

Open, networked and dynamic innovation in the food and beverage industry

This special issue of the *British Food Journal* encompasses several topics related to innovation in the food and beverage (F&B) industry and should provide a management-related stimulus for future research.

In the last decade, the open innovation paradigm has aroused considerable interest, in both the academic and the industrial world (Chesbrough, 2003). However, studies on this topic have mainly focussed on certain industries, such as high-tech (Vrontis *et al.*, 2017). Despite the maturity of the F&B sector, there are still relatively few studies of F&B companies engaging in this innovation approach (Sarkar and Costa, 2008; Lefebvre *et al.*, 2015). However, changes in the business environment within the F&B industry are influencing the way firms organize their innovation activities (Bresciani *et al.*, 2016; Vrontis *et al.*, 2016) forcing firms to consider internal vs external dilemmas in the organization of their innovation activities. As highlighted in the call for paper and in other prior research in the open innovation field, the shortening of the products lifecycle, digitalization, the changes in consumers' taste and needs and other relevant factors, call for a new open and networked approach to accelerate innovation and reduce risks (Bigliardi and Galati, 2013). This is confirmed by the fact that the external environment and the network that F&B firms build outside their own boundaries are particularly important (Lefebvre *et al.*, 2015; Castellano and Khelladi, 2016). In this timely special issue, the papers specifically address emerging trends in open, networked and dynamic innovation in the F&B industry, utilizing qualitative and quantitative analysis as well as more conceptual research.

The papers collected in this issue have been produced by 13 authors spanning a range of countries such as Italy, Cyprus, Denmark, UK and Liechtenstein and they address, within the F&B context, topics such as ideas and knowledge generation, new product development (NPD) processes, marketing strategies and branding activities. Overall, these papers explicitly or implicitly refer to the open innovation paradigm in the F&B industry highlighting some key relevant factors that can fertilize other streams of research such as family business networks or business models (BM) (Bigliardi and Galati, 2013; Del Giudice and Maggioni, 2014; Broccardo *et al.*, 2015). In general, these papers can be divided into four main groups that are related to different sub-topics in the F&B industry research: family firm innovation; BM innovation; co-creation with costumers; and mapping of new fields and systematization of the literature.

The first paper included in the special issue is "Wine, family businesses and web: marketing strategies to compete effectively" written by Lea Iaia, Paola Scorrano, Monica Fait and Federica Cavallo and investigates the web marketing strategies used by family wine businesses. The results from a sample of family-run Italian wineries highlight that wineries use their websites mainly in an informative perspective and as a relational tool through "edutainment" activities while they are still neglecting the potential of e-commerce. At the same time, the research provides an evaluation model to effectively organize the websites' contents considering and customizing these essential elements with the brand's specific details.

The second paper, written by Elisa Giacosa, Alberto Ferraris and Filippo Monge is focussed on how a medium-sized company operating in the food sector strengthens its BM



thanks to a combination of tradition and innovation. The authors deeply analyse this family food firm in order to comprehend how it achieves and sustains a competitive advantage in a mature industry through a careful balance of both new products and processes and the adherence to the traditions of the firm and of the territory.

The third paper authored by Marcel Bogers and Jørgen Dejmård Jensen, reports an interesting analysis of the BM innovation in the gastronomic sector in Denmark. The paper explores BM active in the gastronomic industry and assesses where there may be opportunities (and limitations) for innovation. The results highlight a multitude of alternative BM (and different characteristics of them) in terms of customer value creation, segmentation and resource utilization, highlighting at the same time different degrees of BM openness.

The fourth paper is “Business model configuration and dynamics for technology commercialization in mature markets” authored by Serena Flammini, Gabriella Arcese, Maria Claudia Lucchetti and Letizia Mortara. The authors build a conceptual framework that knits together the different bodies of extant literature related to open and collaborative BM innovation in the F&B industry. Then, they determine the suitability of this framework using data from an exploratory case study of ISIT3D (a firm which has started to exploit 3D printing in the food industry). They conclude with an improvement to the initial conceptual framework based on the findings that emerged from the case study. With regard to BM innovation the originality of the paper lies mainly on how firms could innovate the processes of BM development to face uncertainties linked with their entry into a mature and highly conservative industry.

