Association for Information Systems

AIS Electronic Library (AISeL)

ICIS 2022 Proceedings

Digital and Mobile Commerce

Dec 12th, 12:00 AM

Achieving Omnichannel Implementation: A Resource Orchestration Analysis

Ton Nu Huong Giang Hoang
National University of Singapore, gianghoang@u.nus.edu

Calvin Chan
Singapore University of Social Sciences, calvinchanml@suss.edu.sg

Hock-Hai Teo
National University of Singapore, disteohh@nus.edu.sg

Follow this and additional works at: https://aisel.aisnet.org/icis2022

Recommended Citation

Hoang, Ton Nu Huong Giang; Chan, Calvin; and Teo, Hock-Hai, "Achieving Omnichannel Implementation: A Resource Orchestration Analysis" (2022). *ICIS 2022 Proceedings*. 2.

https://aisel.aisnet.org/icis2022/digital_commerce/digital_commerce/2

This material is brought to you by the International Conference on Information Systems (ICIS) at AIS Electronic Library (AISeL). It has been accepted for inclusion in ICIS 2022 Proceedings by an authorized administrator of AIS Electronic Library (AISeL). For more information, please contact elibrary@aisnet.org.

Achieving Omnichannel Implementation: A Resource Orchestration Analysis

Short Paper

HOANG Ton Nu Huong Giang

Calvin M. L. CHAN

National University of Singapore gianghoang@u.nus.edu

Singapore University of Social Sciences calvinchanml@suss.edu.sg

TEO Hock-Hai

National University of Singapore teohh@comp.nus.edu.sg

Abstract

Brick-and-mortar (B&M) firms are increasingly required to provide a seamless omnichannel experience for customers across channels. However, when integrating online and offline channels to provide seamless omni-experiences, B&M firms often face challenges in effectively orchestrating their scarce assets between these competing channels. Therefore, we ask, "How to manage channel conflicts to achieve a consistent omnichannel experience." We adopted a resource orchestration perspective as a theoretical sense-making lens to address our question, based on a case study of successful omnichannel integration at a leading B&M firm in Asia. We found that B&M firms can achieve omnichannel consistency by structuring centralized leadership resource and centralized IT resource; bundling these resources to create sustainable competitive collaboration capability; and leveraging this capability to achieve omnichannel consistency. Our study contributes to omnichannel integration literature and provides practical guidelines to B&M managers for a successful omnichannel implementation.

Keywords: Omnichannel Implementation, Resource Orchestration, Case Study

Introduction

The proliferation of ongoing digital transformation has changed the retail landscape enormously in recent years (Verhoef et al., 2015). The ever-growing technological innovations, such as e-commerce and the internet, are factors that contributed to revolutionizing customer behavior (Pantano et al., 2020), thereby altering the retail landscape. To counter these developments, many brick-and-mortar (B&M) firms have expanded their businesses to online channels (Hansen & Sia, 2015) as an approach to digital transformation. In its simplest form, B&M firms have adopted a multichannel approach, where they sell merchandise to customers through online and offline channels but cultivate two channels in separated silos (Zhang et al., 2010). The multichannel approach, thus, allows B&M firms to compete with their pure online counterparts without affecting existing business operations.

However, lately, B&M firms have observed further digitalization with more special challenges, motivating them to move from multichannel to a more advanced digital transformation approach: *omnichannel* (Rigby, 2011). Advances in mobile technology and social media have blurred the boundaries between offline and online retailing, enabling customers to interact with firms through multiple touchpoints. Thus, customers are no longer satisfied with the multichannel approach, where business channels are operated in an *isolated* manner (Immonen & Sintonen, 2015). Instead, they expect an *integrated* omnichannel experience across all business channels (Rigby, 2011). For instance, customers often expect consistent information or the same service level when moving across online and offline channels (Neslin, 2022). By providing an omnichannel experience, firms could significantly boost customer loyalty and business revenue (Accenture, 2017).

