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The evolution of the digital service ecosystem and digital business model innovation in retail: The emergence of meta-ecosystems and the value of physical interactions

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ABSTRACT

As e-commerce has increasingly gained traction in the retail market, many traditional "brick-and-mortar" retailers are innovating their business models and making the transition towards digital business models. While scholars have started to examine the influence of digitalization on various business model elements, they have so far paid little attention to its implications on the external relationships in which firms engage for value creation. Building on a qualitative analysis of seventeen interviews, this study develops a two-stage framework for the transition to digital business models. In Stage 1, retailers collaborate with specialized service providers to implement a digital business model. As firms from the retail ecosystem collaborate with firms from the digital-service ecosystem to create a value proposition for end-customers, a meta-ecosystem emerges. In Stage 2, firms (retailers) seek to differentiate themselves from their competitors in the meta-ecosystem. Physical interactions with the digital service providers, the product suppliers, and the customers are a primary means towards this end. Thus, digitalization does not make physical interactions and close personal ties obsolete. Our study has substantial implications for the academic literature and management practice.

1. Introduction

The advent and enormous growth of digital technologies and associated data are shifting competition in many industries (Broekhuizen et al., 2021; Porter and Heppelmann, 2014). A prominent example is retailing. Whereas "born digital" retailers such as Amazon, eBay, and Zalando have proved their ability to grow and gain solid positions within the market, formerly successful "brick-and-mortar" retailers such as J.C. Penney, Sears, and HMV have struggled to defend their market shares (Hokkanen et al., 2020). To remain competitive, brick-and-mortar retailers have gone online, developed web-based stores and mobile apps, increased the number of digital customer touchpoints, and started merging the physical and online worlds (Jocevski, 2020).

These actions illustrate that digital technologies spawn many new pathways for creating value (Gregori and Holzmann, 2020). Digital technologies allow both retailers and players in other industries to devise new product or service offerings as well as new forms of relationships with their stakeholders, thereby enabling increases in convenience, customer experience, and customer satisfaction as well as in speed, resource utilization, and efficiency (Hokkanen et al., 2020; Rachinger et al., 2019). In other words, digital technologies provide companies with opportunities to innovate their business models (Broekhuizen et al., 2021; Soluk et al., 2021). A business model articulates how the focal organization will convert resources into economic value (Teece, 2010). Academic research on the implications of digital technologies for business models has grown exponentially over the last couple of years (see Caputo et al., [2021] and Ritter and Pedersen [2020] for overviews). This research has so far predominantly adopted a

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customer ("demand pull") or an internal ("technology push") perspective, focusing mainly on the implications of digital technologies for the value proposition that a company offers to its customers and on their implications for internal value-creation processes (see Frank et al., 2019; Hokkanen et al., 2020). In contrast, the impact of digital technologies on external relationships in which firms engage to create and deliver value has received much less attention. This imbalance of research attention is detrimental, as digital technologies substantially reshape both industry structures and organizational boundaries, encouraging inter-firm collaboration (Kothamäki et al., 2019; Vendrell-Herrero et al., 2018). Porter and Heppelmann (2014, p. 67) consider the question of how companies work with traditional and new external partners to be one of the most "fundamental" issues that firms must address as digital technologies reshape industry boundaries. Since this issue has been greatly under-researched so far, many scholars have recently called for more efforts on the impact of digitalization – defined as the application of digital technologies (Ritter and Pedersen, 2020) – on inter-firm relationships and business models (e.g., Caputo et al., 2021; Luz Martín-Peña et al., 2018; Kothamäki et al., 2019; Paiola and Gebauer, 2020; Parida et al., 2019; Ritter and Pedersen, 2020). Most of these scholars further argue that an ecosystem perspective (Moore, 1993; Thomas and Autio, 2020) is a fruitful angle from which to study these inter-firm relationships.

In order to respond to these calls for research and help close the identified knowledge gap, this article seeks to answer the following question: How do firms (retailers) incorporating digital technologies into their business model create value through relationships with external actors? We answer this question through a qualitative study consisting of 17 interviews. Our findings result in a two-stage framework for the transition towards digital business models. Lacking the digital capabilities to implement digital solutions on their own, retailers commonly collaborate with specialized digital service providers (Stage 1). The retail ecosystem and the digital service ecosystem consequently form a meta-ecosystem. Retailers frequently work with digital agencies which act as their intermediaries and coordinate various digital services on their behalf, while the retailers continue to coordinate the product flows. Thus, the digital agencies orchestrate the digital service side of the meta-ecosystem, while the retailers coordinate the retail side. To differentiate themselves from their rivals in the meta-ecosystem, the retailers rely heavily on physical interactions and strong personal connections with the suppliers of digital services, the suppliers of physical goods, and their customers (Stage 2).

Our study makes three important contributions to the literature. First, it responds to numerous calls to examine the nexus between firms' external relationships and digitalization (e.g., Caputo et al., 2021; Paiola and Gebauer, 2020; Ritter and Pedersen, 2020) and to examine what firms can do to yield greater returns on their investments in digital technologies (e.g., Kothamäki et al., 2019; Parida et al., 2019). Second, it contributes to the nascent literature on ecosystem emergence and ecosystem evolution (e.g., Hannah and Eisenhardt, 2018; Kolloch and Dellermann, 2018) and the literature on ecosystem orchestration (e.g., Dattée et al., 2018; Lingens et al., 2021; Masucci et al., 2020). Third, it generates insights into the digital transformation of the retail sector, which has been described as under-explored (Hokkanen et al., 2020).

