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and technology**

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“Sustainable Business Models: Integrating Employees, Customers and Technology”

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This Special Issue of the *Journal of Business & Industrial Marketing* has the same title as the 23rd International Conference CBIM 2018 (June 18-20, 2018, Madrid, Spain) ***“Sustainable Business Models: Integrating Employees, Customers and Technology”***. In this edition of International Conference, following a competitive blind review process, papers from 126 authors and 25 countries were ultimately accepted. The best papers of the Conference were invited to submit to this Special Issue and we were also open to direct submissions from other authors.

We present here the 17 accepted papers for publication in this Special Issue. We expected to receive studies that, from a practical approach, paid particular attention to practitioners' problems, connecting marketing research and the real business world (Mora Cortez & Johnston, 2017). We sought contributions that helped to understand the importance of sustainable business models, and, in particular, how they can be supported by the integration of employees, customers and technology. Such integration should foster value creation in a sustainable way, capturing value with profitability and sharing value with a positive contribution to society without compromising future generations (Elkington, 1998). Business models describe the basis upon which the firm creates, provides and captures value (Osterwalder and Pigneur, 2010) and sustainable business models should create value for multiple stakeholders (Baldassarre et al., 2017).

In fact, the integration of employees, customers and technology has been identified as one of the main research topics in the near future (Ostrom et al., 2015), as value is created by inputs from multiple actors. Resource integration is something that should be achieved (Kleinaltenkamp et al., 2012) and the level of complexity requires the right balance between roles and resources. Consequently, it is an important proposition that this debate should be addressed in the B2B context.

Employees

The crucial role of employees and internal marketing has been highlighted in their role of keeping marketing promises (Grönroos, 2011). A logical consequence is Internal Market Orientation (IMO) (Lings, 2004; Gounaris, 2008; Ruizalba et al., 2014), which facilitates job satisfaction and commitment with the subsequent expected positive impact on customer satisfaction and on business performance. IMO can also align people and businesses and assure the development of marketing capabilities (Day, 2011) needed to offer better solutions to customers.

Industrial firms are being more focused on servitisation (Martín-Peña et al., 2017) and the delivery of advanced services (Baines and Lightfoot, 2013) that require new marketing capabilities (Day, 2011) and a better hiring and training of employees.

Customers

It is increasingly evident that the customer not only wants a better product or service, but better prices of even better quality. At the end of the day, what they seek are solutions (Nordin and Kowalkowski, 2010). If someone solves their problem in a better manner, the possibilities of shifting as clients to another company will be substantially increased.

In this context, the business customer is not just a mere spectator. Moreover, they are actively involved in the processes of co-creation of value and in the design of products and services. They can also become the ambassador of the brand and sometimes its fustigator, thanks to the growing power of social networks. In this sense, e-WOM progressively escapes the control of companies and becomes an increasingly powerful new performance indicator.

All in all, customers increasingly have a more important role in business market relations and there is still much to be studied in relation to their integration in the co-creation of value and, in particular, in the co-design of services and businesses. In this sense, the customer dominant logic (CDL) (Heinonen et al., 2010) can help to understand the fundamental role of customers and also to involve them in a structured process of new service development (Alam and Perry, 2002).

Technology

Technology plays an essential role in increasing customer value, facilitating smart services, making delivery more efficient and deepening relationships with customers (Penttinen and Palmer, 2007). Technology allows improving of processes and a better integration of customers and employees in the design and execution of business processes.

Thus, technology becomes a critical value for the industry. Digitalisation and interconnection, information, Big Data, remote control, or cybersecurity, all make industrial production a flexible manufacturing. This allows greater closeness between the client and the business, giving rise to products and services with a high degree of individualisation, which leads to greater customer satisfaction. The result is a close link between the production of goods and the generation of services.

There is no doubt that technology goes further and allows advances as important as the Internet of Things, which opens the door to machine-to-machine interactions. If we add the processes of machine learning and we look at Artificial Intelligence (AI), we will see that the challenges that companies face are enormous. The role of technology is no longer a mere integrator of resources and more and more attention is being given to processes that facilitate the integration of human teams, machines and intelligent systems, in what some authors term collective intelligence (Malone, 2018). This also raises the role of AI and, in particular, how it will redefine the role of managers (Kolbjørnsrud et al., 2016).