Despite being promising to B&M firms, building an omnichannel experience is challenging (Hansen & Sia 2015). It requires considerable *omnichannel integration* (OI) efforts to effectively coordinate the objectives, the design, and the deployment across business channels (Neslin, 2022; Timoumi et al., 2022). It becomes even more challenging if there exists a high level of intrafirm competition between online and offline channels, especially when these channels serve the same customer group and/or offer the same product categories (Neslin, 2022). Specifically, when integrating online and offline channels to provide seamless omni-experiences to customers. B&M firms often face challenges in effectively orchestrating their scarce assets, such as product inventory or capital, between these competing channels (Xu & Cao, 2019). For instance, firms may desire to allocate part of store inventory to fulfill orders coming from the online channel so that customers can Buy Online and Pick Up In-Store (BOPIS). However, if both channels serve the same customer groups and offer the same product categories, they often compete for such limited product inventory. Thus, firms may have difficulty resolving conflicts regarding optimal inventory allocation between channels (Xu & Cao, 2019). Therefore, achieving an omnichannel experience requires an omnichannel integration approach that involves not only technology integration but also a business transformation (Westerman et al., 2014) that can resolve the inherent competition between channels. While existing omnichannel integration literature has shown the challenges and the potentially positive effects when integrating across channels (Neslin, 2022; Timoumi et al., 2022); there is limited research about how to effectively integrate across channels to achieve consistent omnichannel experience – especially in the context of tense competition between channels for the firm's scarce assets. We, thus, aim to investigate the research question: "How to manage channel conflicts to achieve consistent omnichannel experience."

A resource orchestration perspective is adopted (Sirmon et al., 2011) as a theoretical sense-making lens to analyze how omnichannel integration can be achieved, based on a successful case study of a leading B&M firm in Asia. Theoretically, our study contributes to the incremental literature development of omnichannel integration as an approach to digital transformation. Practically, our findings might provide managerial implications for B&M managers, with practical guidelines for successful omnichannel integration.

Theoretical Foundations: Resource Orchestration Perspective

Omnichannel integration (OI), as an approach to digital transformation, aims to provide customers with an omnichannel experience that melds the advantages of offline and online shopping (Neslin, 2022; Rigby, 2011). In the existing omnichannel integration literature, resource is recognized as a key factor supporting the OI implementation (Neslin, 2022; Timoumi et al., 2022), and the resource-based view (RBV) (Barney, 1991) is a widely accepted theoretical foundation in these studies. For instance, cultural resource imbues online and offline channels with a more cooperative mindset rather than a silo orientation (Lewis et al., 2014). IT resources, such as a powerful IT infrastructure, can produce consistent information across online and offline channels, thus allowing customers to easily switch between channels throughout their buying journey (Lewis et al., 2014). Physical resources, like store networks, provide essential infrastructure support during the omnichannel integration process (Govindarajan et al., 2017).

Although resources play a critical role in OI literature, RBV is criticized for overlooking resource management actions. Specifically, RBV only posits the static possession of resources; however, recent studies show that managing resources effectively is more important than simply owning them, given that firms often exhibit different performance levels even if they possess similar resources (Cui & Pan, 2015). Thus, some literature has highlighted the need to pay attention to resource-focused actions. Specifically, (Sirmon et al., 2011) propose a resource orchestration perspective that describes how to achieve competitive advantage through three resource-focused management actions: structuring, bundling, and leveraging. Structuring involves structuring a resource portfolio that is crucial for achieving a particular corporate strategy. Bundling refers to integrating that resource portfolio to construct or alter capabilities. Leveraging means exploiting such capabilities to achieve the firm's strategy (Sirmon et al., 2011).

In recent digital transformation studies, the resource orchestration perspective has attracted increasing attention (Cui & Pan, 2015; Du et al., 2018). For example, Cui and Pan 2015, in a study of successful digital transformation processes of manufacturers, revealed the evolution of resource-focused management actions in the call center implementation phase, then the online channel implementation phase, and finally, the integration phase of the online and offline channels. Similarly, Du et al., 2018, in a study of channel conflict management, found the relationship between resource base, capabilities, and resource

orchestration actions. However, these studies mainly focus on solving the channel conflict but *not* on delivering omnichannel consistency. Specifically, both studies propose differentiated resource-focused actions, e.g., differentiating product categories sold in online and offline channels, to reduce the conflict between two competing channels. However, differentiating product categories across channels would lead to an inconsistent omnichannel experience, as customers can only purchase a certain product category via a particular channel but cannot do so via another channel. Hence, there is limited knowledge of how firms can orchestrate their resources to *both* resolve the channel conflict and deliver omnichannel consistency. We, thus, adopt the resource orchestration perspective to address the research question: "How to manage channel conflicts *to* achieve consistent omnichannel experience?"

