interconnectivity can result. Third, for ensuring to provide an objective and al-encompassing paper, the challenges of this upcoming field of research are also considered in this work.

Finally, this paper and especially the structure of it with the identified high-level dimensions of omnichannel (Antecedents & Background, Definitions, Opportunities, and finally the Challenges) present a structure for the identification of further research questions on this topic (Table 2).

Component	Selected questions for further research
Antecedents & Background	• How to measure the necessity of omnichannel measures for a distinct organization? • What influence had the pandemic? – Conducting an empirical study on the pandemic's influence on the omnichannel developments.
Definitions	• How to measure the degree (maturity) of omnichannel of a specific organization if it is an ideal? • Is omnichannel the final stage of channel management? Are there additional upcoming potentials (through digital innovations)?
Opportunities	• How to measure the benefit of omnichannel for a specific organization – Especially without omnichannel competitors? • Where are the main differences regarding the advantages between B2B and B2C enterprises / different wealthy states / manufacturers and service providers?
Challenges	• Which specific factors lead to further challenges (e.g., locations, regulations, industries, …)? • Where are the main differences regarding the challenges between B2B and B2C enterprises / different wealthy states / manufacturers and service providers?

Table 2. Future research agenda on omnichannel

The analyzed research works on omnichannel all seem to view the innovations of the digital age as the reason that led to the general omnichannel desire (e.g., (Huang et al., 2021); (Alang and Nguyen, 2022)). Nevertheless, I want to encourage further researchers to study on this vague definition on interconnected channels and its relevance. I especially want to recommend research for a better clarification of the term omnichannel. Therefore, research on omnichannel maturity and the omnichannel readiness become relevant to evaluate the necessity of it in future (Domański, 2021). A research object could also be to analyze the diverse ways of channel management between incumbents, digital giants, and tech-entrepreneurs in the same market yield (B2B and B2C). Furthermore, upcoming high-tech evolutions such as Artificial Intelligence (AI) allow the question for further potentials beside seamless interconnectivity (Pawlicka and Bal, 2022).

Another main question arises in the field of the advantages of omnichannel management. Since every omnichannel implementation has serious challenges, its potentials must be evaluated first. I see a problem in the insufficient research on measuring methods regarding the potentials of an integration (Lazaris et al, 2021). This becomes relevant when comparing the different market requirements of the different branches and the various customer proximities of enterprises (Leek and Christodoulides, 2011).

Finally, I identified relevant research gaps regarding the clarification of all the upcoming challenges. I analyzed the identified challenges according to the different moments they will become relevant. Nevertheless, the specific main challenges will be various along all potential enterprises (e.g., (Mishra et al., 2020); (Pawlicka and Bal, 2022)).

I strongly fortify further work on omnichannel since it has an importance for managerial practice and the society. I think that a precise look on specific use cases might influence the development of implementation guidelines in a positive way.

Under the objective to provide a professional contribution to the topic, I want to mention the limitations of this systematic literature review in the following.

At first, I considered papers in English only since it is the scientific language. Furthermore, I tried to provide a holistic research paper with the topic's academic status-quo. Nonetheless, every research is still a subject to the researcher's personal impression and focus. Moreover, I did not perform an in-depth analysis of the subcategories of omnichannel, in favor of providing a broad overview on the topic that makes further research easier. Also, I considered peer-reviewed papers and articles only. The aim was to concentrate on an appropriate number of professional sources. So, I decided to avoid books and sources which are not checked by independent experts. Considering the fact, that this field of research is upcoming, I see a relevance to update the findings for further professional papers after some time. I assume that appropriate contributions might be currently in the checking-process.

5   Conclusion

The goal of this paper was to provide an academic contribution to the topic omnichannel by giving an overview of the state-of-the-art research knowledge and additionally by presenting identified research gaps on this topic.

Based on the systematically selected literature on this topic, I identified the high-level dimensions of omnichannel: Antecedents & Background, Definitions, Opportunities, and Challenges. Moreover, I found out that omnichannel should be seen as an unreachable ideal that displays the possible advantages of interconnected channels for customers and for enterprises as well. The top literature highlights the synergy of a customer-centric shopping experience and managerial success repeatedly.

However, during the review process, I found out that the incoming challenges (state of knowledge, planning & preparation, and the actual running) – when trying to reach the advanced interconnectivity - are complex (and furthermore a reason for some players to not consider omnichannel approaches in their channel strategy).

This systematic review on literature aims to be seen as a contribution to the bigger picture of the interdisciplinary research object omnichannel. That is why this contribution adds value to different research areas (e.g. (strategic-) management research and IS-research). This paper is a grounded and holistic framework when thinking about the implementation of omnichannel. Therefore, this paper might support the subsequent research on the topic, and it can be used from top-managers as a guide for approaching the topic, and deciding about their business' alignment in future, when deciding to change the status quo.

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