Articles in this Special Issue

This Special Issue has addressed relevant research questions regarding those challenges. Theoretical and empirical papers, applying both qualitative and quantitative methodologies, have contributed with high quality studies. Attention to practitioners' issues and implications are important, as the *Journal of Business & Industrial Marketing* enjoys readership from both practitioner and academic audiences.

The *first two articles* examine the role of collaboration and coordination in business markets. In the *first paper*, “*Practising innovation in the healthcare ecosystem: The agency of third-party actors*”, Russo-Spena and Mele investigate new mediating actors

using convergent technologies in the healthcare ecosystem. This study investigates the agency of third-party actors and their practices to innovate in the e-health context and to shape the healthcare ecosystem by exploiting digital and cognitive technologies. Third-party actors in e-health speed up change and innovation by fostering coordination and cooperation in the healthcare ecosystem. E-health third-parties are mediating actors whose agency increases resource density by shaping interactions, practices and institutions. They identify triads in the healthcare ecosystem. The third-parties agential role as intermediaries lies in fostering interactions and relationships at the actor-to-actor level (the "in-between" level) and the collective level (the "many-to-many" level). They suggest that it is critical for managers of health organisations to develop fruitful collaborations with these new partners in order to gain access and effective use of these technologies, and to build up a large enough user information base.

In the *second article*, "*Interfunctional coordination: the role of digitalization*", the authors Ruiz-Alba, Guesalaga, Ayestarán and Morales-Mediano investigate interfunctional coordination (IC) in a B-to-B context. If business units work without coordination in different directions, this can generate conflicting goals and make the units, in fact, work as silos. That situation can generate visible clashes, but also there is a risk of invisible problems in the form of hidden costs and negative implications for customers. More specifically, they investigate the barriers and enablers of IC in B2B markets and the role of digitalisation as a strategic driver for an effective IC. The themes identified are: information exchange, collaboration and best practices. The drivers for IC identified are: digitalisation, technology, processes, culture, alignment of interests, agility, attitude, motivation, and empowerment. They found that digitalisation can enhance IC, but also they expose surprising findings: a) negative side effects of digitalisation; b) saturation of information; c) work in silos and conflicts of interests and d) lack of integration of customers as well as the main enablers and barriers for IC.

The *following two papers* are about the role of employees and leadership. The article "*Frontline Employees' Motivation to Align with Value Propositions*" by Liewendahl and Heinonen advances the notion of bottom-up strategising. Bottom-up strategising posits an active role for frontline employees (FLEs) in developing value propositions. It highlights the significance of both extrinsic and intrinsic motivational modes in fostering FLEs' motivation to align with value propositions. When the content of value

propositions is clearly expressed and authentically reflects customer work practice, FLEs can easily align with the promise, in particular when FLEs co-actively participate in developing the value propositions. In so doing, bottom-up strategising promotes the congruence between service performance and made promises.

The article *“Establishing thought leadership through social media in B2B settings: effects on customer relationship performance”* by Magno and Cassia highlights the effectiveness of thought leadership strategy to strengthen customer relationships in B2B settings. In particular, it shows that, by developing relevant contents and sharing them through social media, firms can enhance their brand performance and, in turn, improve customer relationships. This is the first study, according to the authors, to provide evidence of the benefits of social media thought leadership on customer relationships in B2B.

Articles *five, six and seven* investigate the role of customers, markets and multicompetition. In their article, *“Balanced centrality and triads: strategies to reach ecosystem equilibrium in the arts sector”*, Quero, Ventura and Gummesson analyse triad structures as the smallest unit of a network in order to study its influence on the evolution into an ecosystem. In this context, “Balanced Centrality” arises as an institution that increases the possibility of such evolution. The context of the research is the arts sector and the qualitative methodology developed is based on three case studies: Sotheby’s, Patreon and Vibuk.