The remainder of this article is organized as follows. The next section contains the conceptual background to our study. It provides information on digital business models and the digital transformation of the retail sector, as well as on ecosystems and ecosystem emergence. The third section describes the empirical setting of our study and how we collected and analyzed data. The fourth section details the findings from our analysis and synthesizes them into a two-stage framework. The fifth section discusses the implications of our study for the academic literature and management practice. Finally, the sixth section concludes the article.

2. Theoretical background

2.1. Digital business models

The question of how firms can apply digital technologies is currently occupying the minds of many managers (Ritter and Pedersen, 2020). Merely developing or acquiring digital technologies is not sufficient for profiting from them; rather, firms must also devise appropriate business models for the commercialization of these technologies (Gassmann et al., 2014; Parida et al., 2019). A business model links the technological/physical domain and the economic domain of an organization (Pieroni et al., 2019). It articulates how the focal organization will convert technologies and other resources into economic value (Ritter and Schanz, 2019; Teece, 2010). The business model concept first became popular in the 1990s when e-commerce emerged and firms introduced new ways of creating and capturing value (Geissdoerfer et al., 2018; Zott et al., 2011). Since then, the concept has proven very useful in planning, structuring, communicating, and analyzing how a business works (Geissdoerfer et al., 2018; Zott et al., 2011). Designing and implementing a promising business model is now considered a strategic priority for managers (Chesbrough, 2010; Palmié et al., 2021b).

Conceptualizations that interpret the business model as a combination of specific mechanisms have become highly popular in research and practice; consequently, they appear to be most advantageous to researchers, managers, and stakeholders (Foss and Saebi, 2017; Palmié et al., 2021a). While these conceptualizations differ in the number of components they specify, the components roughly represent four broad areas: (1) the target customers, (2) the value proposition that an organization offers to its customers, (3) the value-creation and -delivery activities by which the value proposition is produced and brought to the customers, and (4) the value-capture activities dealing with the revenues and costs of creating and delivering the value proposition (e.g., Boons et al., 2013; Dentchev et al., 2018; Geissdoerfer et al., 2018; Palmié et al., 2021a).

Since digital technologies spawn new pathways for creating and delivering value (Gregori and Holzmann, 2020), they can make existing business models obsolete and uncompetitive (Paiola and Gebauer, 2020; Parida et al., 2019) and hence call for new or adapted business models (Broekhuizen et al., 2021; Caputo et al., 2021). In other words, digital technologies call for business model innovation, which can be defined as novel and non-trivial changes to the key components of a firm's business model (Foss and Saebi, 2017, p. 216). Digital technologies can affect various components of a business model (Ritter and Pedersen, 2020), such as the value proposition (via servitization) or the value-creation and -delivery processes (via automation) (Frank et al., 2019; Soluk et al., 2021). To innovate its business model – for example, to transform it into a "digital business model" – a firm does not need to implement changes in all key components; instead, it can selectively alter one or a few of them (Gassmann et al., 2014; Palmié et al., 2021b). In combination, the facts that digital technologies can affect various components of a business model and that firms do not have to change all key components of a business model may explain why thus far there is no generally accepted definition of "digital business models" (cf. Caputo et al., 2021; Luz Martín-Peña et al., 2018). Building on Soluk et al. (2021), we use the term "digital business model" to refer to a business model whose value proposition, value creation and delivery, and/or value capture is embodied in or significantly enabled by digital technologies.

While previous research has predominantly studied the implications of digital technologies for the value proposition and for internal value-creation and -delivery processes (see Frank et al., 2019; Hokkanen et al., 2020), our subsequent analysis will focus on their implications for value-creation and -delivery activities involving collaborations with external partners. This selective focus is consistent with the above notion that firms do not have to alter all components simultaneously to

implement a digital business model, is in line with prior work (e.g., Geissdoerfer et al., 2018; Palmié et al., 2021b), and allows us to focus our attention on a business model component that has been found to be in particular need of further research (e.g., Caputo et al., 2021; Luz Martín-Peña et al., 2018; Kothamäki et al., 2019; Paiola and Gebauer, 2020; Parida et al., 2019; Ritter and Pedersen, 2020).

2.2. The digital transformation of the retail sector

Retailing has traditionally represented a low-technology sector, but digitalization has induced drastic changes in the retail market over the last couple of years (Hokkanen et al., 2020; Jocevski, 2020(Oghazi et al., 2018)). Under the influence of the COVID-19 pandemic, retailing is experiencing an accelerated restructuring and digital transformation (Hokkanen et al., 2020; UNCTAD, 2021). With increasing consumer trust in online retailing, the internet has become an important element in and source of information for planning, executing, and evaluating purchase decisions(Oghazi et al., 2020) (Hokkanen et al., 2020). Internationally, online retailing is growing faster than the retail markets overall (Hokkanen et al., 2020; UNCTAD, 2021). The emergence of e-commerce and digital retailers has put pressure on conventional retailers to transform their business models in order to defend their market shares. Many traditional brick-and-mortar retailers have gone online, developed web-based stores and mobile apps, or increased their numbers of digital customer touchpoints (Jocevski, 2020). However, such business model innovations have not proven to be easy, with prominent retailers such as J.C. Penney, Sears, and HMV struggling to find convincing responses (Hokkanen et al., 2020). In contrast, "born digital" retailers such as Amazon, eBay, and Zalando were able to gain solid positions in their markets. These opposite developments have led to two competing narratives – one of a "retail apocalypse" and one of emerging opportunities in the retail market (Hokkanen et al., 2020, p. 45). Digital business model innovation will likely determine which narrative will manifest for which company in the sector.

