



Research paper

Key trends in business-to-business services marketing strategies: Developing a practice-based research agenda

Ad de Jong^{a,*}, Ko de Ruyter^{b,c}, Debbie Isobel Keeling^d, Alexandra Polyakova^e,
Torsten Ringberg^a

^a Department of Marketing, Copenhagen Business School, Solbjerg Plads 3, 2000 Frederiksberg, Denmark

^b King's College Business School, King's College, WC2B 4BG London, UK

^c School of Marketing, UNSW Business School, UNSW Sydney, 2052, Australia

^d The University of Sussex Business School, University of Sussex, Brighton BN1 9SL, UK

^e Department of Strategy & Marketing, The University of Sussex Business School, University of Sussex, Brighton BN1 9SL, UK



ARTICLE INFO

Keywords:

Services
Enablement
Gamification
Personalization
Mixed reality
Data visualization
Privacy

ABSTRACT

The marketing of B2B services has become an important field of academic enquiry. Industrial Marketing Management scholars have contributed to building a robust body of scholarship on the role of services as an indispensable aspect of company's strategic performance process. However, with digitization, there is a clear need for theoretical concepts and frameworks that can guide companies in the development of contemporary and strategic roadmaps for their B2B service marketing strategies and performance practice. This position paper outlines an agenda and delineates issues in B2B service delivery that need to be addressed to close the gap between service marketing theory and practice and collaborate on the development of strategic service capabilities for the industrial marketing space. More specifically, we identify and discuss the impact of 5 important trends shaping B2B services: 1) gamification, 2) personalization, 3) Mixed Reality (MR), 4) data visualization, and 5) privacy. On the basis of these, we will offer a number of specific directions for future research by industrial marketing researchers.

During the past decades, the marketing of services has emerged as an important field of academic enquiry with essential implications for a variety of stakeholders. Whilst the initial focus has been predominantly on the impact of services in B2C settings, companies operating in industrial settings increasingly acknowledge the importance of the provision of high quality customer services as a strategic asset. In Industrial Marketing Management scholars have contributed to building a robust body of scholarship on the role of services as an indispensable aspect of company's strategic process to achieving revenue and growth (Ostrom, Parasuraman, & L., & Voss, C., 2015). For instance, the phenomenon of servitization in particular and service innovation and design has recently become a prolific research domain, with an accumulating body of publications over the last decade (Kowalkowski & Ulaga, 2017). Recent review articles on servitization illustrate the growing maturity of the field (e.g. Kowalkowski, Gebauer, & Oliva, 2017), and Raddats, Kowalkowski, Benedettini, Burton, and Gebauer (2019) identified a steadily growing flow of articles from 2005 onwards.

Digitization is accelerating the development and changing the shape of B2B services – it is associated with a multitude of disruptions and these in turn have a profound impact on current industrial marketing practice. Such practice is underpinned by the large-scale deployment of new digital technologies and the increase of digital data generated by customers, or in their interaction with channel partners and distributors. Academic knowledge development struggles to keep pace with increasing complexity of marketing practice. There is a clear need for concepts and frameworks that can assist in guiding the development of contemporary and strategic roadmaps. In the increasingly digital landscape, businesses in industrial settings face the challenge of adapting their service strategies to take better advantage of new digital tools and knowledge that can be extracted on the basis of vast amounts of data. While research on B2B service topics, like servitization (e.g., Kowalkowski et al., 2017; Raddats et al., 2019), service innovation (Casidy, Nyadzayo, & Mohan, 2020; Dayan & Ndubisi, 2020), and the sales-service interplay (e.g., Friend, Malshe, & Fisher, 2020) is steadily

* Corresponding author.

E-mail addresses: adj.marktg@cbs.dk (A. de Jong), ko.de_ruyter@kcl.ac.uk (K. de Ruyter), D.I.Keeling@sussex.ac.uk (D.I. Keeling), a.polyakova@sussex.ac.uk (A. Polyakova), tri.marktg@cbs.dk (T. Ringberg).

<https://doi.org/10.1016/j.indmarman.2020.12.004>

Received 12 March 2020; Received in revised form 14 December 2020; Accepted 19 December 2020

Available online 29 December 2020

0019-8501/© 2020 Elsevier Inc. All rights reserved.

increasing, the academic literature remains both scant and fragmented on the role, effectiveness and potential of technological advances and how new service concepts and practices in industrial marketing settings can be further developed.

Therefore, there is a clear scholarly as well as managerial need for guidance with respect to what future topics should be placed on a research agenda for the coming decade. As a result, the contribution of this position paper lies in outlining such an agenda and delineating issues in B2B service delivery that need to be addressed to close the gap between marketing theory and practice and collaborate on the development of strategic service capabilities for the industrial marketing space. We focus specifically on the ways in which digitization is fundamentally shaping B2B services as enablement services throughout channels. That is, B2B services offered as enablers of individual channel partner development (e.g., certified provider program), and also as enablers of more effective interaction and collective endeavors both within (e.g., shared intelligence services) and between (e.g., coalition training programs) channel partners in distribution networks. We identify and discuss the impact of 5 important trends in which digitization will fundamentally impact on the future of B2B services as enablement services within channels: 1) gamification to engage and motivate, 2) personalization to enrich interactions, 3) Mixed Realities (MR) to revolutionize offerings, 4) data visualization to enhance decision-making, and 5) privacy as an empowerment tool. With specific reference to complex B2B markets, we have identified and prioritized these themes based on industry reports that detail management surveys, industry investment, and expected growth rates of technological advances and markets, in tandem with observations of emergent current practice and developments in the contemporary knowledge base (as detailed in each section). On the basis of these 5 themes, we offer a number of specific directions for future research by industrial marketing researchers to realize the potential of a new generation of B2B services as enablement differentiators in channel networks.

1. Theme 1: Gamification

The emergence of digital technologies, like mobile apps, 3D simulations, and online platforms—has stimulated companies to adopt and embrace gamified applications in their service strategies and added a state of play to their service encounters (Hofacker, de Ruyter, Lurie, Manchanda, & Donaldson, 2016; Müller-Stewens et al., 2017). Indeed, global companies, like Amazon.com, Expedia, and Starbucks have incorporated gamified elements into their marketing strategies (Zhang et al., 2017). Further, the gamification market is expected to grow from \$9.1 billion in 2020 to more than \$30.7 billion by 2025, being recognized as having a high Return on Investment rate (Markets and Markets, 2020).

Gamification is the practice of transforming any activity, system, service, product, or organizational structure into one which brings pleasant positive experiences that are similar to those seen in games and thus is described as a gameful experience (Högberg, Hamari, & Wästlund, 2019, p. 620, cited Wunderlich, Gustafsson, Hamari, Parvonen, & Haff, 2020, p. 273). For example, competitions can be used within an organization to stimulate sales and learning, such as that introduced by Volvo for its truck drivers (The Dynafleet app). The app ranks drivers' performance based on their total fuel efficiency score. By contrasting it with that of other drivers, the app also allows a better understanding of how drivers' performance should be optimized and who needs fuel efficiency training (Rydén et al., 2017). Whilst recent studies have emphasized the added value of gamification as a facilitator of engagement (e.g., Leclercq, Hammedi, & Poncin, 2018), less is known about gamification's potential in more complex B2B service settings. B2B marketing scholars could pursue a number of potentially interesting research avenues.

One avenue of scholarly investigation could be the role of gamification as a motivational driver of channel partner behavior in complex

industrial markets (Wunderlich et al., 2020). In complex B2B service settings understanding and appropriately stimulating engagement and motivation is essential. Gamification does not alter the nature of a task. Instead it enables a positive affective experience related to the task performance by adding a 'fun' element into existing work processes (Hamari & Koivisto, 2013; Mollick & Rothbard, 2013) and serves to 'distract' an individual from the stresses associated with the routinized tasks (Houlihan, 2002), or provide a positive reward for engaging in the task. Thus, implementing game elements into a service for channel partners can trigger diverse and important motivational drivers (Hense et al., 2013; Schunk, Pintrich, & Meece, 2007). Moreover, gamification can be one of key factors that attract one of the scarcest resources: attention (Buckley & Doyle, 2017; Davenport & Beck, 2002). The importance of gamification in B2B service settings is in engaging channel partners in a positive affective experience as a means of enabling improved performance (Mollick & Rothbard, 2013). A particularly promising and contemporary application of gamification is within channel partner enablement programs (Eisingerich, Marchand, Fritze, & Dong, 2019). For example, a Fortune 100 company introduced a football game into their online enablement program. The result was a four-fold increase in engagement with learning modules and concomitant impacts on sales performance. Such changes in behaviors related to learning and performance require stimulating high levels of motivation, which can be possible through gamification (Hamari, Koivisto, & Sarsa, 2014). Thus, it is important to investigate how gamification can impact channel partners' engagement in enablement services in order to enable superior service performance.