The fifth paper authored by Giuseppe Tarivo, Alkis Thrassou, Milena Viassone and Francesca Serravalle is “Value co-creation in the beverage and food industry” and it aims to define and describe how consumers may constitute an integral part of the small and medium enterprises’ (SMEs) value co-creation process through a multiple case study design. Results show an increasing awareness by firms of the important role played by customers in value co-creation, highlighting and finding evidence of many and different specific roles in F&B SMEs.

The main objective of the sixth paper “External knowledge sourcing and new product development: evidence from the Italian food and beverage industry” by Gabriele Santoro, Alberto Pastore and Demetris Vrontis is to analyse; the role of external knowledge in the innovation process and the effects of two external knowledge sourcing modes on NPD performance. Empirical analysis suggest that F&B firms actively engage in open innovation with strong ties with market-based sources with positive effects on income from incremental innovations and the time to market, while science-based sources are positively associated with income from radical innovations.

The seventh paper written by Mariantonietta Fiore, Crescenzo Gallio, Evangelos Tsoukatos and Piermichele La Sala titled “Predicting consumer healthy choices regarding type 1 wheat flour” has two main objectives. The first one is to investigate the attributes of wheat flour known to consumers while the second one is to implement a predictive innovative model of purchasing that allows the making of correct decisions without the necessary experience of a living human expert. Regarding the first, consumers seem to be willing to pay a price for “type 1” wheat flour that is four times higher than the price related to the basic types of wheat flour. Regarding the second, the authors developed a Confusion Matrix and Rejection rate curve in order to predict consumer behavior through algorithms.

The eighth paper written by Antonio Galati, Maria Crescimanno, Salvatore Tinervia, Constantine Iliopoulos and Irini Theodorakopoulou has the objective to identify distinct organizational models in SMEs wineries and to investigate the key factors enabling a superior export success. Using a sample of 102 Italian wineries, the results of this analysis

show the main factors in achieving international market success to be: a larger physical and economic size, a longer experience in the international market, entrepreneurs-owners that are highly educated and proficient in foreign language, and the implementation of voluntary certifications. This paper highlights a more closed approach emphasizing the importance of the possession of internal resources as tools to increase wine companies' competitiveness.

The main objective of the ninth paper authored by Shah Satya and Ganji Elmira Naghi is to investigate the impacts of lean production methods and supply chain innovations of service-based industries through the study of local baked foods suppliers. Using semi-structured questionnaires, the authors gathered data from three different companies, a baked goods manufacturer, a café purchasing the baked foods products and the end users, hence covering the overall supply chain cycle. Results suggested that lean production methods such as Just-in-time had a higher impact in the improvement of performance levels. At the same time, the authors identified the major problems in the full implementation of lean practices faced by the baked food companies.

The tenth paper authored by Erica Varese and Paola Cane is "From space food research and innovation to immediate advantages for Earth eating habits. An aerospace – food producer company case study". This original paper aims at analysing how the innovation strategies carried out by a firm that operates in aerospace food production can also be applied to food suitable to be eaten on planet Earth. Through a single case study methodology, the authors analyse the products and processes of the Argotec company, highlighting how it is responsible for the development and supply of space food for European astronauts onboard the International Space Station. They also indicate its ability to exploit knowledge created in this field to innovate ordinary "ready-to-eat" meals for terrestrial consumers.

The eleventh paper, written by Simona Alfiero, Agata Lo Giudice and Alessandro Bonadonna, is "Street food and innovation: the food truck phenomenon". Through a sample of 41 food trucks in the North-West of Italy, the authors analysed the characteristics of food trucks and evaluated their efficiency performance utilizing output-oriented data envelopment analysis. This pioneer study demonstrated differences between the "Traditional Food Truck" and "Gourmet Food Truck". The first category was more efficient than the second and, at the same time, it confirmed that innovation is an important key to achieve competitive advantage in this young subsector of the food industry.