In addition to conventional retailers, which are experimenting with innovative digital business models, "born digital" retailers are also innovating their business models. For example, Amazon entered brick-and-mortar retailing by developing the Amazon Go concept store. In comparison to conventional physical retailing, Amazon Go features some digital innovations such as allowing customers to scan codes on their mobile device and leave with their purchases without any on-site checkout process (Jocevski, 2020). Such efforts of "born digital" retailers reinforce the continuing and widespread relevance of digital business model innovation in the retail sector.

2.3. Ecosystems and ecosystem emergence

Many of the scholars who have called for more research on digital business models and the influence of digitalization on value creation recommend an ecosystem perspective for this analysis (e.g., Kohtamäki et al., 2019; Luz Martín-Peña et al., 2018; Paiola and Gebauer, 2020; Parida et al., 2019; Teece, 2018). Our subsequent analysis follows this recommendation.

While research on ecosystems has not used the term ecosystems consistently (Aarikka-Stenroos and Ritala, 2017), three main uses of the term dominate (Jacobides et al., 2018); these are business ecosystems, innovation ecosystems, and platform ecosystems. Business ecosystems (e.g., Moore, 1993; (Rong and Shi, 2015); Teece, 2007) focus on the dynamics resulting from the interactions among actors within a community. Innovation ecosystems (e.g. Adner, 2017; Adner and Kapoor, 2010; Jacobides et al., 2018), also called modular ecosystems, focus on the joint materialization of a focal value proposition through contributions from critical actors. Platform ecosystems (e.g. Cennamo and Santaló 2019; Gawer and Cusumano, 2008; Ozalp et al., 2018) focus on the ecosystems' technological ability to integrate the contributions of the actors involved, which ultimately increase the value of the ecosystem for the final customer. While these three labels and the associated research streams may emphasize different aspects of ecosystems, they describe phenomena "that overlap in the real world" (Jacobides et al., 2018, p. 2258). Thomas and Autio (2020) therefore aggregate these three research streams into one category, as they all focus on a community of firms creating value for a defined audience, and these authors differentiate ecosystems in this sense from entrepreneurial ecosystems and knowledge ecosystems. Entrepreneurial ecosystems are regional communities of start-up ventures instantiating business model innovation (Autio et al., 2018), whereas knowledge ecosystems (e.g., Clarysse et al., 2014; Järvi et al., 2018) describe regional communities of actors interested in advancing the generation of research-based knowledge and its translation into products and services. Entrepreneurial ecosystems and knowledge ecosystems are beyond the focus of our study. Thus, we use the term "ecosystem" to refer to Thomas and Autio's (2020) first category of ecosystems. An ecosystem in this sense can be defined as *"a community of hierarchically independent, yet interdependent heterogeneous participants who collectively generate an ecosystem output and related value offering targeted at a defined audience"* (Thomas and Autio, 2020, p. 38). Based on this definition, an ecosystem emerges when hierarchically independent yet interdependent firms work together to generate a value offering targeted at a defined audience. When firms from one ecosystem cooperate with firms from another ecosystem to generate such a value proposition and the main value propositions of the two originating ecosystems do not compete with each other, a meta-ecosystem emerges. Adapting the above definition, a meta-ecosystem can thus be defined as: *A community of hierarchically independent, yet interdependent heterogeneous participants that stem from two or more distinct, mainly non-competing ecosystems and that collectively generate a value offering targeted at a defined audience.*

Since a meta-ecosystem comprises two or more smaller ecosystems, it can be understood as a nested hierarchy of ecosystems. The general idea that an ecosystem may consist of several smaller ecosystems is not new. The term "ecosystem" in the sense of Thomas and Autio's (2020) first category can be used more broadly to designate firms or a group of firms in an industry (e.g., the "retail ecosystem") or more narrowly to designate a group of firms that jointly produce a "coherent, customer-facing solution" (Adner, 2006, p. 98) and/or that use the same technological platform (e.g., Graça and Camarinha-Matos, 2017; Tsujimoto et al., 2018). In the case of the narrower usage, the individual ecosystems may be designated by referring to a leading firm in each of them (e.g., in retail, "J.C. Penney's ecosystem" or "Amazon's ecosystem"). The general (industry) ecosystem comprises multiple (firm-)specific ecosystems (Palmié et al., 2020; a related argument for actor networks has been made by Kolloch and Dellermann [2018]). In this understanding, the main value propositions of the specific ecosystems subsumed in a general ecosystem are very similar, if not the same, and are hence substitutes for one another. What sets meta-ecosystems apart is that they represent an aggregation of ecosystems with different main value propositions.

3. Data and methods

3.1. Research design

We follow an explorative research design to understand a new phenomenon (Miles et al., 2013), the transition towards digital business models. We studied digital business model innovation in the Swedish retail market. Being ranked among the top three countries for business (Forbes, 2019), Sweden represents an attractive market for international retailers (Retail Gazette, 2021). Swedish consumers are considered to be open-minded, trend-sensitive early adopters with strong purchasing power, leading to a well-developed, innovative, and technologically advanced retail market in Sweden (Forbes, 2019; Retail Gazette, 2021). In total, we conducted 17 interviews with various executives from five retail firms, resulting in a rich qualitative data base.