A second avenue of research is examining the potential of using gamification as an enabler of co-creation in B2B services, for example, in the case of coalition programs where two companies offer integrated solutions and work to enable their channel partners to sell such solutions. A significant problem when multiple actors try to collaboratively create new knowledge is related to the fast changing and often confusing nature of collaborative innovation (Patricio, Moreira, Zurlo, & Melazzini, 2020). The presence of multiple actors with different experiences and capabilities make it difficult to engage in and support knowledge creation (Huxham & Vangen, 2004; Ollila & Yström, 2016). This is even more the case between competing channel partners. Gamification might be one of the solutions that simplifies this problem and enhances co-creation (Patricio et al., 2020) by providing clear rules of play between partners. This can facilitate firms to encourage channel partners to provide feedback, signpost missing information and contribute knowledge to an enablement program (Plangger, Montecchi, Danatzis, Etter, & Clement, 2020). Gamification allows firms and their partners to potentially stimulate different scenarios of enablement programs, choose which one fits their particular case best and even develop different services based on the partner's feedback. However, Leclercq, Poncin, and Hammedi (2020) have examined how gamification can be used to stimulate engagement in co-creation communities. Gamification added value, but the competitive context weakened the benefits of it. Thus, despite its promise, there are unknowns about how gamification can be used to stimulate channel partners' engagement and co-creation to achieve a high-quality customized offerings and optimized experiences. There is a need to explore more the possibilities of using gamification as a tool to facilitate service co-creation by channel partners.

A third avenue involves the collective aspect of gamification in the strategic enablement context. So far, research in gamification has mainly focused on gamification as a driver of individual client experiences and contributions. However, the interpersonal and team aspect is inherent to gamification as a phenomenon. Recent scholars (Koivisto & Hamari, 2019) call for research that examines the role of collective and cooperative aspects in gamification approaches. In the light of strategic enablement in complex B2B service settings teamwork is especially relevant and smooth interpersonal interactions are essential to properly develop partners' service solutions. Partners' understanding and collaboration improves when they are given an opportunity to exchange

their views and opinions in a fun interactive environment. Such game-adapted components as points, rankings or quests create numerous incentives to challenge, compete and cooperate (Friedrich, Becker, Kramer, Wirth, & Schneider, 2020) that consolidate individuals and create a team spirit and motivational dynamics, much needed during interactions with channel partners. Dynamics directly impacts motivation but is impossible to be managed directly (Shpakova et al., 2016). Thus game enabled elements might be one of the most important motivation-enhancing tools within a channel. Moreover, gamification can be effective in creating practice communities built around a firm's goods and services that might be used to transfer tacit knowledge (Planger et al., 2020). Given that interaction is essential for the transfer of tacit knowledge, we argue that gamification can be an important tool in the creation of communities of practice especially if a firm's products or services are less standardized and require more social collaboration. Some parts of such 'unwritten' rules of behavior can be shared through role playing or potential outcomes scenarios that can be realized within a gamified experience. Thus, another interesting aspect to be studied is the role of gamification in facilitating team-based learning in service co-creation by channel partners. We summarize the main directions for future development of B2B services in table 1.

2. Theme 2: Personalization

In increasingly data-driven spaces, channel partners in industrial markets have come to expect personalized service experiences and communications tailored specifically to them. Personalization involves smarter targeting based on an in-depth understanding of the expectations of each channel partner (Feng, Li, Lin, & Ning, 2020). Examples are dynamic website routing where content and style of messaging are tailored to customer visitor profiles, personalized steps to the sale based on unique opportunity identification of customer pain points and using bundling strategies to compose segment or persona-specific offerings (e.g., Wunderlich, Wangenheim, & Bitner, 2012). Recent market surveys demonstrate that 72% of B2B partners expect this type of personalized service and it is predicted that 75% of partners are counting on vendors to anticipate what their needs are before engaging with them (Mialki,

2019). At the same time, however, only a minority of channel partners indicate that manufacturers are meeting these expectations. Also, the trend towards personalization produces a lot of noise in B2B channels (Taufique Hossain, Akter, Kattiyapornpong, & Dwivedi, 2020) and many vendors tend to overlook the fact that channel partners are at the receiving end of a large number of 'targeted' messages every day. Still, more often than not, these messages often miss the target and get discarded because the devil is very much in the detail.

Thus, more insights are needed as to how companies can more effectively develop and deploy partner profiling in the B2B space with the objective of offering a better service experience. It can be argued that the existing gap between segmentation and 1:1 personalization can be best bridged by focusing on persona development (An, Kwak, Jung, Salminen, & Jansen, 2018; Salminen, Jansen, An, Kwak, & Jung, 2018). The advantages of developing profiles for a number of archetypical partners are numerous. It enables businesses to express and focus on key needs and expectations of important partner groups. A well-crafted persona can also help in improving internal communications and promote the service-orientation as a basis for market-facing decision-making (An et al., 2018; Salminen et al., 2018). Persona development can also lead to service design efficiency improvements and helps co-create better (value-based) offerings and it assists with bringing the partner journey in focus. Yet, more research is needed to gain insight into the creation of suitable personas for channel partners, for whom firmographics, like company type, size, and industry type are more relevant than psychographics and other personal features. Particularly, taking into account the longitudinal journey aspects.

Relatedly, more research is warranted to extend our knowledge on information-richer persona profiles. This requires a combination of behavioral data (e.g., sales and service performance data) and psychographic and/or firmographic data. An optimal combination of data obtained via multiple methods and from different sources will assist manufacturers in developing insights into their channel partners in order to facilitate personalization of content, formats and communication channels (de Ruyter, Keeling, & Cox, 2019). If personalization is to be viewed as an enabling service experience, more knowledge is needed as to understand to what extent B2B markets are ready for personalization through concept and scale development of personalization readiness. This also has the ability to re-calibrate the so-called personalization-privacy paradox (Aguirre, Mahr, Grewal, de Ruyter, & Wetzels, 2015). We need to be able to zoom in on what and how much of privacy-related information B2B channel partners are prepared to share for a better, more personalized service. Another, dynamic line of academic inquiry for marketing scholars is to assess how sales/service cycle touchpoints can be connected to access the micro-decision bases for real-time impact. For instance, by identifying what information or messaging is needed at crucial points in contract renewal decisions (e.g., Prohl & Kleinaltenkamp, 2020).