The 12th paper, written by Nicola Miglietta, Enrico Battisti and Francesco Campanella, investigated the adoption of an open innovation model in F&B listed companies in the USA. The authors underlined companies that over the past 50 years have systematically increased dividend and have beaten the market (Standard & Poor's 500). All the F&B companies identified adopt an open innovation approach, highlighting the relevance of this phenomenon in this mature industry. The originality of this work relies on the link between value maximization (and Dividend Champions) and open innovation.

Finally, the main objective of the 13Th paper written by Ana Procopio Schoentitled "Openness and collaboration in the food sector: mapping the field" is to analyse, through a literature review, the complexity and heterogeneity of innovation under the collaborative and open innovation umbrella in the F&B sector. On one hand, the categorization of the publications shows that topics such as the role of networks, innovation systems, user-innovation and R&D alliances have currently attracted most attention but there is still a need for a more comprehensive investigation. On the other hand, mind-set and managerial capabilities, cross-industry partnerships, converging value chains and globalization of innovation, among others, are topics that need a stronger further development.

References

- Bigliardi, B. and Galati, F. (2013), "Models of adoption of open innovation within the food industry", *Trends in Food Science & Technology*, Vol. 30 No. 1, pp. 16-26.
- Bresciani, S., Ferraris, A., Santoro, G. and Nilsen, H.R. (2016), "Wine sector: companies' performance and green economy as a means of societal marketing", *Journal of Promotion Management*, Vol. 22 No. 2, pp. 251-267.
- Broccardo, L., Giacosa, E. and Ferraris, A. (2015), "The family variable in the wine sector: an Italian perspective", *International Journal of Management Practice*, Vol. 8 No. 3, pp. 199-215.
- Castellano, S. and Khelladi, I. (2016), "How French wine producers use open innovation to gain and manage their legitimacy", *Journal of the Knowledge Economy*, Vol. 7 No. 1, pp. 155-171.
- Chesbrough, H.W. (2003), *Open Innovation: The New Imperative for Creating and Profiting From Technology*, Harvard Business School Press, Boston, MA.
- Del Giudice, M. and Maggioni, V. (2014), "Managerial practices and operative directions of knowledge management within inter-firm networks: a global view", *Journal of Knowledge Management*, Vol. 18 No. 5, pp. 841-846.
- Lefebvre, V.M., De Steur, H. and Gellynck, X. (2015), "External sources for innovation in food SMEs", *British Food Journal*, Vol. 117 No. 1, pp. 412-430.
- Sarkar, S. and Costa, A.I. (2008), "Dynamics of open innovation in the food industry", *Trends in Food Science & Technology*, Vol. 19 No. 11, pp. 574-580.
- Vrontis, D., Bresciani, S. and Giacosa, E. (2016), "Tradition and innovation in Italian wine family businesses", *British Food Journal*, Vol. 118 No. 8, pp. 1883-1897.
- Vrontis, D., Thrassou, A., Santoro, G. and Papa, A. (2017), "Ambidexterity, external knowledge and performance in knowledge-intensive firms", *The Journal of Technology Transfer*, Vol. 42 No. 2, pp. 374-388.

About the Editor

Stefano Bresciani received his PhD Degree in Business Administration in 2003 and worked as a Research Scholar in the ESCP-EAP, London, in the California State Polytechnic of Pomona, Los Angeles and in the Open University of Lisbon. He is currently a Visiting Professor at the University of Nicosia, and an Associate Professor in Business Management at the School of Management and Economics, University of Torino, where he teaches Innovation Management. He undertakes research integrated with the Department of Management of the University of Torino. His main areas of research include innovation management, international business and open innovation. He is the Vice President of the EuroMed Research Business Institute (EMRBI) and Chairman of the EMRBI Research Group on "Multinational enterprises and corporate governance". He has published in many refereed journal articles, contributed chapters and books and presented papers to conferences on a global basis. Stefano Bresciani can be contacted at: stefano.bresciani@unito.it