In the *sixth* article, entitled *“Multimarket competition and innovation in industrial markets: Spain and Colombia in comparative perspective”*, Cabanelas, Manfredi, González-Sánchez and Lampón investigate how the intense competition in current markets has fostered product innovation and market diversification as mechanisms to improve firms’ positions. The number of companies competing simultaneously across several markets has increased in a phenomenon known as multimarket competition. This study explores the incidence of multimarket competition on decision-making and, particularly, in innovation under different market conditions. The results suggest that multimarket competition does not reduce the level of aggressiveness, but it offers a background that favours opportunities for companies and new business in circumstances of crisis associated to innovation. Depending on the market contingencies, strategies can foster a higher technological innovation, in those cases of high development in the

industry, or diversification, when the development is lower. As a main theoretical contribution, this manuscript enriches multimarket competition theory with the study of innovation strategies in different market conditions, not much explored in multimarket literature.

In the article “*The importance of information service offerings of collaborative CRMs on decision-making in B2B marketing*”, Saura, Palos-Sánchez and Blanco-González investigate information as a key element for purchasing companies in B2B environments and the relationship with this information, so that B2B purchasers can make good decisions thanks to the information service offerings strategy of the selling companies using CRMs. This research analyses the information that companies make available to other B2B purchasing companies about themselves with collaborative CRMs to determine how this affects purchasing decisions in these environments.

Articles *eight and nine* address the role of technology and research with artificial neural networks. In the article “*Value formation with immersive technologies: an activity perspective*”, Nussipova, Nordin and Sörhammar contribute a framework that explains how value is formed during the usage of immersive technologies in industrial contexts. Drawing on activity theory and a customer-dominant logic, the authors tentatively develop an activity-centric framework for value formation enabled by physical and mental activities conducted by users of immersive technologies. The authors evaluate the framework through a case study focusing on the use of virtual reality (VR) in an industrial setting.

The paper “*Can artificial neural network models be used to improve the analysis of B2B marketing research data?*” by Wilson and Bettis-Outland is the only systematic evaluation of artificial neural network (ANN) models published in the B2B marketing literature. Since ANN models are part of the growing field of artificial intelligence and machine learning, they are likely to grow in their applications in B2B marketing in the future. The findings of the research provide a novel and useful perspective on the accuracy of ANN models. Model comparisons reveal that ANN models produced model predictions that are more accurate or the same as logistic regression models. Further, ANN models are found to have approximately the same accuracy as multiple regression models. Therefore, when the dependent variable is non-metric, the authors’ recommendation is to use ANN models for forecasting purposes instead of logistic

regression models. When the dependent variable is metric, ANN models are typically just as accurate as multiple regression models and, thus, either model could be used. These authors suggest that ANN models would seem to be more valuable in B2B modelling situations where pure forecasting accuracy is desired rather than when the complete details of the model need to be fully understood or explained to marketing executives.

The following *four papers* are about sustainable business models and value, networks and relationships.

The paper “*Co-creation of value-in-use through big data technology- a B2B agricultural perspective*” by Jayashankar, Johnston, Nilakanta and Burres investigates the concepts of co-creation and value-in-use with a specific focus on Big Data technology in agriculture. The authors provide a unique narrative of how farmers experience co-creation and value-in-use in monetary and non-monetary forms. This study provides insight into co-creation through direct and indirect interaction, autonomous co-creation and epistemic, monetary and environmental value-in-use in the digital agriculture sector. Interestingly, co-creation through indirect interaction gives rise to epistemic value in-use. Also, value-co-destruction can undermine co-creation, while relational actors and the concept of psychological ownership are very relevant to the process of co-creation.

In the *article “Port marketing as manifestation of sustainable marketing in a B2B context”*, Lavissière, Mandják, Hofmann and Fedi, investigate how the port sustainability can be achieved through and by a port community and, to the best of the authors’ knowledge, this is the first study to define how the concept of a holistic port community functions. From the business marketing point of view, the article presents a relational view, applying the extensive network theory to discuss the complex problems of seaports, which are clearly under researched in the business (and international) marketing research.