Finally, as Artificial Intelligence applications are finding their way to business markets (e.g., Martínez-López and Casillas, 2013; Syam & Sharma, 2018; Farrokhi, Shirazi, Hajli, & Tajvidi, 2020), we need to extend the growing body of scholarship on perceptions of AI by B2B decision makers and how these advanced technological tools can be deployed to intensify personalization strategies. AI has shifted from rules-based approaches to more advanced deep-learning data-driven approaches, like thinking AI and feeling AI (Kumar, Rajan, Venkatesan, & Lecinski, 2019). Thinking AI aims at processing unstructured data to make decisions. It helps facilitate personalization, due to its ability to recognize patterns from data (e.g., text mining, speech recognition, facial recognition) (Huang & Rust, 2020). B2C markets are routinely using such techniques (e.g., recommender systems) (Chung et al., 2016; Kumar et al., 2019). B2B markets are catching up and arguably have more to gain in developing enablement services through more innovative use of thinking AI. For example, Autodesk uses machine learning to provide its channel partners with personalized advice on automated generative design technology. Further, Salesforce Einstein employs

Table 1
Future directions in the gamification of B2B services

Main Themes	Key Theoretical Questions	Managerial Challenges/ Questions
Trend 1: Gamification Gamification as a motivational driver	How can learning by means of gamification enable superior service performance by channel partners?	What are the most relevant gamification tools that companies can adopt in order to appeal to their partners' differential needs? How to embed gamified elements into their partners' routines in a most enjoyable and efficient way?
Gamification as an enabler of co-creation	How can gamification as a tool facilitate service co-creation by channel partners?	How to organize a game-like environment in such a way that will make the co-creation experience beneficial to all involved actors?
Collective aspect of gamification in the strategic enablement context.	How can gamification facilitate team-based learning in service co-creation by channel partners?	What are the most efficient gamified elements that facilitate team building and knowledge transfer? How to design game-like environment in such a way that dynamic interactions can be monitored and facilitated and learning managed in the best way?

artificial intelligence in its CRM system to create a personalized service experiences for channel partners. The challenges of such applications is that B2B settings involve larger, more comprehensive service offerings and channel partner decision making is complex. There is still a paucity of academic enquiry to support the development of applications in these complex markets.

Feeling AI can enhance human-technology interactions with its focus on the detection of human feelings and emotions. As such, it can help contribute to the development of more personalized relationships with channel partners. Current technologies include advances in natural language processing (NLP), chatbots mimicking human speech, embodied and embedded virtual agents for human interactions, and robots with customized hardware (Huang & Rust, 2020; Kauffmann et al., 2020). So far, however, the technology is limited and we are only at the start of our journey in understanding applications of these advanced types of AI in B2B. Exciting research directions lie not only in improving human-technology dialogue management, but the addition of virtual employees to the organizational frontline (e.g., Lin et al., 2020) to enhance personalization of service to channel partners. We summarize the main directions for future development of B2B services with respect to personalization in table 2.

3. Theme 3: Mixed reality (MR)

An emerging class of technological tools, referred to as Mixed Reality (MR), is enabling enhanced online and offline service experiences. MR settings are those where “*real and virtual objects coexist in a single display in different types of combination*” (Loureiro, Guerreiro, Eloy, Langaro, & Panchapakesan, 2019, p. 515). MR is usually referred to as an environment enabling interaction with digital objects through Augmented Reality (AR), Virtual Reality (VR) or both. This mixing of realities is interactive, enabling people to manipulate digital objects, and occurs in real time and is increasingly multi-sensory, enabling immediate and comprehensive feedback (de Regt, Barnes, & Planger, 2020; Hilken, Keeling, de Ruyter, Mahr, & Chylinski, 2020). The 2018 BCG report predicted more than 120 million AR users in the US by 2021. The VR

market is expected to extend exponentially, and its revenue is predicted to exceed \$40 billion by 2024 worldwide (Research and Markets, 2019).

The deployment of MR as a supporting service in B2B markets offers, we argue, a number of advantages to companies looking to facilitate business partners’ comfort and confidence in decision-making. With the help of MR, channel partners are now better able to see for themselves how goods and services satisfy their needs, especially when the possibility of physical proximity or visualization of products is burdensome. Hilken et al. (2017) refer to this possibility as “environmental embedding”, which they conceptualize as the visual integration of virtual content into the physical surrounding of a customer. Such embedding significantly alleviates mentally picturing of goods and services, with the potential to considerably accelerate the selling and decision-making process. For example, AZEK uses AR technologies to demonstrate to its potential clients how its decking and paver products look in various colours and arrangements in different environments (Porter & Heppelmann, 2017). Other examples include Coca Cola, who is now able to show petrol station managers what their newly designed vending machines will look like as they can be effortlessly ‘placed’ in all four corners of a retail space; Cisco, who introduced an AR-enabled product catalogue to make their complex product narratives more accessible, bring down the cost of unnecessary shipping of products and widen portfolio accessibility to global sales and service teams and their clients and FP International, a packaging manufacturer who uses AR technologies to demonstrate how final products will look like in their client’s environment and share simulations pictures. Whilst VR is a less explored area of the B2B marketing (Boyd & Koles, 2019), its exploration also offers intriguing possibilities. For example, GE Healthcare engineers use the power of VR tools to demonstrate the potential of GE medical equipment by allowing doctors to walk into a virtual room that resembles a human body or some of its organs (Kloberdanz, 2017).

As B2B offerings are generally more complex, MR offers a possibility to visualize that complexity across the entire portfolio in sales meetings. The potential of MR can be used during products development, trade shows, analyst briefings, goods and reward catalogues and product launches. For example, Hexagon, a global IT vendor of geospatial and industrial enterprise applications uses AR to demonstrate their complex technologies through incorporating links in their annual report to investors. A properly designed virtual selling channel equipped with customized offerings can significantly extend sales coverage (Diorio, 2020). Thus, a fruitful and immediate research avenue is to explore how MR technologies can facilitate and add value to selling and service experiences. Vital to this endeavor is determining what type of digital content is most effective in what context and under what conditions when it comes to optimizing the service experience and meaningful use in the B2B domain. As the overlay of digital information can, for instance, be visual representations versus textual or numerical specifications, it may be that the use of the former is more effective in sales meetings or trade-shows, while product specifications may work better when clients are looking at products online and in their own time. Another important issue is to identify ways in which complex, technical or abstract offerings can be presented through an engaging narrative and to recognize that different value propositions (e.g., functional, hedonic, social and/or epistemic value) could be created. This needs to be in sync with different information processing styles (e.g., verbal versus visual; Hilken et al., 2017) when making decisions comfortably and with confidence. As individuals typically receive around 80% of information from vision (Levine, 2006), MR technologies can become powerful drivers of superior experience.

Furthermore, the use of MR should be explored in the context of service delivery and service support. Allowing channel partners to virtually inspect goods during the manufacturing process can lead to heightened perceptions of their superior features and a reinterpretation of production, delivery and logistics processes. For example, News Shipbuilding, which designs and builds U.S. Navy aircraft carriers, with the help of AR technologies decreased the inspection time of the finished

Table 2
Future directions for personalization of B2B services

Main Themes	Key Theoretical Questions	Managerial Challenges/ Questions
Trend 2: Personalization		
Personas as facilitators of enablement service provision	How to develop personas from a firm rather than person view?	How to utilize personas to develop and deliver appropriate but efficient enablement services?
	How to capture the longitudinal dynamics of partner journeys effectively in personas?	How to use personas to promote service orientation?
Enriching profiles through data integration	What information and from which touchpoints and sources should serve as input to enrich profiles?	How to effectively harness data and integrate it for effective profiles?
	How to evaluate the personalization readiness of markets?	How to respect privacy of partners whilst also enriching profiles to make high quality decisions on service offerings?
		How to use profiles to inform real-time impact on partner decision-making?
AI as a facilitator of personalized services	How to intensify personalization with AI through processing of unstructured data?	How to design AI for integration into complex markets?
	How can AI work within the complexities of B2B markets?	How can AI-based service delivery be organized?
	How to embed emotion in AI dialogue systems and boost enablement services?	How to train sellers to properly deal with AI?

ship by 96% (Porter & Heppelmann, 2017). By overlaying diagnostic information over a product image, AR apps can help in assisting channel partners in how to setup, configure, troubleshoot and even repair a product. KPN, a European telecommunications service provider uses AR smart glasses to access a product’s service-history data and run diagnostics of their products remotely (Porter & Heppelmann, 2017), which significantly decreases aftersales service costs. Thus, it would be interesting to investigate how MR technologies can help companies in enabling their service support to channel partners and innovating their product design and deployment processes.