Research Methodology

We adopted a case study approach for this study as it allows us to investigate a contemporary phenomenon in an in-depth and comprehensive way (Eisenhardt, 1989; Yin, 2012). This approach is also known to be appropriate for examining the "How" question since it allows researchers to understand the complexity and the nature of the processes taking place (Yin 2012). Thus, it is suitable for answering our research question: "How to manage channel conflicts to achieve consistent omnichannel experience?" We sought a case study where the firm successfully managed the channel conflict to deliver omnichannel consistency. The case selected is a leading B&M firm in Asia, specializing in baby and mother care products. The firm has recently pursued the omnichannel strategy because the global consumers' preference for integrated service of experience and technology in baby-care products makes the omnichannel approach particularly appropriate for this industry. Its success has been widely featured in national and regional media.

We collected both primary and secondary data for this study (Eisenhardt, 1989; Gibbert et al., 2008). Primary data was conducted in a semi-structured manner where interview questions could be adapted depending on the context — so that more interesting insights could be explored in further depth. It was carried out in English and collected for four months in 2021 through 17 interviews with all key individuals involved in the firm's omnichannel implementation. They include Group Managing Director, CFO, Department Heads, IT Project Managers, and staff members from different teams. The interview duration ranged from 45 to 120 mins. All interviews were recorded and transcribed to preserve data quality (Gibbert et al., 2008). We also collected secondary data before and after the primary data collection period. We obtained it from various sources, including internal documents (e.g., reports) and external documents (e.g., industry reports or news articles). By triangulating the collected information from primary and secondary resources, such as cross-checking facts and dates, potential interpretation biases might be avoided.

We performed data analysis using the narrative strategy (Eisenhardt, 1989). Specifically, the primary and secondary data were classified into literature-generated emerging themes. To craft our analysis, we continued collecting data through informal and conversational interviews. Meanwhile, we processed data in line with grounded theory, containing open coding, selective coding, and theoretical coding (Gregory et al. 2013). We stopped the analysis when saturation was achieved, i.e., no more data could be added, and the model was no longer being improved (Eisenhardt, 1989). Regarding the validation of the approach, we plan to conduct further formal interviews with the C-suite members to access the representativeness of our findings and with the firm's customers to gain their evaluation of the firm's omnichannel integration efforts.

Case Background

TenderBaby (a pseudonym) is a leading B&M firm in baby and maternal products in Asia. It was established in Singapore about 40 years ago with over 150 employees and numerous stores nationwide. For a long time, the firm has focused on serving *high-touch* customers, who often value the "touch and feel" experience. Its strength lies in an outstanding in-store experience where customers can interact with empathetic, knowledgeable, and helpful salespeople. Recently, the firm has been experiencing a crisis. The Group Managing Director (GMD) described baby and mother as a fast-paced industry where it is catering to more *high-tech* customers – parents in their 20s - 30s, who often value technology-enabled convenience.

Multichannel Strategy as the Initial Approach to Digital Transformation

In 2005, to adapt to the changing behaviors brought by high-tech customers, the firm initiated a multichannel approach where a new web store (i.e., online channel) was added to the existing physical store network (i.e., offline channel), but the two channels operated independently. Specifically, the online channel had a siloed corporate structure where it owned a marketing team, warehousing team, etc., – which all functioned separately from the offline channel's operations. Also, the online channel had a siloed IT structure where its systems were totally disconnected from the offline channel's legacy systems. By doing so, the online channel operations would not affect existing offline operations, and would have more freedom to freely experiment with new digital services in order to grow into a self-sustained business.

"We were in a silo department; we have our own team in marketing, we have our own team on everything, on even warehousing.... It [online channel's system] was completely disconnected to our core ERP [i.e., offline channel's system]" (Manager of Online Operations)

Recently, the firm has observed further digitalization in retailing with more special challenges. Technology advances in mobile and social media have blurred the boundaries between offline and online retailing, enabling customers to interact with the firm through multiple touchpoints in order to take advantage of each channel. The firm, thus, decided to pursue an omnichannel strategy – where it aims to provide a seamless omnichannel experience that could allow customers to effortlessly switch across channels.

