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## Editorial

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**Biographical notes:** Sanjit Sengupta is a Professor of Marketing at the San Francisco State University. His research interests include new product development and technological innovation, strategic alliances, sales management and international marketing. His research has been published in many journals including the *Academy of Management Journal*, *Journal of Marketing* and *Journal of Product Innovation Management*.

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When Alexander Brem and Eric Viardot asked us to be guest editors for this special issue, we were hopeful that we would get a number of papers that dealt with marketing challenges facing emerging technologies such as (non-fossil-based) energy sources, nanotechnology, biotechnology, life sciences, mobile telecommunications, and social media, among others. It turns out we were rather optimistic. From the submissions received it seems as if emerging technologies are not getting the attention they deserve from marketing and management scholars. It may be that in the early stages of these technology life cycles the research focus is being taken more by scientists and engineers who are less interested in the marketing issues that become more salient at launch. Still we believe it is the purpose of this special issue and this journal to encourage research in difficult areas and bring the value of marketing early to the emerging technologies table.

We are gratified that we received four quality papers worthy of publication. Reflecting the international aspect of this journal, the first article has co-authors from Saudi Arabia and Canada, the next two articles have co-authors from Finland, and the fourth article has co-authors from India. The first three articles are empirical studies with

data from the global magnetic resonance equipment industry (Al-Kwafi and McNaughton 2011), Finnish Information and Communication Technology (ICT) industry (Saarenketo et al., 2011), and a broad cross-section of Finnish companies involved in R&D and innovation (Sainio et al., 2011). The fourth article is a theoretical article suggesting a new pricing technique for emerging technologies (Kar and Pani, 2011). We thank the authors for their contributions as well as working with us diligently during the peer-review process.

Al-Kwafi and McNaughton (2011) investigate the antecedents of brand switching by lead users of high-tech capital equipment. The majority of earlier research on brand switching has focused on mass-market consumers of competitive products, where switching barriers are manageable. But in high-tech capital equipment markets, the switching costs may be a lot higher for the customer, and the incumbent technology vendor is usually assumed to have an advantage. Al-Kwafi and McNaughton (2011) develop a model of the factors behind brand switching for capital equipment, and test their model with a survey of 635 research centres around the world that use magnetic resonance imaging (MRI) equipment. The results of logistic regression analyses confirm the expectation that lead users are willing to overcome high switching barriers to obtain a new technology when it is essential to renew organisational capabilities that are important to sustaining their competitive advantage. The decision to switch the brand of high-tech capital equipment is primarily influenced by the features and variety associated with the new product, while price and technology incompatibility are the main barriers to switching.

Saarenketo et al. (2011) analyse the technological capabilities of 124 small and medium enterprises (SMEs) in the Finnish ICT industry and classify them into four clusters: innovators, technology-oriented defenders, generators and imitators. Innovators introduce frequent new products and services to the market, defenders use their technologies to master and improve internal processes, generators maintain competitive edge by focusing on new innovations as well as internal processes, and the imitators try to follow in the generators' footsteps. This classification is similar to others in the strategy literature such as prospectors (innovators), low-cost defenders (technology-oriented defenders), differentiated defender (generators), and analysers (imitators) (Slater et al., 2007). The article provides evidence that as emerging technologies mature, the strategic behaviour of competing firms seems to follow well-established patterns. Companies marketing emerging technologies have to make strategic choices about where they want to play in this sandbox of options based on their resources and capabilities.

Sainio et al. (2011) note that many emerging technologies share the characteristics of radical (also known as breakthrough or discontinuous) technologies. Market knowledge, as gleaned from customer and competitor information, is widely acknowledged as being important for the successful commercialisation of incremental though not radical technologies. The basis of a company's market knowledge competence is knowledge acquisition, knowledge dissemination, knowledge use and the quality of marketing-R&D interactions. Sainio et al. (2011) deconstruct innovation radicalness into three components – technological radicalness, market radicalness and business radicalness. Technological radicalness is the extent to which the performance of a company's products and services, and the underlying technical knowledge is different from competitors. Market radicalness is the required amount of learning and the challenge of understanding the benefits of the new product concept by customers, whereas business

radicalness refers to potential changes in production processes, supplier operations and company practices in general.

They found higher technology radicalness associated with higher knowledge acquisition and use. They also found higher business radicalness associated with higher knowledge dissemination and the quality of the marketing-R&D interface. Further they found higher market radicalness associated with higher knowledge acquisition and use. These results are somewhat contra to the conventional wisdom that market knowledge is more important for incremental rather than radical innovations. A possible explanation is that the data were collected from a cross-section of companies with mature (rather than emerging or radical) technologies (Sanio et al., 2011; Table 1).

Kar and Pani (2011) propose a novel way to capture the perceived value of an emerging technology to the customer, and illustrate the use of customers' value perceptions in pricing a hypothetical new IT system. They estimate the customer's total perceived value of the emerging technology with multiple attributes by applying a multi-response fuzzy analytic hierarchy process for capturing the trade-offs amongst the multiple value creating attributes. Furthermore, they show how the estimated total perceived value can then be used to devise a pricing strategy for a hypothetical example of a new customer relationship management system in the context of telecommunications industry. Applying the proposed methodology in real-life situations would require rather deep collaboration with and data input from multiple customer representatives, but it can address the human subjectivity in preferences during decision making better than previously proposed applications with a similar focus.

No journal special issue is possible without the due diligence of reviewers committed to a constructive peer-review process. We would like to thank our colleagues for their role as reviewers for these four and other articles: Brett Collins, Mark Glynn, Sanjaya Gaur and Noel Spanier from Auckland University of Technology; Sanna-Katriina Asikainen, Anne Jalkala, Mikko Pynnönen, Sanna Sintonen and Anssi Tarkiainen from Lappeenranta University of Technology; Joseph Richards from Sacramento State University and Jim Simpson from University of Alabama Huntsville;

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## References

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