The development of MR platforms allows a previously unimaginable level of cooperation, interaction and learning amongst channel partners. VR allows physically distanced users to collaborate, communicate and make decisions in highly realistic virtual environments. This is especially pertinent to hazardous or remote settings. For example, VR technologies allow Siemens engineers to remotely control the power plant in Libya during the Civil War (Boyd & Koles, 2019). MR tools can be used to create highly interactive, visual, real-time individually or group customized guidance to improve the overall learning experience. For example, Airbus uses AR and VR flight simulators to train future pilots (Boyd & Koles, 2019) and Boeing uses VR on its factory floor to allow its employees teams to improve the landing gear of 737 MAX 10 (Boeing, 2019). Further research is needed to assess the role of MR in orchestrating joint decisions, for instance, between various members of a procurement team or involve multiple partners involved in vertical distribution chains. For instance, Mosa, a vendor of kitchen and bathroom tiles, has introduced an AR platform that supports co-designs of spaces by architects, designers, builders and end-customers. The AR tool allows the company to take centre stage and orchestrate a large part of the channel. Thus, another fascinating area of exploration would be to understand how MR technologies can multi-partner collaboration and decision-making in B2B settings. We summarize the main directions for future development of MR in B2B services in table 3.

4. Theme 4: Data visualization

MIT Sloan Management featured an article by LaValle, Lesser, Shockley, Hopkins, and Kruschwitz (2011) in which a large number of managers, in response to a survey about the ten most important future areas related to digitalization, put data visualization as the top priority (ahead of fx. simulation, scenario development, and analytics applied within business processes). Reflecting this sentiment, Coon (2019),

Director of Solution Architecture at Capgemini, recently stated that “Several technology providers are making significant strides in enabling this B2C-like experience for B2B buying. For example, the \$10 billion in sales Amazon Business platform empowers B2B brands with extensive data and an easy-to-use dashboard to help companies better understand their metrics across the platform.” Modern B2B companies are beginning to expect the same level of data and analytics that are used in B2C commerce platforms – something B2B platforms have not traditionally provided. Yet, manufacturers face a difficult challenge when they develop service-oriented business models and design service value propositions that require access to and sharing of increasing amount of Big Data (Ng et al., 2012). Developments within data visualization tools enable more elaborate data presentation options with interactive functionalities, which enable users to manipulate and adjust information portrayed to optimally meet their specific requests. The use of data visualization in dashboard formats is experiencing exponential growth, especially by newcomers to the B2B fields. For example, leading software companies like Tableau and Qlik strongly emphasize the use of sophisticated visualization tools as part of translating data into easily interpreted representations that can be shared easily, and acted upon dynamically (Burns & Rouse, 2017). Tellingly, the most successful organizations are data driven, often platform-based, with the ability to dynamically monitor and visualize data-driven insights pertaining to both internal activities, such as production runs, supply chain interaction, transportation, logistics (Akhtar, Frynas, Mellahi, & Ullah, 2019).

Accordingly, data visualization represents an important informational resource in B2B settings, provides a means for acquiring and disseminating data, enables learning opportunities, and aids decision-making to ensure strategic alignment (Morgan, Clark, & Gooner, 2002; Patterson, 2007; Pauwels et al., 2009). Dashboards are acknowledged as one of the most useful analytical tools in business intelligence, enabling managers to dynamically and visually identify trends, patterns, and anomalies about business, as well as monitoring, planning, and executing decisions (Negash & Gray, 2008; Pauwels et al., 2009; Troisi, Maione, Grimaldi, & Loia, 2020). An organization’s propensity for sensemaking increases as marketing dashboard usage proliferates in B2B settings (Krush, Agnihotri, Trainor, & Nowlin, 2013). As dashboards often visualize metric-based representations they enhance human conceptualization and understanding that reduce biases and increases common understanding (Card, MacKinlay, & Schneiderman, 1999; Weick et al., 2005). The ability to decode even complex data increases manifold when humans switch from textual interpretations to interpreting visual inputs, as visual stimuli are processed in a gestalt manner that is perceived faster than the processing associated with verbal stimuli (Townsend & Kahn, 2014; Weiner, Venugopal, & Tanniru, 2015). Despite these positive empirical insights into data visualization and dashboard outcomes, little is known about the specific challenges experienced in converting and conveying complex data into simple and actionable visualizations for decision makers (Allio, 2012; Pantazos, Lauesen, & Vatrapu, 2013). That is, when is the tipping point reached when data visualization of complex information is no longer advantageous?

One influential variable is cognitive (over)load, which is critical to the success of data visualization in dashboards. It is concerned with the mental effort spent when a particular task is performed (Paas, Tuovinen, Tabbers, & van Gerven, 2003). Human beings’ limited cognitive processing capacity is affected both by the amount of data to process and how data is presented (Sweller, van Merriënboer, & Paas, 1998). If visual representations overload cognitive capacity then their value is diminished (Paas et al., 2003). Thus, is it important to account for managers’ limited cognitive capacity to absorb especially complex data driven information (Troisi et al., 2020). While data visualization offers managers a tool to facilitate processing little is known as to what constitute the point at which visual complexity might interfere with cognitive load and efficient sense making and decision processes. This raises the interesting research question, namely what is the tipping point

Table 3
Future directions for mixed realities in B2B services

Main Themes	Key Theoretical Questions	Managerial Challenges/ Questions
Trend 3: Mixed Realities		
MR as a facilitator of virtual selling	How do MR technologies best facilitate selling experiences in complex markets? What type of digital content is most effective in optimizing sales, especially for abstract or technical offerings?	What are the most relevant MR tools that can be adopted at each stage of the selling process? How can MR be used to enable partner decision-making?
MR as a facilitator of service delivery and support	How can MR reshape production, delivery, logistics and support processes?	How to organize service provision using MR in a most efficient way?
MR as a facilitator of learning & cooperation	How can MR best help multiple partners collaborate and make decisions in B2B settings? How does MR support new ways of learning within and between channel partner firms?	How to organize and manage multiple partner interactions using MR? How to design MR experiences to ensure the best training & learning experience?

between optimal dashboard information versus cognitive load and visual processing capabilities (Shah & Hoeffner, 2002)?

Another pertinent research area relates to the intrinsic processes underlying knowledge transfer while ensuring it is univocally understood. Socio-linguistics and information processing fields look at the inherent difficulties in ensuring the transfer of meaning between an encoder (sender) and decoder (receiver) in text. Indeed, numerous feasible interpretations of reality exist when organizations process and transfer information (Weick, 2014). The interpretation of stimuli (especially text, symbols, etc.) depends on the receiver's (decoder) as much as the sender's (encoder) interpretive frameworks. Misalignment in interpretive intersubjectivity is due to 'selective perception'. This phenomenon has largely been overlooked within B2B research. The increasing amount of knowledge transfer being computer-mediated both within and between channel partners reduces the ability to rectify misunderstandings between partners (Reihlen & Ringberg, 2006). It is, thus, essential to ensure that ambiguity and complexity are reduced while still facilitating efficient communication. Visual representations may provide for more objective interpretations of data (Card et al., 1999; Townsend & Kahn, 2014). However, this is by no means proven and raises an interesting issue as to whether visual representations are prone to similar/other type of interpretive challenges as textual knowledge transfer. Interpretation of data can be influenced by the types of visual tools used for knowledge transfer, such as diagrams, maps, graphs and tables (including their shapes, positions and colors). The management literature has failed to keep pace with the developments of dashboards, and that no agreement exists as to what exactly a dashboard should contain, such as types (e.g., graphs, tables, color) of visual representations as well as number of templates/views within a dashboard (Yigitbasiglu & Velcu, 2012). Revealingly, Godfrey Team (2017) asserts that in the B2B business press, the discussion typically only provides very generic recommendations, such as that one should keep dashboard simple and reliable for managers.

While B2C service companies use data visualization for enabling learning opportunities and to boost customer service as it makes sales function more agile and adapt in a dynamic market place (Miller & Cioffi, 2004; Pauwels et al., 2009) little research has explored its potentially advantages in B2B servitization. This is problematic as there is an increasing trend towards servitization and a client-experience model among B2B suppliers within the industrial sector (Björkdahl & Holmén, 2013; Kamp, Ochoa, & Diaz, 2017; Lee, Kao, & Yang, 2014). This servitization trend in B2B requires a better understanding of how service design visualization tools could be applied and how new technologies can be used to integrate content, training and coaching services for sales managers along the entire channel partner journey in B2B (Baines & Lightfoot, 2013; Lam, Sleep, Hennig-Thurau, Sridhar, & Saboo, 2017). Indeed, managers at manufacturing companies can use visualization tools more generally and iteratively as they seek alignment between partner needs, wants, and characteristics and new service value proposition that deliver value in B2B sales (Iriarte, Hoveskog, Justel, Val, & Halila, 2018). We summarize the main directions for future development of B2B services with respect to data visualization in table 4.