"Our top priority is to ensure our customers have great shopping experiences. The experience we are giving you in stores, we should provide the same when you shop online so that customers would not challenge us: "Why is it different? I want to exchange, refund" (Head of Buying)

The Challenges of Achieving Seamless Omnichannel Experience

However, achieving a seamless omnichannel experience was challenging when two channels still operated independently from the others. The online channel took advantage of its siloed structure to compete with the offline channel for the firm's scarce stock, leading to an inconsistent omni-experience of stock distribution across channels. Specifically, omnichannel customers often expect that they can buy any product category regardless of the channels used. However, in practice, they could only purchase a certain product through the online channel while hardly being able to find that product when visiting a store. It is because stock distribution for such product categories differed across channels - due to channel competition for the firm's scarce stock. Indeed, the siloed IT structures, as a consequence of the multichannel approach, allowed the online channel to effectively compete with the offline channel for scarce stock. In detail, the purchasing department (hereafter, buyer) traditionally does stock-demand planning before allocating new stocks to both channels. However, since the buyer was using the firm's IT legacy system – which was disconnected from the online channel's IT system, the buyer could not check the online channel's current inventory, thereby not being able to do stock demand planning for the online channel. Hence, the firm decided to let the online channel do demand planning itself - a task traditionally conducted by the buyer. However, the online channel exercised its privilege of self-demand-planning to constantly over-estimate its needed stocks:

"Before, our role was similar to purchasing department; we need to calculate how much stocks should be replenished in our inventory, and then request to replenish... And sometimes this particular product is very saleable, but the buffer that we actually have is, let's say, only four, so we would increase more in order to have enough stocks" (Manager of Online Operations)

This hoarding behavior became troubling – when the online channel could not sell all of its previously requested stock, whereas the offline channel did not have enough stock to sell. The firm tried to resolve this issue by encouraging excess stock to be transferred from the online to the offline channel. However, before being able to request a stock transfer – the offline channel had to check the online channel's current inventory information. Again, due to the siloed IT systems between the two channels, the offline channel could not check the online channel's current inventory information on a shared IT system. Instead, the offline channel had to directly call the online channel to reveal that information, which was challenging – as it depended on the goodwill of some online channel members who might have little interest in transmitting such information – so as to prevent the offline channel from asking for a stock transfer:

"To check stock availability — all that required other departments to support: we either need to write an email to their department or call them to do a check, say, "Hey, do you have this stock? Hey, do you have that stock?" and do a lot of manual checks." (Manager of Offline Operations)

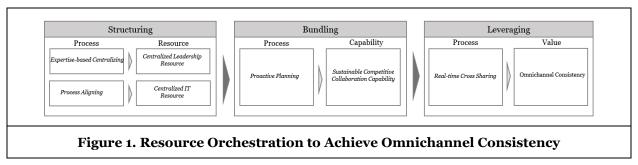
Hence, the hoarding and concealing behavior of the online channel created unoptimized stock distribution across channels. It led to an inconsistent omnichannel experience for customers when they could only

access some product categories via the online channel but could not do so via the offline channel. Thus, the firm decided to integrate two channels to achieve a more seamless omnichannel experience:

"That's when I realized that there was a disjointed process... That's when I started to integrate e-commerce" (GMD)

Initial Findings

This short paper aimed to generate initial insights to contribute to the research and practice of omnichannel implementation. Resource orchestration was employed as a theoretical sense-making lens to analyze how the firm could achieve consistent omni-experience of asset distribution across channels when channels compete for such scarce assets (i.e., stock). The analysis revealed that achieving omnichannel consistency required resource-focused management actions, which involved structuring *centralized leadership* resource and *centralized IT resource*; bundling these resources to create *sustainable competitive* collaboration capability; and leveraging this capability to achieve omnichannel consistency (Figure 1).



Structuring Centralized Resource Portfolio

The firm structured *the centralized leadership and centralized IT resources* to help tightly control its scarce stock, thus potentially contributing to achieving omnichannel consistency of stock distribution.

Structuring Centralized Leadership Resource

Previously, the stock demand planning activity was conducted separately by different teams where the buyer did demand planning for the offline channel while the online channel did it themselves. The online channel exercised its privilege of self-demand planning to hoard more stock – where it constantly asked for the excess stock even if the offline channel did not have enough stock to sell, leading to an unbalanced stock distribution across channels. In order to resolve this issue, the firm structured a *centralized leadership resource*, in which the demand planning activity would be centrally controlled by this single committee, instead of being distributedly controlled by various teams like before.

The firm structured the centralized leadership resource through an *expertise-based centralizing* process. Specifically, the centralized leadership resource was operationalized in the form of a trilateral committee, consisting of a leader representing the firm and two members representing the online and offline channels. The leader (e.g., the buyer from purchasing team) had the *centralized* authority (due to being the firm's representative) and the relevant *expertise* to execute effective joint-demand planning across channels. The two channel representatives had the responsibility to provide necessary information to support the leader in doing such joint-demand planning activity across channels.