The article “*Future direction of sustainable development in private hospitals: general similarities and specific differences*” by Rodríguez, Svensson and Otero-Neira assesses the future direction of sustainable development in the healthcare industry. This study reveals general similarities and specific differences between private hospitals as

enablers or hinderers of sustainable development. The authors claim that hospitals are usually considered as analogous; however, while they have similarities, they also have great differences. Each private hospital is a different organisation with, among them, different degrees of sustainable orientation and implementation. This paper highlights this condition in an understudied sector.

The study “*How to recover B2B relationships after a failed online reverse auction*” by Mora Cortez and Johnston explores the possible scenarios after a failed reverse auction to continue a current buyer–seller relationship. The authors develop a further understanding of reverse auctions through the examination of a longitudinal case study in the mining industry based on grounded theory. One of the main findings is that losing a reverse auction is not a death sentence for the current supplier. Four factors influence the potential scenarios: buyer factors, supplier factors, buyer–seller factors and contextual factors. If the overall evaluation favours the current buyer–seller relationship, the supplier can continue the business interaction by full renegotiation or discrete step-by-step reconsideration. Conversely, the buyer–seller relationship would reach a state of dissolution.

The topic of servitisation is investigated in papers *fourteen* and *fifteen* of this Special Issue. In that sense, in the article “*Servitization and digitalization in manufacturing: the influence on firm performance*”, Martín-Peña, Sánchez-López and García-Garrido analyse the relationship between servitisation, the adoption of digital technologies in manufacturing, and their effect on firm performance. The paper contributes to the theory on service strategy by providing an analysis model that includes digitalisation as a mediator of the relationship between servitisation and firm performance. Digitalisation may provide a mechanism to unlock the benefits of servitisation and, thereby, enhance firm performance.

The article “*Design of services in servitized firms: gamification as an adequate tool*” by García-Magro and Soriano-Pinar broadens the debate on how to integrate service design into servitisation processes. A development model based on gamification is presented, under the consideration that service design is a human-centred approach. The knowledge of servitisation is extended by considering gamification in the design phase of the service.

Paper sixteen, “*Leaders in industrial marketing research: 25 years of analysis*”, is a bibliometric study wherein the authors, Valenzuela-Fernández, Merigó, Nicolas and Kleinaltenkamp investigate the evolution of industrial marketing reviewing the contribution of several scientific journals over 25 years (1992-2016). The authors rank the most influential Journals regarding industrial marketing according to their h-index, ranking of quinquennial, who cited who, self-citations by Journals and keywords analysis using bibliometric techniques. Moreover, the authors use visualisation of similarities (VOS) viewer software for constructing and visualising bibliometric networks in leading Journals, publications and keywords with bibliographic coupling and co-citation analysis. Therefore, this article contributes to this discipline by exposing authors, editors, academic institutions, publishers and other interested groups in industrial marketing because it makes available a global and current picture that could be used to make decisions about publishing strategies and Journals’ positions.

Finally, in article *seventeen*, “*A conceptualization of corporate social (ir)responsibility and moral intensity in the supply chain*”, Ferguson, Brown and Boyd investigate corporate social irresponsibility (CSI) within the supply chain. The discussion focuses on the social component of social responsibility and explores its effects on end-users. Moreover, this paper presents moral intensity, a construct introduced in the ethics literature, as a potential guide to managers who struggle to navigate the grey area between corporate social responsibility (CSR) and CSI. The study conceptualises CSI within the supply chain and offers a framework and propositions for understanding and preventing irresponsible behaviour from a moral intensity perspective. They suggest that the moral intensity can be a useful framework with a normative approach and with the potential to guide managers who face choices involving decisions that might lead to irresponsible behaviour in interorganisational settings.

Conclusion

Integrating employees, customers and technology is an immense challenge that most firms are experiencing nowadays in business markets. Authors in this Special Issue have contributed, from different perspectives, to shed light on how this integration can be done and how this can help to develop sustainable business models.

We hope that readers will enjoy reading this issue and will find it useful and inspiring for their future research ventures.

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