5. Theme 5: Privacy

Privacy is broadly conceptualized as a prerogative of individuals and companies to decide how, when, where and how much information about themselves they want to share with others (Udo, 2001). The safety of information and its privacy is a matter of significant concern to many organizations as data breach instances have significantly increased. A recent IBM-sponsored study of 507 organizations in 16 countries and regions across 17 industry sectors concludes that the global average cost of a data breach is \$3.92 million (IBM, 2019). Companies should, therefore, pay careful attention to the development of better data privacy protection as channel partners are increasingly aware of its critical

Table 4
Future directions for data visualization in B2B services

Main Themes Managerial decision making	Key Theoretical Questions	Managerial Challenge/ Questions
Trend 4: Data Visualization Level of complexity of data visualization and human processing capacity	What is the tipping point between complex data visualization and sense making? Does similar data conveyed in text vis-à-vis a visualized depiction affect cognitive load differently?	How to take advantage of visualizing complex textual information while minimizing cognitive load to support strategic decision-making?
Enabling efficient knowledge transfer in the channel with data visualization.	What type of dashboard content (e.g., graphs, text, tables, colors) best enable univocal knowledge transfer (i.e., correct decoding)?	How should data visualization be applied to ensure univocal knowledge sharing in the channel? What level of sharing is sufficient to enable channel partner decision-making?
Enabling channel partners through data visualization	How can data visualization further enable value-creating interactions between partners?	What type of data visualization best enables proactive and meaningful interactions with channel partners?

importance (Palmatier & Martin, 2019). It is often pointed out that many people voluntarily share personal data so that they can be sent 'native' ads and 'localized' service offerings. However, the trade-off between privacy and convenience should not be used as an excuse for inertia (Aguirre et al., 2015; Palmatier & Martin, 2019). While there has been an observable growth in security spending in past years, companies like Toshiba have also identified new sources of privacy threats, such as the growth of IoT and privacy-sensitive visual data (Gartner, 2017). Finally, privacy is very much on the radar of regulators. In Europe, the General Data Protection Regulation (GDPR) is changing the way in which stakeholders protect privacy issues.

B2B environments are complex and the overall impact of privacy breaches can be exponentially more harmful than in B2C settings (Fearon, McLaughlin, & Jackson, 2014). A privacy breach can significantly harm a company's competitiveness if sensitive information became available to rivals (Kalvenes & Basu, 2006). A recent market survey confirms the importance of companies proactively guaranteeing privacy of their information to channel partners (Deloitte, 2018). Forward-thinking companies realize that the servitization of privacy is a crucial differentiating aspect (Etherington, 2019). This signifies that the perspective on data protection is shifting from a risk phenomenon to a competitive advantage, which is one of the important trends that we argue will gain even more importance in B2B marketing in the future. Several opportunities emerge when thinking of privacy-as-a-service that can be offered to attract new partners, reaffirm existing relationships and inform a number of exciting new research directions.

One opportunity is to go beyond the regulatory or legal boundaries and develop insights into the psychological foundations of the privacy concept. Palmatier and Martin (2019) argue that an in-depth understanding of customer vulnerability is needed, taking into account various factors, such as access to data and spillover effects (when a privacy breach happens) to a close competitor. Also, as some privacy concerns may be more significant than others, it is important to assess the potential of mitigating measures, such as deploying measures of transparency and allowing channel partners to control the use of their personal and company data. Particularly in B2B markets, we need to explore how a partner-focused privacy service could offer a competitive advantage to attracting new channel partners. Likewise, and from a service recovery angle, we need to widen scholarship on service

recovery protocols and risk registers, such as different ways of handling situations in which privacy breaches backfire as well as dealing with the growing aversion with regards to the monetization of personal data by companies. Thus, a fruitful research avenue would be to realize how addressing increasing privacy concerns can become a source of competitive advantage.

A second avenue for investigation would be to assess how privacy-as-a-service could be best positioned and how this might enable channel partners to manage their own data sharing preferences. Based on proven theoretical perspectives, such as regulatory fit theory (Keeling, Dar-yanto, de Ruyter, & Wetzels, 2013) and implicit worldviews (Meyer et al., 2020), future research needs to explore what and how service-related communication strategies work most effectively in terms of format (e.g., online vs. offline), timing (which time intervals) and communication style (formal vs. informal). A good example is Manchester United FC, which has one of the largest fan-bases in the world. Following the introduction of GDPR the club launched a campaign entitled ‘Stay United’. Different message frames were used to approach fans and obtain their consent to stay in touch. Star players were used to appeal to fans to take action with respect to updating their contact preferences, as a result of which they were also able to update their fan database. In addition, 70% of customers indicate that they are more likely to do business with a company that is verified by a third party. By extending signalling theory we need to explore how such endorsement should take shape.

Research is needed to assess how and to what degree control of data can be placed in the hands of business partners, perhaps by exploring their willingness to become a broker of their own data and empower them to have access to selected types of company data. As Palmatier and Martin (2019) note this requires a fundamental shift from a data-driven orientation to a customer-learning culture. Moreover, this can be seen as a way of re-engaging with a company’s partner base. As privacy regulations often point to the need to obtain explicit permission for contacting existing partners, the development of a measurement scale that can be used to assess this important phenomenon as well as the identification of its drivers would be an important element of positioning a proactive privacy policy as a strategic enablement service. As such, the question of how privacy policies can be employed as business partners’ empowerment strategy gains particular importance.

Finally, in the age of new generations of customers and the recognition of privacy as a competitive edge, expectations have changed. Currently more and more channel partners agree to share their data in order to understand better and improve their service offerings. For example, in the maritime industry, Automatic Identification System, originally devised to avoid ship collisions, is now being used by multiple actors for various other reasons, such as oceanic research, economic analysis and ship insurance strategies (Russo & Feng, 2020). Similarly, in the transportation sector, data from multiple cars and their drivers’ conduct can construct the basis for customized insurance policies formation or even to establish novel transportation models as, for instance, Mobility as a Service (MaaS) model (Russo & Feng, 2020).

At the same time, such aggregated data makes the identification of its source easier. This might put at risk some sensitive company’s information as well as alleviate revealing such personal information as business partners or employees’ identities, which, for example, can be tracked via elevator movement information paired with the business address (Russo & Feng, 2020). In such cases, the way shared data is managed gains particular importance: channel partners need to clearly understand their rights and the possibilities of data usage by others. As Okazaki, Eisend, Plangger, de Ruyter, and Grewal (2020) note, to protect especially sensitive data, channel partners should be aware of channel-specific privacy needs. Transparency in privacy permission settings and accessing data can benefit the whole industries. Examples include the agricultural industry, where the DKE-Data firm allows farmers to control their machinery access through the centralized interface named Agrirouter, or Immuta and Talend, automated data-

governance platforms that track access to a company’s data according to the data owners’ preferences (Russo & Feng, 2020). Thus, future research might further explore the opportunities of sharing data as a source of collective learning. We summarize the main directions for future development of privacy and B2B services in table 5.

6. Epilogue: B2B services in post-Covid markets

In this paper we have identified a future research agenda to guide empirical research on B2B services strategies. Against the backdrop of increasing digitization, we argue that five key services marketing trends are enablement facilitators that will assist business marketers in designing strategies that are viable moving forward. In the process of drawing up our set of suggested research directions, we have, of course, been very much aware of the even wider backdrop of the Covid-19 pandemic that has pervaded every aspect of business (McKinsey, 2020). Identifying enablers that help business marketers to take advantage of developments in digitization now coincides with the urgent need to reconfigure business models and re-imagine business strategies to guarantee both short-term survival and long-term resilience and growth opportunities. Therefore, in conclusion, we offer a number of contextual considerations conducive to capitalizing on future research on the key trends that we identify in this article and, conversely, how service marketing strategies can assist businesses marketers to successfully pivot in response to the Covid-19 pandemic and the ‘next normal’.