3.2. Data collection

Data collection for this study was performed in several steps. First, the authors conducted preliminary interviews (between 30 and 60 minutes) with the key contact person at the ecosystem orchestrator in order to establish that the ecosystem met the sampling criteria and to familiarize themselves with these ecosystems (05/2020–10/2020). Second, the authors conducted interviews with executives from the orchestrator who had an in-depth insight of the ecosystem (01/2021–06/2021). The data collection was carried out as semi-structured interviews based on an interview guideline consisting of three parts: (A) Information concerning the orchestrating company, including the number of employees, the revenue level, setting, background, and a company description; (B) the explanation of the ecosystem; and (C) surrounding conditions of the ecosystem, such as environmental vagueness, industry features, or competition.

This initial interview guide helped to increase internal validity due to its formal method (Spieth et al., 2019)Spieth et al., 2019 and is shown in Appendix 1. The interviews lasted between 60 and 90 minutes. Some of the interviews were recorded and transcribed to maintain data quality (Fernandez et al., 2018; Frankenberger and Sauer, 2019; Velu, 2017) Fernandez et al., 2018Frankenberger and Sauer, 2019Velu, 2017. Notes were taken during each interview. Moreover, we also collected supplementary and secondary data. These data included information on webpages, press releases, media reports, annual reports, as well as internal presentations and reports. These additional data allowed us to deepen and expand the insights gained in the interviews, and to validate and triangulate them (Yin, 2018)Yin, 2018.

Finally, we took precautionary measures to handle potential biases in our data collection process in line with recommendations on qualitative research (Eisenhardt and Graebner, 2007; Gioia et al., 2013; Yin, 2018) Eisenhardt and Graebner, 2007Gioia et al., 2013Yin, 2018. Specifically, to prevent respondent biases, the interviewers did not expose any theoretical understandings or thought to the respondents (Huber, 1985) Huber, 1985 and did not ask questions regarding explicit theoretical constructs (Ozcan and Eisenhardt, 2009)Ozcan and Eisenhardt, 2009. We also employed different interview techniques, such as event tracking, to urge respondents to revisit details pertaining to the questions intellectually. This procedure can strengthen the precision of information (Ozcan and Eisenhardt, 2009)Ozcan and Eisenhardt, 2009. As an additional check for consistency, the authors conducted supplementary interviews with other companies in the ecosystems. In all interviews, no noteworthy inconsistencies emerged, which corroborates the reliability of our data.

3.3. Data analysis

The interviews were transcribed and enriched with secondary data to enable triangulation based on multiple sources of data (Jick, 1979), to increase the construct validity of our qualitative study (Yin, 2009). In addition to data triangulation, we also used investigator triangulation (Patton, 2015), as the data were analyzed by two researchers independently. These two researchers did not conduct the interviews themselves. This situation had a further advantage in that the analysis was not influenced by bias from the interviews or contact with the informants. Both researchers employed active reading (highlighting phrases in the documents) and used open coding (copying quotes and associated codes into MS Excel) for their analysis. Based on their individual analysis, the two researchers jointly searched for recurring patterns across the informants' responses, using replication to distill the underlying logic of the patterns (Eisenhardt, 1989). By cycling between data and the literature, the researchers sought, applied, and further refined explanations for the logic observed. Subsequently, the researchers sketched an initial framework focusing on the collaboration between retailers and digital service providers. Thus, the engagement of specialists for digital business model innovation emerged quite early in the analysis. In the subsequent discussion among all the involved researchers, the framework became more mature as the differentiation phase (stage 2 in the final framework) became apparent when discussing the findings. To validate the emerging findings, additional interviews were scheduled. Our use of replication logic across our data enhanced the validity of our findings while helping us to refine our framework (Eisenhardt, 1989).

4. Results

The advent and growth of e-commerce has generated a broad awareness among retailers that they need to incorporate digital solutions into their business models. These digitally enhanced business models can allow retailers to serve existing customers better, to increase the penetration of their current markets, and to enter new markets.

"When e-commerce is doubling every three, four years, that puts a completely new [… perspective] on distribution. That's a huge transformation. We see all these new companies coming up and being able to serve customers in a new way on how they want their products to arrive them. That's obviously one giant change."(CEO of retail firm)

"We're using a lot of Facebook ads, and Google ads. […] the statistics are coming into the picture. We can see everything. We can see impressions. We can see how the customers react to our content, our product, et cetera. […]. It's actually really where we drive the most of our sales. Through Facebook ads, Instagram ads, Google ads." (CEO of retail firm)

"One of [our key strategic assumptions] is, I mentioned, that traditional retailers – we – continue to add on e-commerce capabilities, and to expand into new markets faster than before." (CEO of omni-channel retail firm)

While retailers commonly recognize the potential of digital technologies and digital business model innovation, they often simultaneously realize that they lack the necessary capabilities to implement the digital solutions themselves or with their existing partners. As a result, they look for new external partners and the retail ecosystem is changing.

"We don't have the competence to build up our e-commerce. Strategically, we don't really see how we should do it. We need people that can advise us about how we should go further on with it." (CEO of traditional retail firm)

4.1. Stage 1 – emergence of a meta-ecosystem

In order to access the desired digital capabilities, retailers search for competent partners that are familiar with these digital technologies. Hence, they turn to specialized companies in the digital service ecosystem.

"I switched everything to digital online marketing. I just canceled all agreements, and we laid off a couple of people internally that were not strong enough, and then I took in the two best agencies in Sweden when it comes to organic Google traffic and then paid traffic […]."" (CEO of major online beverage firm)

Retailers start to collaborate with firms in the digital service ecosystem to enter new markets and increase the efficiency and effectiveness of their activities in their current markets. Thereby, interdependencies between the (previously physical) retail ecosystem and the digital service ecosystem emerge. As the activities cross the boundaries between the two ecosystems, the two ecosystems start to form a meta-ecosystem.