"So when we migrated to a new ERP system, the ballgame of our e-commerce is a 360-degree change.... So now if it's purchasing related, it's being spearheaded by the buying team... so we need that department to lead both online and offline execution" (Manager of Online Operations)

Structuring the centralized leadership resource could potentially reduce the online channel's hoarding behavior. That is because, as explained later, the firm also structured a centralized IT resource where the two channel representatives had to share their current inventory information on the centralized IT resource. The leader, then, could take advantage of their centralized authority to access those confidential stock information from both channels, and leverage their expertise in joint demand planning — to decide the optimized stock distribution across channels. Thus, the leader could circumvent the channels' short-term proclivity of hoarding more of the firm's scarce stock, thereby potentially achieving omnichannel consistency of stock distribution across channels.

Structuring Centralized IT Resource

By structuring the centralized leadership resource, the leader had the authority and expertise to create consistent stock distribution across channels through the execution of joint demand planning; however, the leader had to access each channel's current inventory information before being able to exercise his authority. Previously, the leader could not access the online channel's inventory information because the buyer's IT system was disconnected from the online channel's IT system. To solve this, the firm structured a *centralized IT resource*, where the leader and the channels' siloed IT systems were merged into a centralized IT resource – in the form of a unified Enterprise Resource Planning (ERP) platform. The centralized IT resource could potentially foster a sharing of inventory information between channel representatives and the leader, thereby improving the leader's ability to do effective joint demand planning.

However, structuring a centralized IT resource was challenging as it required process alignments among trilateral committee members. Previously, the demand planning processes were conducted separately – where the buyer did demand planning for the offline channel, and the online channel did it itself. Thus, each trilateral committee member might be less aware of how other team members had conducted the demand planning process for their own channels. A limited understanding of the cross-channel process created many issues when trilateral committee members tried to execute a joint demand planning process across channels. Specifically, some members were unaware that their own inefficient process could affect subsequent parties and eventually affect them, thus reducing the effectiveness of joint demand planning activity. For instance, when the buyer did demand planning for the online channel, the online channel was unaware that if they incorrectly updated their current stock inventory, it would make the buyer delay replenishing new stocks for them, which eventually affected their sales. As described by the buyer:

"It can be very challenging in terms of understanding each other; so the thing is like, "I know all my processes, but I don't know all your processes." So then we all have to come together to talk about our processes because we are all interlinked – what I do is going to affect the next party, so we need to voice out: "You [i.e., online channel] cannot do this because it's going to affect me [i.e., the buyer], I need to do this so that I [i.e., the buyer] can help you [i.e., help the online channel in replenishing new stocks on time]" (Head of Buying)

Thus, to build a smooth joint demand planning process across channels, the firm implemented a *process alignment*. Specifically, all trilateral committee members had to make explicit efforts to learn others' processes regarding the possible constraints that each member might face if implementing the new joint demand planning process. Then they had to modify their own processes based on that learning so that they could accommodate those constraints when designing the joint demand planning process. Finally, they had to sit together to test the newly-formed joint demand planning process to ensure that the process really works for every member of the trilateral committee – so as to successfully build the centralized IT resource.

"Previously, everyone was doing User Acceptance Testing (UAT) within their own department, so they just tested their own features, but nobody actually did a combined UAT whereby we really start from the purchasing, all the way to shipment. So we started doing combined UAT so that all the departments know that "moving forward, you must do this in order for the rest of the departments to proceed with their work." (IT manager)

Bundling Centralized Resources to create Sustainable Competitive Collaboration Capability across Online and Offline Channels

The firm expected that structuring a centralized leadership resource and centralized IT system could help coordinate the firm's scarce assets across channels more effectively, thus potentially achieving omnichannel consistency. However, despite the potential benefits of such centralized resources, the firm found it challenging to sustain the adoption of the centralized IT resource among the trilateral committee's channel representatives – which, in essence, stemmed from the fear of stock shortage. Specifically, when both channels need the firm's scarce and valuable stock, it made them less willing to share their true stock inventory with the leader on the centralized IT resource. It is because, by revealing the true stock inventory with the leader, the online channel would lose its ability to ask for the excess stock (like what they could do previously). This, thus, potentially made them lose the sales to the offline channel – in case they sold out all their stock before the buyer could make the next stock allocation. Thus, in order to develop *sustainable competitive collaboration capability* – referring to the capability to sustain the collaboration on the centralized IT resource even though there exists competition between two channel representatives, the firm had to resolve the fear of stock shortage through a *proactive planning* process.

