Editorial

Alexander Brem

School of Business and Economics,
Friedrich-Alexander University of Erlangen-Nuremberg,
Lange Gasse 20, 90403 Nuremberg, Germany
E-mail: brem@idee-innovation.de

Eric Viardot*

EADA,
C/ Aragó, 204,
0811 Barcelona, Spain
E-mail: eviardot@eada.edu
*Corresponding author

Welcome to this new edition of the *IJTMKT*. At a time where the high tech industry is evolving drastically, we are glad to introduce the five papers in this edition as they are completely in line with the journal's mission and these recent developments. Each of them indeed proposes and fosters discussion on the advancement of marketing practice and theory for technology intensive products and services. More specifically they invite us to consider the marketing of technology intensive products and services in a broader perspective by considering the overall environment of the firms and beyond.

The importance of governments and their regulation is a good illustration of one of those driving external forces. Indeed, the large majority of innovative technology based products have their origin in government funded programmes, usually for military applications. Without them, there would not be today any computers, internet, or mobile phones for instance. Thus, the first article entitled 'Government role in information and communications technology innovations' provides an attractive framework to analyse the effectiveness of public policies in the area of information and communications technology (ICT). It also shows that the perception of an innovation based on the same technology can differ according to a firm's position in the value chain. As a consequence, a successful public policy must attempt a synthesis of the various views to achieve long-term public interest. The paper illustrates also how the framework can be used to evaluate and guide government interventions to promote industrial development and to identify when authorities may have to intervene so that significant resources are not wasted in standards battles or in convoluted patent disputes.

At a time where globalisation is paramount, the national culture is another external force which is often very critical in the marketing of technology-based innovative solutions, most notably for consumer markets. In this context, the second article, named 'Cross-cultural understanding of robotics – exploring the East-West divide', provides a fresh perspective about how the adoption of technology can be problematic when transferring technology from one culture to another. Based on a research made in the in healthcare industry, the author shows that differences in values and beliefs about robots

can affect the motivation for as well as the practice of using robotics. The paper develops a deep theoretical understanding of the cultural impact on robotics adoption by using a cross-cultural perspective to explain variation in priorities. Then the author discusses possible guidelines to build a strategy for introducing robotics into a culture's healthcare sector. Without doubt this paper broadens the current agenda in international technology marketing.

The third paper entitled 'Energy indices for environmental sustainability' reminds us that the natural environment is another external constraint which is getting stronger with the raise of the global warming and the weight of an increased global population on the earth's natural resources. The author states that today the energy consumption of ICTs is quite significant and will keep up growing in the coming year. Thus, energy consumption is becoming one of the key issues for the market acceptance of any technology based innovation in this sector. However, this relatively young industry lacks of accepted indices, definitions and procedures that could allow a standardised energy evaluation. The paper offers a solution with the identification of the key energy indices that allow a relevant comparison between different devices and facilitates a global evaluation of the energy consumption of the network industry as a whole. Those indices should raise awareness among stakeholders and citizens of the significant negative environmental impact of using ICTs resources. Such a paper will also pave the way for a better understanding of the relationship between the network technology and its environmental impact.

The fourth article move us from the analysis of external forces to the study of the role and importance of systematic and exhaustive product planning in order to achieve a higher performance in technology-based innovation development. The paper is entitled 'Technology push-based product planning – future markets for emerging technologies'. It examines and extends the existing theory about the opposition between the two innovation processes that are the 'technology push' and the 'market pull', which are encompassed at the fuzzy front-end of the innovation process by strategic product and technology planning. The authors state that ultimately the successful exploitation of an emerging technology's potential requires for a strategic technology push-based product planning. Based on their experience with the Heinz Nixdorf Institute, they present a method for technology push-based product planning which includes implementing iterative foresight/feedback processes between technology and market stages in order to get a strong synchronising of the technology push and market pull. Such a methodology enables the creation of innovation roadmaps, even indicating when the identified applications can be manufactured. This paper will definitely be a milestone in the product planning literature as it offers new insights on the innovation planning process for academics and practitioners.

This issue concludes with a paper which is complementing the previous one. Titled 'Complexity measurement metric for innovation implementation and product management', this fifth paper underlines the importance of having the right indicators to evaluate and manage the changes which have to be made for a technology-based product when confronted to the technology push and the market pull. In the case of the ICT industry, those two opposite and driving forces are the standardisation of the production technology on the one hand and the customer needs for personalisation on the other hand. The authors note that such metrics do not exist in the ICT industry so far. Building on the complexity measurement criteria originating from the manufacturing industry, they propose a metric based on four dimensions: multiplicity, variety, interaction and

dynamics. They develop and test a cluster analysis in order to identify various degree of complexity associated with an innovation. They conclude with an illustration about how their complexity classification can be used to derive and select the adequate innovation and product management methods.

Enjoy your reading and do not hesitate to send us your thought about those papers as well as your own research paper in the exciting field of technology and innovation marketing. As you may read in this edition, we encourage authors to submit more interdisciplinary work which always offers a fresh perspective on assumed well-known issues.

We look forward to reading from you soon.