Within this meta-ecosystem, retailers play different roles. While they orchestrate the traditional retail side of the meta-ecosystem themselves, many of them – including "digitally native" online retailers – consider the orchestration of the digital services to be more challenging than the orchestration of the physical product flows.

"The integration between different kinds of [digital services –] payments, logistics, marketing, and so on [– is a challenge for us]. It's still a lot of silos. […] I don't think we talk about the [digital service] ecosystem around my business [enough]. I think that could be much, much better and needs to be much, much better in the future. […] We need to work more together." (CEO

of online retail company)

"There is more integration between different parts in the [traditional retail] ecosystem. That is thanks to […] quite a great ERP system."" (CEO of traditional retail firm)

Few of the interviewed retail firms felt that they have the necessary capabilities to tackle these orchestration challenges by themselves.

"[The services that we are sourcing from digital service providers and the interactions with the digital service providers –] that we coordinate ourselves. One of our founders has that expertise. She coordinates all the outsourced digital services herself." (Co-founder and COO of online health supplement company)

More commonly, the interviewed retailers reported collaborating with agencies or intermediaries that help them orchestrate the digital services.

"Yes we use agencies, two digital agencies. […] It will be more and more important that we have a good partnership with a digital agency. […] I can't keep up pace with […] the platforms because they change all the time and therefore, I buy the competence." (CEO of online cosmetics firm)

"We work with some agencies. […] We go to intermediaries there. […] They have really great contacts with the companies we work with today." (CMO of traditional retail firm)

The digital services that the diverse players from the digital service ecosystem provide to a given retailer are crucial for the successful execution of the retailer's digital business model. The retailers depend heavily on the digital agencies that orchestrate and integrate the various digital services on their behalf. Retailers thus assume different roles in the meta-ecosystem – they are orchestrators in the retail ecosystem and complementors in the digital service ecosystem.

"For example […] Amazon […], they like to keep changing the terms and the different stock levels. They keep changing their fees and everything. In that case, it's just like, if you want to sell on Amazon, you just go along, basically. For example, [with] Shopify […] it was the same. We just have to go along and do our best, try to make the best out of it, I guess." (COO of omni-channel health and retail company)

"From one day to the other, [there could] be some changes in Google, for example. The algorithm is changing. I work with the digital bureau [… when such changes occur]. I can't orchestrate [… the response to such changes]. They [i.e., employees from the digital bureau] come to me and say: 'Hello, [name of interviewee], you need to do something now, they changed this. We will do this.' [And I reply:] 'Okay, let's do that.'" (CEO of online retail company)

4.2. Stage 2 – differentiation within the meta-ecosystem

A challenge faced by the retailers is that their competitors engage with the digital service ecosystem as well. With more and more retailers beginning to use state-of-the-art technology, the mere application of digital service solutions is not enough for retailers to gain a competitive advantage over their rivals.

"The websites – the look and feel and the functionality – [… are] becoming a commodity. It becomes more difficult to stand out by saying we have a really nice and efficient and fast-functioning website, it's just it has to be there. Shopify is dominating the area today. With that technical innovation, they have set the standard […]." (Co-founder and COO of online health supplement company)

"It's a kind of standardization in a way. The tools will look a little bit the same [across providers …]. It's harder today to buy some kind of software, because really, [it …] look[s] the same [across providers]." (CEO of online retail company)

Thus, retailers have to find ways to differentiate themselves from their rivals. Traditionally, close personal relationships have played a major role in differentiation in the retail sector.

"In this business, it's about personal connections. You use everyone's personal connections around you in the industry. This is important." (Managing Director of omni-channel company)

Our interviewees believe that the ongoing digital transformation of the retail sector and the option of virtual meetings are unlikely to diminish the prominent role of human interaction and face-to-face communication. Retailers continue to rely on personal relationships for coordinating product flows.

"Traditional contact is going to remain, and the networking is important. […] I would say, the difference between a fair and a meet-the-buyers event is that the meet-the-buyers event can [be held and can succeed] fully digitally…. Whereas a fair is a fair, and the dynamics in a fair, and you want to see and […] meet people in the corridors and all of that, that's impossible to do in a digital way. The traditional fair [– they tried…] to do a digital one, but they [did…] not succeed. [… The informal talks at the side lines of a fair, doing coffees and lunches] are important […] When an industry is gathering, you have all those dinners, all those other things that are happening, and it's never possible to capture that digitally." (Managing Director of omni-channel company)

Rather than replacing human interaction and face-to-face communication, digital solutions may augment and enrich these relationships. They facilitate the exchange of information that is relevant to the retailer, the supplier of goods, and the objectives they pursue together (e.g., improvements in environmental or social sustainability).

"I think we will see more and more […] a closer link between us and our suppliers, so we will work perhaps more as partners to drive the same agenda." (CEO of online cosmetics company)

While the value of personal ties and trust-based partnerships may be widely accepted among the players in the traditional retail ecosystem, some companies that provide digital services to retail firms have not yet recognized the value of this kind of relationship.

"Some of them are partners, like [a specific digital payment provider] is more of a partner. They are more proactive than others. They also have a relation with us and we want a relation with them, of course, because we think we can come out better when we have that kind of relationship. Many of our other [digital solution] suppliers, they're happy that they sold a tool to us and then leave us there." (CEO of online retail company)

However, the interviewed retail firms emphasize the value of trusting relations and personal contacts for the coordination with their partners from the digital service ecosystem.