The *proactive planning process* refers to planning the required stock for both competing channels in a given period in a proactive manner. By ensuring the stock would be replenished before the channel is out of stock, the channels might have less fear of stock shortage, thus motivating them to sustain their competitive collaboration capability on the centralized IT resource. By bundling the centralized IT resource (e.g., channels' historical sales data) and the centralized leadership resource (e.g., authority and the expertise of the trilateral committee leader), the firm operationalized the proactive planning process in two ways. First, the buyer leveraged their authority to retrieve the channels' historical sales data on the centralized IT resource, then made use of their demand forecast expertise to estimate the required stock for each channel based on such historical data, and finally purchased new stocks using their estimated forecasts to ensure sufficient stocks for both channels in a given period.

"We are able to pull the sale data and know how much inventory we have across various channels [i.e., the authority to pull the data across competing channels comes from the centralized leadership resource]. With the data of the availability of stocks [i.e., the stock availability data comes from the centralized IT resource], we will be able to forecast what our demand is actually like based on last year or current trending, like how we are doing for the past few weeks — that ensure we buy properly and effectively [i.e., the proactive planning process helps ensure sufficient stocks across channels, motivating them to maintain the competitive collaboration capability]" (Head of Buying) Second, as long as the two channels updated their stock inventory status in real-time on the centralized IT

Second, as long as the two channels updated their stock inventory status in *real-time* on the centralized IT resource – like whether the stock is under the picking-packing-shipping stage, the buyers could leverage this information and their demand planning expertise (i.e., from the centralized leadership resource) to proactively change their replenishment strategy. Specifically, they would either increase or decrease their stock replenishment speed depending on whether the inventory level in each channel fell above or under a certain threshold.

"Right now, we do have steps whereby first we pick, then we pack, then we ship...With this status, the buyer is able to see, "okay, it's the number of percentages [i.e., product] that actually is still with it [i.e., online channel]"...So moving forward, "this is a problem, I [i.e., buyer] may need to change my strategy in terms of replenishment" (Head of Online Operations)

By doing so, on the one hand, proactive demand planning allowed the buyer *not to* replenish *excess* stocks for both channels, helping the firm not waste stocks. On the other hand, it still allowed the buyer to ensure sufficient stock for both channels, motivating them to sustain their competitive collaboration capability.

Leveraging Sustainable Competitive Collaboration Capability to Achieve Omnichannel Consistency Across Online and Offline Channels

Usually, the firm could only realize the proactive planning process if the firm had sufficient channels' historical sales or inventory data to accurately forecast the required stocks for each channel in a certain period. However, in the event where channels' historical stock data might not be available or unpredictable (e.g., during COVID), it might be challenging for the trilateral committee leader to precisely estimate the required stock for both channels. This might eventually make both channels stop adopting the centralized IT system and start hoarding the stock again, leading to an inconsistent omnichannel experience. To solve this issue, the firm implemented the *real-time cross-sharing* process. Specifically, once the buyer had finished replenishing stocks for both channels in a given period by deploying the proactive planning, the firm then coordinated such newly replenished stocks to be real-time cross-shared across channels. In detail, if a channel was out of stock, they could freely order the stock from another channel to sell to their own customers at any time.

"Once they [customers] click on payment... it will auto-generate a picking list for our [online channel's] warehouse to pick. If a particular item is not in the warehouse, generally, it will say, "Oh, this item is in [Name of a physical store]," then we [online channel] will do a [stock] transfer to the [online channel's] warehouse, and we'll do delivery [to customers] from there" (A staff)

Thus, this real-time cross-sharing process could serve as a "precaution" measure in which each channel could borrow stock from another channel at any time if there were a sudden increase in demand while waiting for the buyer to change their replenishment strategy. The cross-sharing process could only be well executed if the firm had already successfully developed its sustainable collaborative capability through the proactive planning process. Specifically, the channel would only be willing to temporarily share their valuable stocks with the rival channel if they knew that the buyer would replenish new stocks to them soon. In detail, when the buyer proactively changed their stock replenishment strategy to ensure sufficient stocks for both channels, there was, thus, less probability of missed sales opportunities even though the channel

had shared their stock with the rival channel, thereby sustaining both channels' motivation to adopt the cross-sharing process.