Firstly, to survive in the post-Covid landscape, it has emerged that business marketers need to play an active role in reskilling their channel partner networks. For instance, as many re-sellers have had to make the switch to remote selling, it is imperative that freshly (but mainly self-developed) marketing skills are reviewed to decide what capability development to focus on. Also, it is important that business marketers carefully consider how to motivate their channel partners to engage with learning in the post-pandemic era. Through gamification, mixed realities and visualization of data, partners can be equipped with the knowledge and skills needed to operate effectively in business model recovery mode.

Secondly, measurable reductions in pollution, the need for fairer trade and addressing climate change have made sustainability a strategic necessity. UN sustainable development goals will feature prominently as industry standards and channel partners will in turn be facing pressure from their end-customers to include them as part of their value offering. Therefore, in terms of enablement it is imperative that channel

Table 5
Future directions for privacy in B2B services

Main Themes	Key Theoretical Questions	Managerial Challenges/ Questions
Trend 5: Privacy Privacy as a differentiation strategy	How addressing increasing privacy concerns can become a source of competitive advantage?	What aspects of privacy settings should companies pay specific attention to gain partners’ trust? How to manage privacy failures in a most efficient, timely and transparent manner?
Privacy as an enabler of channel partners’ empowerment	How can privacy policies be employed as channel partners’ empowerment strategy?	How to attune privacy settings to partner’s needs based on their information sharing preferences?
Data sharing as a source of collective learning	How can sharing data can be used as a source of collective learning?	How to design and manage data sharing preferences to improve knowledge creation and transfer, as the same time making sure data privacy is preserved?

partners are both educated and motivated to consider strategic services, such as, end-of-life cycle programs, product-emission norms, packaging and transportation guidelines, green-selling skills and value propositions that underscore environmental stewardship. We posit that actively engaging with B2B enablement services will be crucial to achieving this renewed focus.

Thirdly, and as a result of new pivoting strategies, we expect a rise of innovative performance measures, incorporated in new strategic dashboards that support dynamic, actionable, and personalized decision-making, while not losing sight of new strategic imperatives. These new assessment tools include metrics that place referrals in the context of social channels to capture the wider effect of social networks. Another example is the use of Random Forest metrics, which are helpful in predicting which and how sustainability metrics appeal to which channel partners individual members and what privacy and security settings work most effectively in conjunction with these goals.

Finally, synergistic effects between the development of mixed realities and gamification and the wide-spread popularity of online games during the pandemic have pushed online gaming as a business marketing frontier. Fashion houses (e.g., Balenciaga) have turned to an online game to unveil its latest collections to fashion retailers. IT manufacturers, like IBM, have recently applied a Blockchain-based patent for privacy and data security protection in online games and is exploring using online gaming to develop relationship skills. We hope that a focus on the key B2B services marketing trends discussed in this paper will contribute to the exploration of new horizons as B2B marketers are looking for innovative ways to surface from the current predicament and survive while embracing digital transformation for growth.

References

- Aguirre, E., Mahr, D., Grewal, D., de Ruyter, J. C., & Wetzels, M. G. M. (2015). Unraveling the personalization paradox: The effect of information collection and trust building strategies on online advertisement effectiveness. *Journal of Retailing*, 91(1), 34–49.
- Akhtar, P., Frynas, J. G., Mellahi, K., & Ullah, S. (2019). Big data-savvy teams' skills, big data-driven actions and business performance. *British Journal of Management*, 30(2), 252–271.
- Allio, M. (2012). Strategic dashboards: designing and deploying them to improve implementation. *Strategy & Leadership*, 40(5), 24–31.
- An, J., Kwak, H., Jung, S.-G., Salminen, J., & Jansen, B. J. (2018). Customer segmentation using online platforms: Isolating behavioral and demographic segments for persona creation via aggregated user data. *Social Network Analysis and Mining*, 8(54), 1–19.
- Baines, T. S., & Lightfoot, H. (2013). *Made to serve. How manufacturers can compete through servitization and product-service systems*. Chichester, UK: Wiley.
- Björkdahl, J., & Holmén, M. (2013). Editorial: Business model innovation: The challenges ahead. *International Journal of Product Development*, 18(3/4), 213–225.
- Boeing. (2019). Employees use virtual reality to figure out best way to build 737 MAX 10. <https://www.boeing.com/company/about-bca/washington/737-max10-virtual-reality-01-28-19.page> (Last accessed 14th December 2020).
- Boyd, D. E., & Koles, B. (2019). Virtual reality and its impact on B2B marketing: A value-in-use perspective. *Journal of Business Research*, 100, 590–598.
- Buckley, P., & Doyle, E. (2017). Individualising gamification: An investigation of the impact of learning styles and personality traits on the efficacy of gamification using a prediction market. *Computers & Education*, 106, 43–55.
- Burns, E., & Rouse, M. (2017). Data visualization. <https://searchbusinessanalytics.techtarget.com/definition/data-visualization>.
- Card, K., MacKinlay, J. D., & Schneiderman, B. (1999). *Readings in information visualization: using vision to think*. San Francisco, CA, USA: Morgan Kaufmann Publishers Inc.
- Casidy, R., Nyadzayo, M., & Mohan, M. (2020). Service innovation and adoption in industrial markets: An SME perspective. *Industrial Marketing Management*, 89, 157–170.
- Chung, T. S., Wedel, M., & Rust, R. T. (2016). Adaptive personalization using social networks. *Journal of the Academy of Marketing Science*, 44, 66–87.
- Coon, J. (2019). The empowered consumer: Navigating the new B2B2C digital landscape. <https://www.capgemini.com/ch-en/2019/07/the-empowered-consumer-navigating-the-new-b2b2c-digital-landscape/> (Last accessed 14th December 2020).