"We have a good relationship with [some digital service agencies]. We have built up a relationship for a long time […] It's about trust and […building] relationships between us. […] They also have a round table where we meet once a year together. The companies invite us to meet them and to discuss." (CEO of traditional retail)

"That's a good thing that we can meet [with some digital service providers] and discuss common challenges or opportunities. That's quite interesting. It's not just interesting, it's really good to do that kind of thing." (COO of online retail company)

Thus, physical interaction and trust-based relationships matter for the coordination of both sides of the new meta-ecosystem – they are a critical means for coordinating the traditional supply of goods and a critical means for coordinating the supply of digital services. Moreover, personal contacts and strong relationships with customers can differentiate the retailer from its competitors on the sales market.

"We need to build a strong community around our customers, to be able to create that value added. […] Through that community, we can gather even more insights through social listening and engagement, and so on. That's one of the assumptions. The other assumption is that customers will still expect to personalize the customer shopping experience and value feeling special, requesting help, advice, inspiration, and so on, when they want it. Learning when to interact in the customer journey will become even more important. The line between helpful and great service and bothering customers will become even thinner. […] What can we do about that? It's important [for the customer] to build a connection and a personal relationship with the company […] and for the company [it is important to build a connection and personal relationship with …] the customer." (CEO of online retail company)

Digital technologies provide retailers with new opportunities for creating personal contacts and relationship management. Using digital solutions to increase the quantity and quality of interactions and to

stimulate deeper relationships with their customers can be a source of competitive advantage.

"The web page, you have to have one, but you have much more emphasis on the direct digital contacts." (Managing Director of omni-channel company)

"We're trying to find all possible ways of interacting with customers live. In a way, you can perhaps say, 'Are we trying to replicate a physical store?' Maybe a little bit, but I think that's a big area with technology. [New digital technologies enable us…] to have a more interactive shopping experience. […] It's huge in China. […] China will teach us how to do business in this social selling perspective. No Western companies have really picked it up yet. […] Top of the agenda today is for sure live selling." (Co-founder and COO of online health supplement company)

A retailer of dietary supplements pointed out that online communication can occasionally even stimulate a more open exchange than a face-to-face meeting in a physical store, as it may entail a feeling of greater privacy and anonymity.

"I think being able to interact with the consumers, and talk about these sensitive issues [… related to your] gut […and health], that's where the utilization [of digital applications] gives a big benefit. […] I think [the source of lasting competitive advantage provided by digitalization to retail companies] is this consumer interaction. We have to have a dialogue with every single consumer, that's a very strong thing, which you can only have in a digital world." (Co-founder of online health supplement company)

In general, however, digital communication and virtual meetings are seen as no substitutes for physical interactions. Physical interactions are commonly perceived to be richer and more conducive to the establishment of trust. Some retailers therefore complement their online presence with opportunities for physical interactions between the company and its customers and believe that a lasting competitive advantage will emerge from the integration of offline and online contacts.

"I think it's important to also keep in mind that you shouldn't lose the connection to your customers. I've seen a lot of major big brands doing that. They're going 100% online and never seeing their customers, never talking to them […] I don't believe in a 100% online presence, so that's why I'm considering these pop-up store solutions. I think it's a fantastic idea to grow the brand community and brand awareness in general." (COO of omni-channel health and retail company).

"It's both physical and digital. That's the trick, to combine them […] We rely very much on our physical stores, and we trust our personnel. This is where we can differentiate ourselves from our competitors." (CEO of traditional retail company)

Not all of the online retailers that emphasized the relevance of physical interactions with customers have permanent brick-and-mortar stores. Rather, many of them have pursued temporary solutions to meet consumers in person, such as pop-up stores, exhibitions and fairs, and firm-specific events (e.g., informative breakfasts and yoga retreats in the case of retailers selling dietary supplements).

In conclusion, digitalization does not imply that physical contacts become irrelevant. On the contrary, physical interactions and personal relationships are expected to contribute significantly to the orchestration of product flows, the provision of digital services, and differentiation in the eyes of consumers.

4.3. Synthesis – a framework for the transition to digital business models

Our findings can be synthesized into a framework for the transition to digital business models. This framework is displayed in Fig. 1. In Stage 1, firms (retailers) collaborate with specialized service providers to implement a digital business model. As firms from the retail ecosystem collaborate with firms from the digital-service ecosystem to create a value proposition for end-customers, a meta-ecosystem emerges. In Stage 2, firms (retailers) seek to differentiate themselves from their competitors in the meta-ecosystem. They achieve this by engaging in physical interactions and building strong relationships with digital service providers, suppliers in the retail ecosystem, and their customers.

5. Discussion

The developed two-stage framework makes three main contributions to the academic literature. First, it improves our understanding of how firms use collaborations with external partners to make the transition to a digital business model.