As a result, adopting a real-time cross-sharing process between channels could help the firm achieve omnichannel consistency in stock distribution. Once both channels have agreed to cross-share their allocated stock with others, the channel's stock would not be an asset of a particular channel anymore – it now became the asset of every channel, even if it might be physically stored in different channel's warehouses. Therefore, customers could access any product stock at any channel at any time, thereby helping achieve omnichannel consistency. As a consequence of achieving omnichannel consistency in stock distribution, the firm could exponentially scale its business through the omnichannel (BOPIS) service:

"In June, I will be spending **ten times** more on digital marketing than I did in April. I'm able to scale right now because of my new system and our workflow. For example, one thing that we can do today that we couldn't do in the past is one-hour click and collect [i.e., BOPIS]. And the reason is that now my online website's inventory is integrated into each [offline] store [for cross-sharing]. So if you want to pick up something, you can go online, you can see, "oh, it's available at [offline store's name]" You can purchase it immediately [then] you can head your way down to [offline store] because the item is currently being picked for you" (GMD)

Conclusion

B&M retailing is vital to the global economy in boosting economic growth and creating employment (Sheth, 2021). Recently B&M retailing has been going through an enormous digital transformation, being disrupted by technological advancements in mobile and social media (Pantano et al., 2020). Such advancements have blurred the distinction between offline and online channels, allowing customers to interact with firms across multiple touchpoints in order to take advantage of each channel. They, thus, increasingly require B&Ms to provide a consistent omnichannel experience across channels. Building omnichannel experience requires considerable *omnichannel integration* (OI) efforts in effectively coordinating across channels. It becomes even more challenging if a high level of intrafirm competition exists between channels (Neslin, 2022). Existing omnichannel integration literature has discussed the challenges and potential positive outcomes of omnichannel implementation (Neslin, 2022; Timoumi et al., 2022); however, there is a lack of understanding of how omnichannel consistency can be implemented, especially when channels compete for the firm's scarce assets. A better understanding of how to manage channel conflicts to achieve omnichannel consistency is needed – in order to provide better guidance to B&M retailers. These insights would enable B&Ms to better fulfill their role in creating employment and boosting global economic growth.

This paper presented a case study of TenderBaby as it exemplified a traditional B&M retailer that achieved omnichannel consistency to respond to the changing customer behaviors in the digital age. From the case analysis and through the lens of resource orchestration perspective, it is conceptualized that B&M retailers are able to achieve omnichannel consistency of stock distribution through structuring *centralized leadership resource* and *centralized IT resource*; bundling these resources to create *sustainable competitive collaboration capability*; and leveraging this capability to achieve omnichannel consistency.

Our study contributes to the omnichannel integration literature by providing a framework that conceptualizes how B&M firm could achieve omnichannel consistency in the face of channel competition for the firm's scarce assets. Generally, existing omnichannel integration literature has typically explored the crucial resources that could support the omnichannel implementation, such as IT, culture, or physical networks (Govindarajan et al., 2017; Lewis et al., 2014; Neslin, 2022). However, they did not elaborate on the mechanisms by which B&M retailers can harness those resources to achieve omnichannel consistency across competing channels. We argue that B&Ms' management actions towards resources are at least as important as the resource per se in achieving a seamless omnichannel experience. We propose that it is crucial to take the perspective of resource-focused actions seriously in our theorizing, including *expertise-based centralizing* and *process aligning* in the structuring stage, *proactive planning* in the bundling stage, and *real-time cross-sharing* in leveraging stage. As our study has shown, these management actions could significantly reduce channel competition for the firm's scarce assets, leading to the successful implementation of omnichannel consistency, and contributing to the firm's exponential business growth.

While our case study mainly involves the omnichannel consistency of stock distribution, our findings can be generalized to other contexts – where firm desires to manage the channel competition for its limited

assets to deliver a consistent omnichannel experience. For instance, firm might desire to provide the same service level across channels so that omnichannel customers can effortlessly switch between channels. However, this can lead to competition between channels for the firm's limited capital assets so as to maintain such service level requirements. Thus, the firm might leverage our framework by structuring a centralized leadership resource and a centralized IT resource, through the expertise-based centralizing and process alignment processes - to control the capital flow allocated across competing channels. The firm, then, could implement proactive planning and cross-sharing processes to ensure that the firm's capital is distributed across channels in a proactive manner. By doing so, the firm might effectively reduce channel conflict, thus maintaining the omnichannel consistency of service levels across competing channels.