- Davenport, T. H., & Beck, J. C. (2002). The strategy and structure of firms in the attention economy. *Ivey Business Journal*, 66(4), 48–54.
- Dayan, M., & Ndubisi, N. O. (2020). B2B service innovation and global industrial service management. *Industrial Marketing Management*, 89, 140–142.
- Deloitte. (2018). Building consumer trust: Protecting personal data in the consumer product industry. <https://www2.deloitte.com/us/en/insights/topics/risk-management/consumer-data-privacy-strategies.html> (Last accessed 14th December 2020).
- Diorio, S. (2020). Building a high performing virtual selling channel. <https://www.forbes.com/sites/forbesinsights/2020/04/22/building-a-virtual-selling-channels/?sh=7322f34521b7> (Last Accessed 14th December 2020).
- Eisingerich, A. B., Marchand, A., Fritze, M. P., & Dong, L. (2019). Hook vs. hope: How to enhance customer engagement through gamification. *International Journal of Research in Marketing*, 36(2), 200–215.
- Etherington, D. (2019). Apple is now the privacy-as-a-service company. <https://techcrunch.com/2019/06/03/apple-is-now-the-privacy-as-a-service-company/> (Last accessed 14th December 2020).
- Farrokhi, A., Shirazi, F., Hajli, N., & Tajvidi, M. (2020). Using artificial intelligence to detect crisis related to events: Decision making in B2B by artificial intelligence. *Industrial Marketing Management*, 91, 257–273.
- Fearon, C., McLaughlin, H., & Jackson, S. (2014). Measuring and evaluating IS expectations and benefit success from B2B electronic trading: a new survey approach. *Behaviour & Information Technology*, 33(4), 308–317.
- Feng, X., Li, Y., Lin, X., & Ning, Y. (2020). Mobile targeting in industrial marketing: Connecting with the right businesses. *Industrial Marketing Management*, 86, 65–76.
- Friedrich, J., Becker, M., Kramer, F., Wirth, M., & Schneider, M. (2020). Incentive design and gamification for knowledge management. *Journal of Business Research*, 106, 341–352.
- Friend, S. B., Malshe, A., & Fisher, G. J. (2020). What drives customer re-engagement? The foundational role of the sales-service interplay in episodic value co-creation. *Industrial Marketing Management*, 84, 271–286.
- Gartner. (2017). Top security predictions for 2017. <https://www.gartner.com/smarterwithgartner/7-top-security-predictions-for-2017/>. <https://www.gartner.com/newsroom/id/378496>.
- Godfrey Team. (2017). Designing A B2b marketing performance dashboard. <https://www.godfrey.com/insights/analytics/designing-a-b2b-marketing-performance-dashboard> (Last accessed 14th December 2020).
- Hamari, J., & Koivisto, J. (2013). Social motivations to use gamification: an empirical study of gamifying exercise. In *Proceedings of the 21st European Conference on Information Systems, Utrecht, Netherlands, June 5–8, 2013*.
- Hamari, J., Koivisto, J., & Sarsa, H. (2014, January). In *Does gamification work?—a literature review of empirical studies on gamification* (pp. 3025–3034). IEEE.
- Hense, J., Klevers, M., Sailer, M., Horenburg, T., Mandl, H., & Günthner, W. (2013). In *Using gamification to enhance staff motivation in logistics* (pp. 206–213). Cham: Springer.
- Hilken, T., de Ruyter, K., Chylinski, M., Mahr, D., & Keeling, D. I. (2017). Augmenting the eye of the beholder: exploring the strategic potential of augmented reality to enhance online service experiences. *Journal of the Academy of Marketing Science*, 45(6), 884–905.
- Hilken, T., Keeling, D. I., de Ruyter, K., Mahr, D., & Chylinski, M. (2020). Seeing eye to eye: social augmented reality and shared decision making in the marketplace. *Journal of the Academy of Marketing Science*, 48(1), 143–164.
- Hofacker, C. F., de Ruyter, K., Lurie, N. H., Manchanda, P., & Donaldson, J. (2016). Gamification and mobile marketing effectiveness. *Journal of Interactive Marketing*, 34, 25–36.
- Högborg, J., Hamari, J., & Wästlund, E. (2019). Gameful experience questionnaire (GAMEFULQUEST): An instrument for measuring the perceived gamefulness of system use. *User Modeling and User-Adapted Interaction*, 29(3), 619–660.
- Houlihan, M. (2002). Tensions and variations in call centre management strategies. *Human Resource Management Journal*, 12(4), 67–85.
- Huang, M. H., & Rust, R. T. (2020). Engaged to a robot? The role of AI in service. *Journal of Service Research*. <https://doi.org/10.1177/1094670520902266>.
- Huxham, C., & Vangen, S. (2004). Realizing the advantage or succumbing to inertia? *Organizational Dynamics*, 33(2), 190–201.
- Iriarte, I., Hoveskog, M., Justel, D., Val, E., & Halila, F. (2018). Service design visualization tools for supporting servitization in a machine tool manufacturer. *Industrial Marketing Management*, 71, 189–202.
- Kalvenes, J., & Basu, A. (2006). Design of robust business-to-business electronic marketplaces with guaranteed privacy. *Management Science*, 52(11), 1721–1736.
- Kamp, B., Ochoa, A., & Diaz, J. (2017). Smart servitization within the context of industrial user–supplier relationships: Contingencies according to a machine tool manufacturer. *International Journal on Interactive Design and Manufacturing*, 11(3), 651–663.
- Kauffmann, E., Peral, J., Gil, D., Ferrández, A., Sellers, R., & Mora, H. (2020). A framework for big data analytics in commercial social networks: A case study on sentiment analysis and fake review detection for marketing decision-making. *Industrial Marketing Management*, 90, 523–537.
- Keeling, D. I., Daryanto, A., de Ruyter, K., & Wetzels, M. (2013). Take it or leave it: Using regulatory fit theory to understand reward redemption in channel reward programs. *Industrial Marketing Management*, 42(8), 1345–1356.
- Kloberdanz, K. (2017). *Looking smart: Augmented reality is seeing real results in industry*. GE Reports, May, 25.
- Koivisto, J., & Hamari, J. (2019). The rise of motivational information systems: A review of gamification research. *International Journal of Information Management*, 45, 191–210.
- Kowalkowski, C., Gebauer, H., & Oliva, R. (2017). Service growth in product firms: Past, present, and future. *Industrial Marketing Management*, 60, 82–88.
- Kowalkowski, C., & Ulaga, W. (2017). *Service strategy in action: A practical guide for growing your B2B service and solution business*. Service Strategy Press.
- Krush, M. T., Agnihotri, R., Trainor, K. J., & Nowlin, E. L. (2013). Enhancing organizational sensemaking: An examination of the interactive effects of sales capabilities and marketing dashboards. *Industrial Marketing Management*, 42(5), 824–835.