The firms in our sample came to the conclusion that it is often either not possible or prohibitively expensive to develop the competitive capabilities required for their digital business model (e.g., with respect to data analytics) in-house. Hence, they started working with external partners that specialize in providing these digital services. The decision to involve an external service provider was fostered by the fact that retailers are typically accustomed to collaborate with external parties, such as manufacturers whose products they are selling. Their decision to collaborate with digital service providers led to interdependencies between the (traditionally physical) retail ecosystem and the digital service ecosystem, such that a meta-ecosystem emerged. Moreover, we found that physical interactions and close personal relationships with external partners serve as means of differentiation on a market that is becoming increasingly homogeneous with respect to the digital tools used. Our finding that digitalization stimulates the emergence of meta-

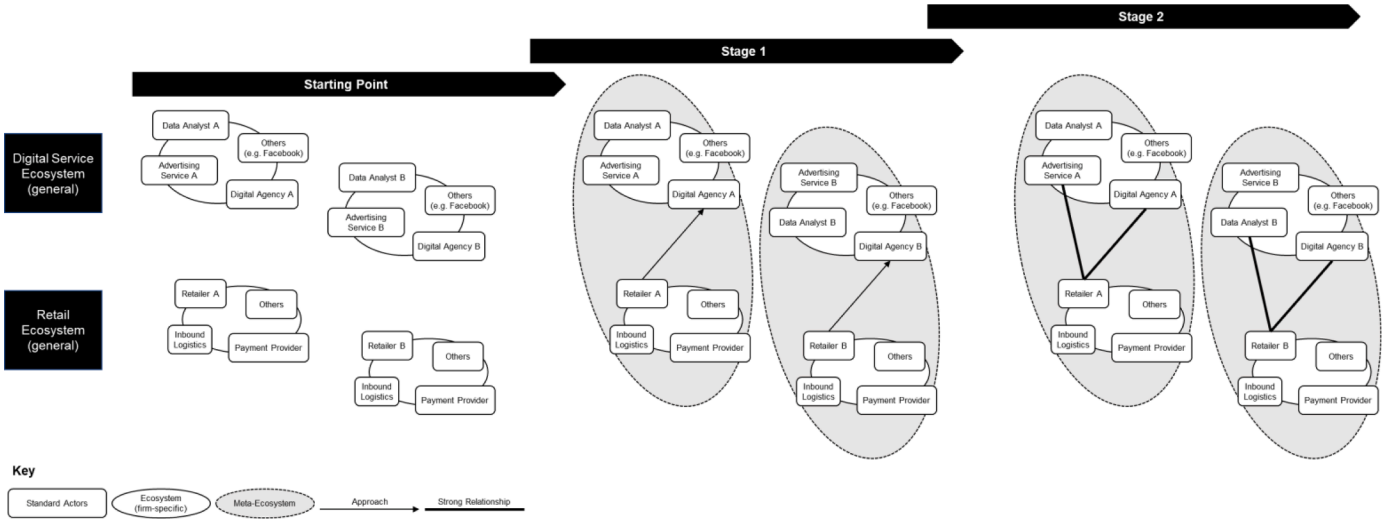


Fig. 1. Framework for the transition towards digital business models.

ecosystems responds to numerous calls for further research on the influence of digitalization on firms' external relationships (e.g., Caputo et al., 2021; Luz Martín-Peña et al., 2018; Kothamäki et al., 2019; Paiola and Gebauer, 2020; Parida et al., 2019; Ritter and Pedersen, 2020). Our finding that digitalization does not make physical interactions with suppliers and customers obsolete also responds to these calls. Instead of becoming obsolete, physical interactions can provide a competitive advantage among rivals that increasingly rely on digital technologies. This finding corroborates and extends the observation that digitally enabled resource-to-resource interaction is not always a substitute for, but can occasionally serve as a complement to, human interaction in the orchestration of resource-sharing networks (Palmié et al., 2021b). Whereas Palmié et al. (2021b) refer to human interaction across a variety of communication channels as a whole, our study shows that firms specifically value physical interactions. Thus, even though digitization fosters remote and virtual interactions, personal, face-to-face meetings remain relevant. Our finding that close personal connections can complement the application of digital technologies responds to the calls to devote more attention to the question of what firms can do to yield more returns from their investments in digital technologies (e.g. Kothamäki et al., 2019; Parida et al., 2019).

Second, our study shows how the digital transformation of sectors leads to the evolution of ecosystems and the emergence of meta-ecosystems, thereby contributing to the nascent literature on ecosystem emergence and ecosystem evolution (Fang et al., 2021; Hannah and Eisenhardt, 2018; Kolloch and Dellermann, 2018; Palmié et al., 2020; Thomas and Ritala, 2021). Moreover, we observe that retailers frequently depend on intermediaries (digital agencies) to coordinate various digital services they receive. Thus, these intermediaries serve as orchestrators of the digital service side of the meta-ecosystem, whereas the retail firms act as orchestrators of the retail side of the meta-ecosystem. Our insights contribute to the growing literature on ecosystem orchestration (e.g., Dattée et al., 2018; Lingens et al., 2021; Masucci et al., 2020) by illustrating that digitalization can lead to (meta-)ecosystems that are coordinated by multiple orchestrators. The concept of meta-ecosystems complements the previous idea of platform envelopment which might occur in platform-based ecosystems (Eisenmann et al., 2011). In platform envelopment, one ecosystem combines its functionality with the functionality of a target ecosystem into one overarching value proposition and starts to compete with the target ecosystem for the users of the target's functionality. In contrast, the individual ecosystems forming a meta-ecosystem do not compete for the same customers but rather collaborate to produce a joint value proposition for certain customers. In other words, meta-ecosystems can be described as interconnected business models of multiple ecosystems. Moreover, the meta-ecosystem concept refines the notion of ecosystem overlap which occurs when two ecosystems offer the same value proposition (Miehé and Gassmann). For instance, both the financial service ecosystem and the automotive ecosystem may offer car financing solutions to car buyers. Ecosystem overlap can either result from competition or from collaboration among the involved ecosystems.