In terms of practice, the conceptualization of how B&M firm implements omnichannel consistency can serve as a reference for B&M firms in strategizing and transforming their operations to adapt to customers' increasing requirement for a seamless omnichannel experience. By referring to our detailed resource orchestration processes, including how to structure resources, bundle capability, and leverage them to achieve omnichannel integration - B&M managers have a comprehensive framework that could help them lead their organization to gain a competitive advantage in a digital world.

In conclusion, our study can be seen as an initial attempt to make sense of and help B&M firms implement an omnichannel strategy. Information system researchers are encouraged to direct research into this area - considering the rampant proliferation of e-commerce and technological advancements in recent years as well as the significance of B&M retailing in boosting economic growth and creating employment – so as to, together, we can create a more sustainable economy.

Acknowledgments

This research was supported by "Research on Innovating in a Digital Economy" Project, Social Science Research Thematic Grant, Ministry of Education, Singapore (Grant Number MOE 2017-SSRTG-023).

References

Accenture. (2017). "Creating continuous customer experience: The secret to getting omnichannel right."

Cui, M., & Pan, S. L. (2015). "Developing focal capabilities for e-commerce adoption: A resource orchestration perspective. Information and Management, 52(2), 200-209.

Du. Y., Cui, M., & Su. J. (2018), "Implementation processes of online and offline channel conflict management strategies in manufacturing enterprises." International Journal of Information Management, 39(136-145), 136-145.

Eisenhardt, K. M. (1989). "Building theories from case study research." Academy of Management Review.

Gibbert, M., Ruigrok, W., & Wicki, B. (2008). "What passes as a rigorous case study?" Strategic Management Journal, Govindarajan, A., Sinha, A., & Uichanco, J. (2017). Joint inventory and fulfillment decisions for omnichannel retail networks." Ross School of Business, University of Michigan.

Gregory, R. W., Beck, R., & Keil, M. (2013). "Control Balancing in Information Systems Development Offshoring Projects." MIS Quartely, 37(4), 37-40.

Hansen, R., & Sia, S. K. (2015). "Hummel's digital transformation toward omnichannel retailing: Key lessons learned." MIS Quarterly Executive, 14(2), 51–66.

Immonen, M., & Sintonen, S. (2015). "Evolution of technology perceptions over time" *Info. Technology & People* Lewis, J., Whysall, P., & Foster, C. (2014). "Drivers and technology-related obstacles in moving to multichannel retailing." International Journal of Electronic Commerce, 18(4), 43-68.

Neslin, S. A. (2022). "The omnichannel continuum: Integrating online and offline channels along the customer iourney." Journal of Retailing, 98(1), 111-132.

Pantano, E., Pizzi, G., Scarpi, D., & Dennis, C. (2020). "Competing during a pandemic? Retailers' ups and downs during the COVID-19 outbreak." Journal of Business Research, 116, 209-213.

Rigby, D. K. (2011). "The Future of Shopping." Harvard Business Review, 89(12), 65–76.

Sheth, J. N. (2021). "Future of brick and mortar retailing: how will it survive and thrive" Journal of Strategic Marketing Sirmon, D. G., Hitt, M. A., Ireland, R. D., & Gilbert, B. A. (2011). "Resource orchestration to create competitive advantage: Breadth, depth, and life cycle effects." Journal of Management

Timoumi, A., Gangwar, M., & Mantrala, M. K. (2022). "Cross-channel effects of omnichannel retail marketing strategies: A review of extant data-driven research." *Journal of Retailing*, 98(1), 133–151. Verhoef, P. C., Kannan, P. K., & Inman, J. J. (2015). "From Multi-Channel Retailing to Omni-Channel Retailing.

Introduction to the Special Issue on Multi-Channel Retailing." Journal of Retailing, 91(2),

Westerman, G., Bonnet, Didier., et al (2014). "Leading digital: turning technology into business transformation."

Xu, J., & Cao, L. (2019). "Optimal in-store inventory policy for omnichannel retailers in franchising networks." International Journal of Retail and Distribution Management, 47(12), 1251–1265.

Yin, R. K. (2012). "Applications of Case Study Research." SAGE, Thousand Oaks.

Zhang, J., Farris, P. W., Irvin, J. W., Kushwaha, T., Steenburgh, T. J., & Weitz, B. A. (2010). "Crafting Integrated Multichannel Retailing Strategies." Journal of Interactive Marketing, 24(2), 168–180