- Kumar, V., Rajan, B., Venkatesan, R., & Lecinski, J. (2019). Understanding the role of artificial intelligence in personalized engagement marketing. *California Management Review*, 61(4), 135–155.
- Lam, S. K., Sleep, S., Hennig-Thurau, T., Sridhar, S., & Saboo, A. R. (2017). Leveraging frontline employees' small data and firm-level big data in frontline management: An absorptive capacity perspective. *Journal of Service Research*, 20(1), 12–28.
- LaValle, S., Lesser, E., Shockley, R., Hopkins, M., & Kruschwitz, N. (2011). Big data, analytics and the path from insights to value. *MIT Sloan Management Review*, 52(2), 21–32.
- Leclercq, T., Hammedi, W., & Poncin, I. (2018). The boundaries of gamification for engaging customers: Effects of losing a contest in online co-creation communities. *Journal of Interactive Marketing*, 44, 82–101.
- Leclercq, T., Poncin, I., & Hammedi, W. (2020). Opening the black box of gameful experience: Implications for gamification process design. *Journal of Retailing and Consumer Services*, 52, 101882.
- Lee, J., Kao, H. A., & Yang, S. (2014). Service innovation and smart analytics for industry, 4.0 and big data environment. *Procedia CIRP*, 16, 3–8.
- Levine, M. (2006). *Levine and Shefner's fundamentals of sensation and perception (3rd edn)*. Oxford: Oxford University Press.
- Lin, Y.-T., Doong, H.-S., & Eisingerich, A. B. (2020). Avatar design of virtual salespeople: Mitigation of recommendation conflicts. *Journal of Service Research*. <https://doi.org/10.1177/1094670520964872>.
- Loureiro, S. M. C., Guerreiro, J., Eloy, S., Langaro, D., & Panchapakesan, P. (2019). Understanding the use of virtual reality in marketing: A text mining-based review. *Journal of Business Research*, 100, 514–530.
- Markets and Markets. (2020). Gamification Market by Component (Solution and Services), Deployment (Cloud and On-premises), Organization Size (SMEs and Large Enterprises), Application, End-User (Enterprise-Driven and Consumer-Driven), Vertical, and Region - Global Forecast to 2025. <https://www.marketsandmarkets.com/Market-Reports/gamification-market-991.html> (Last accessed 13th December 2020).
- Martínez-López, F. J., & Casillas, J. (2013). Artificial intelligence-based systems applied in industrial marketing: An historical overview, current and future insights. *Industrial Marketing Management*, 42, 489–495.
- McKinsey. (2020). The Next Normal: How companies and leaders can reset for growth beyond coronavirus (Special Collection). <https://www.mckinsey.com/featured-insights/coronavirus-leading-through-the-crisis> (Last accessed 13th December 2020).
- Meyer, J. H., De Ruyter, K., Grewal, D., Cleeren, K., Keeling, D. I., & Motyka, S. (2020). Categorical versus dimensional thinking: Improving anti-stigma campaigns by matching health message frames and implicit worldviews. *Journal of the Academy of Marketing Science*, 48(2), 222–245.
- Mialki. (2019). <https://instapage.com/blog/b2b-personalization>.
- Miller, A., & Cioffi, J. (2004). Measuring marketing effectiveness and value: The Unisys marketing dashboard. *Journal of Advertising Research*, 44(3), 237–243.
- Mollick, E. R., & Rothbard, N. (2013). *Mandatory fun: Gamification and the impact of games at work*. The Wharton School Research Paper Series.
- Morgan, N. A., Clark, B. H., & Gooner, R. A. (2002). Marketing productivity, marketing audits, and systems for marketing performance assessment: Integrating multiple perspectives. *Journal of Business Research*, 55(5), 363–375.
- Müller-Stewens, J., Schlager, T., Häubl, G., & Herrmann, A. (2017). Gamified information presentation and consumer adoption of product innovations. *Journal of Marketing*, 81(2), 8–24.
- Negash, S., & Gray, P. (2008). Business intelligence. In *Handbook on decision support systems 2* (pp. 175–193). Berlin, Heidelberg: Springer.
- Ng, I., Parry, G., Smith, L., Maull, R., & Briscoe, G. (2012). Transitioning from a goods dominant to a service-dominant logic: Visualising the value proposition of Rolls-Royce. *Journal of Service Management*, 23(3), 416–439.
- Okazaki, S., Eisend, M., Plangger, K., de Ruyter, K., & Grewal, D. (2020). Understanding the strategic consequences of customer privacy concerns: A meta-analytic review. *Journal of Retailing*. <https://doi.org/10.1016/j.jretai.2020.05.007>.
- Ollila, S., & Yström, A. (2016). Exploring design principles of organizing for collaborative innovation: The case of an open innovation initiative. *Creativity and Innovation Management*, 25(3), 363–377.
- Ostrom, A. L., Parasuraman, A., Bowen, D. E., Patricio, L., & Voss, C. (2015). Service research priorities in a rapidly changing context. *Journal of Service Research*, 19(2), 127–159.
- Paas, F., Tuovinen, J. E., Tabbers, H., & van Gerven, P. W. (2003). Cognitive load measurement as a means to advance cognitive load theory. *Educational Psychologist*, 38(1), 63–71.
- Palmatier, R. W., & Martin, K. D. (2019). *The intelligent marketer's guide to data privacy: The impact of big data on customer trust*. Springer.
- Pantazos, K., Lauesen, S., & Vatrapu, R. (2013, June). End-user development of information visualization. In International symposium on end user development (pp. 104–119). Springer, Berlin, Heidelberg.
- Patricio, R., Moreira, A., Zurlo, F., & Melazzini, M. (2020). Co-creation of new solutions through gamification: A collaborative innovation practice. *Creativity and Innovation Management*, 29(1), 146–160.
- Patterson, L. (2007). Case study: Taking on the metrics challenge. *Journal of Targeting, Measurement and Analysis for Marketing*, 15(4), 270–276.
- Pauwels, K., Ambler, T., Clark, B. H., LaPointe, P., Reibstein, D., Skiera, B., & Wiesel, T. (2009). Dashboards as a service: Why, what, how, and what research is needed? *Journal of Service Research*, 12(2), 175–189. <https://doi.org/10.1177/1094670509344213>.
- Plangger, K., Montecchi, M., Danatzis, I., Etter, M., & Clement, J. (2020). Strategic enablement investments: Exploring differences in human and technological knowledge transfers to supply chain partners. *Industrial Marketing Management*, 91, 187–195.
- Porter, M. E., & Heppelmann, J. E. (2017). *Why every organization needs an augmented reality strategy*. HBR'S 10 MUST, 85.
- Prohl, K., & Kleinaltenkamp, M. (2020). Managing value in use in business markets. *Industrial Marketing Management*. <https://doi.org/10.1016/j.indmarman.2020.03.017>.
- Raddats, C., Kowalkowski, C., Benedettini, O., Burton, J., & Gebauer, H. (2019). Servitization: A contemporary thematic review of four major research streams. *Industrial Marketing Management*, 83, 207–223.
- de Regt, A., Barnes, S. J., & Plangger, K. (2020). The virtual reality value chain. *Business Horizons*, 63(6), 737–748.
- Reihlen, M., & Ringberg, T. (2006). Computer-mediated knowledge systems in consultancy firms: Do they work. *Research in the Sociology of Organizations*, 24, 307–336.
- Research and Markets. (2019). Virtual reality market by segment (consumer, enterprise, industrial, government), equipment (hardware, software, components), applications, and solutions 2019 e 2024. <https://www.researchandmarkets.com/reports/4806542/virtual-realitymarket-by-segment-2019-2024> (Last accessed 14th December 2020).
- Russo, M., & Feng, T. (2020). What B2B Can Learn from B2C About Data Privacy and Sharing. <https://www.bcg.com/publications/2020/imperative-of-data-privacy-plans-for-b2b-companies-part-4> (Last accessed 14th December 2020).
- de Ruyter, K., Keeling, D. I., & Cox, D. (2019). Customer-supplier relationships in high technology markets 3.0. *Industrial Marketing Management*, 79, 94–101.
- Rydén, P., Ringberg, T., & Jacobsen, P. O. (2017). *Disrupt your mindset to transform your business with Big Data: a guide to strategic thinking* (1st ed.). Efficiens.
- Salminen, J., Jansen, B. J., An, J., Kwak, H., & Jung, S.-G. (2018). Are personas done? Evaluating the usefulness of personas in the age of online analytics. *Persona Studies*, 4(2), 47–65.
- Schunk, D., Pintrich, P., & Meece, J. (2007). *Motivation in education: theory, research, and applications*. NY: Prentice Hall.
- Shah, P., & Hoeflner, J. (2002). Review of graph comprehension research: implications for instruction. *Educational Psychology Review*, 14(1), 47–69.
- Shpakova, A., Dörfler, V., & MacBryde, J. (2016, June). The role (s) of gamification in knowledge management. In EURAM 2016: 16th Annual Conference of the European Academy of Management (pp. 1–40).
- Sweller, J. J., van Merriënboer, J., & Paas, F. G. (1998). Cognitive architecture and instructional design. *Educational Psychology Review*, 10(3), 251–296.
- Syam, N., & Sharma, A. (2018). Waiting for a sales renaissance in the fourth industrial revolution: Machine learning and artificial intelligence in sales research and practice. *Industrial Marketing Management*, 69, 135–146.
- Taufique Hossain, T. M., Akter, S., Kattiyapornpong, U., & Dwivedi, Y. (2020). Reconceptualizing integration quality dynamics for omnichannel marketing. *Industrial Marketing Management*, 87, 225–241.
- Townsend, C., & Kahn, B. (2014). The “Visual Preference Heuristic”: The influence of visual versus verbal depiction on assortment processing, perceived variety, and choice overload. *Journal of Consumer Research*, 40, 993–1015.
- Troisi, O., Maione, G., Grimaldi, M., & Loia, F. (2020). Growth hacking: Insights on data-driven decision-making from three firms. *Industrial Marketing Management*, 90, 538–557.
- Udo, G. J. (2001). Privacy and security concerns as major barriers for e-commerce: a survey study. *Information Management & Computer Security*, 9(4), 165–174.
- Weick, K. E. (2014). *Educational organizations loosely coupled systems. Part 1-9*. Babson University; Administrative Science Quarterly.
- Weick, K. E., Sutcliffe, K. M., & Obstfeld, D. (2005). Organizing and the process of sensemaking. *Organization Science*, 16(4), 409–441.
- Weiner, J., Venugopal, B., & Tanniru, M. (2015). Integrating strategic and operational decision making using data-driven dashboards: The case of St. Joseph Mercy Oakland Hospital. *Journal of Healthcare Management*, 60(5), 319–330.
- IBM. (2019). What's new in the 2019 cost of a data breach report. <https://securityintellgence.com/posts/whats-new-in-the-2019-cost-of-a-data-breach-report/> (Last accessed 14th December 2020).
- Wunderlich, N. V., Gustafsson, A., Hamari, J., Parvinen, P., & Haff, A. (2020). The great game of business: Advancing knowledge on gamification in business contexts. *Journal of Business Research*, 106, 273–276.
- Wunderlich, N. V., Wangenheim, F. V., & Bitner, M. M. (2012). High tech and high touch: A framework for understanding user attitudes and behaviors related to smart interactive services. *Journal of Service Research*, 16(1), 3–20.
- Yigitbasoglu, O., & Velcu, O. (2012). A review of dashboards in performance management: Implications for design and research. *International Journal of Accounting Information Systems*, 13, 41–59.
- Zhang, C., Phang, C. W., Wu, Q., & Luo, X. (2017). Nonlinear effects of social connections and interactions on individual goal attainment and spending: Evidences from online gaming markets. *Journal of Marketing*, 81(6), 132–155.