Third, this article generates insights into the digital transformation of the retail sector, which has been described as under-explored (Hokkanen et al., 2020). It thus extends nascent research in this area, which has so far considered how digitalization blurs the boundaries between digital and physical retailing (Jocevski, 2020) and the opportunities digitalization offers to improve retail business models, such as new customer experiences, increased speed and convenience, and data-driven decision making (Hokkanen et al., 2020).

6. Conclusions

Our article developed a two-stage framework for the transition to digital business models. In Stage 1, retailers collaborate with specialized service providers to implement a digital business model. As firms from the retail ecosystem collaborate with firms from the digital-service ecosystem to create a value proposition for end-customers, a meta-ecosystem emerges. This meta-ecosystem is coordinated by multiple orchestrators – retailers tend to orchestrate the retail side and digital service providers the digital service side of the meta-ecosystem. In Stage 2, firms (retailers) seek to differentiate themselves from their competitors in the meta-ecosystem that use very similar (or even the same) services. Physical interactions with the digital service providers, the product suppliers, and the customers represent the primary means towards this end.

Our study has substantial implications for management practice. Shedding light on the role of external relationships for digital business model innovation, it cautions managers against virtualizing the relationships with their traditional partners (suppliers of goods) and their customers completely. Physical interactions and personal connections are likely to remain key. Managers should also build trusting relationships with digital agencies that they can use as intermediaries for the coordination of digital services. Regular "in-person" meetings with representatives of the digital agencies are also a promising means to this end. Our study indicates that retail firms can share the orchestration activities with a digital agency. Doing so can reduce the complexity of the digital transformation and accelerate the transition to a digital business model for firms from the retail sector and other traditionally low-technology industries. However, managers from these industries should keep in mind that their competitors are likely to implement similar digital solutions, making competitors more homogeneous. Managers thus need to find other ways to differentiate their firms from rivals. Strong personal relationships with customers are certainly not the only relevant means to this end.

That being said, more research is needed to establish the generalizability of our findings. Our study gained its insights from a qualitative analysis of one sector in one country. Although the properties of the retail sector in general and the Swedish retail sector in particular render the Swedish retail sector an intriguing empirical setting, future research should study the link between external relationships and digital business model innovation in other sectors and countries. Scholars could also explore the effect of specific digital technologies (such as artificial intelligence) on firms' external relationships. Moreover, they could study firms' external relationships in conjunction with other business model elements (e.g., regarding the value proposition or value capture) to identify promising configurations of multiple elements. Finally, future research should devote further attention to meta-ecosystems. Since many sectors are currently undergoing digital transformation, meta-ecosystems including the digital service ecosystem are currently emerging in many industries. Our study represents only a first step in understanding this relevant phenomenon.

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CRediT authorship contribution statement

Maximilian Palmié: Conceptualization, Formal analysis, Writing – original draft, Writing – review & editing. **Lucas Miehé:** Conceptualization, Methodology, Writing – original draft, Writing – review & editing. **Pejvak Oghazi:** Investigation, Funding acquisition, Project administration, Writing – review & editing. **Vinit Parida:** Investigation, Funding acquisition, Writing – review & editing. **Joakim Wincent:** Writing – review & editing.

APPENDIX

Questionnaire

Theme 1: Respondent- and company-related information

- Company name
- Company size (number of employees)
- Company age (engagement in retail sector)
- Company main business areas/activities (short company description, e.g. "selling wine online")
- Share of revenues generated through online retailing vs. share of revenues generated in physical retail store (e.g., "70/30″)
- Respondent name
- Respondent position
- Respondent prior working experience

Theme 2: Industry contextualization and ecosystem challenges

- How would you define the retail ecosystem? What kind of actors and activities are common within your ecosystem?
- How is digitalization impacting the retail ecosystem? This means:
- What will be the sources of lasting competitive advantage provided by digitalization to retail companies? What advantages provided by digitalization will only be temporary (because competitors will be able to quickly imitate them)?
- Do you think that the competition is converging in the retail industry because of digital services? In other words, will competitors look more and more alike as all use similar digital tools and offer the same set of digitally enabled services?
- If you do not think that competitors will look more and more alike, what will set them apart?

Theme 3: Firm-level challenges

- Which digital applications and solutions do you use, and how, in order to generate competitive advantages?
- Which of these competitive advantages do you expect to last for a long time, and which advantages do you believe will be only temporary?
- What do you do (if anything) to make each of these competitive advantages last longer?
- Are there significant digital applications and solutions that you do not intend to use? Why not?
- What digital applications and digitally-enabled activities do you primarily handle yourself (in-house), and when do you get support from external partners (i.e., digital service providers)? What are the reasons for your decision to handle applications/activities yourself or to rely on outsourcing?
- Do you coordinate the services that you are sourcing from digital service providers and all interactions with these digital service providers yourself? Or do you work with an intermediary (e.g., an agency) who is coordinating the digital services and digital service providers for you?
- Do you coordinate/orchestrate the relationships with firms from the digital-service ecosystem differently than the relationships with firms in the (traditional) retail ecosystem? If so, what do you do differently?
- Do the digital service providers that you work with also work for your competitors? If so, why did you choose to collaborate with them despite this?
- What do you do to differentiate your company with respect to digital services, especially (but not only) from those competitors that use the same digital service providers?
- Have you adopted non-digital measures (i.e., measures not enabled by or grounded in digital technologies) to increase/secure your differentiation from competitors that use similar digital tools and offer the same set of digitally enabled services? One example might be the organization of social events (e.g., wine tastings if you are selling wine online).
- What is your approach to digitization? Do you try to be a first mover (at least in retail) or do you see yourself as a (fast) follower? What is the motivation behind your approach?

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