

## *Editorial*

### **Winter is coming: The dawn of Innovation?**

João José Pinto Ferreira<sup>1</sup>, Marko Torkkeli<sup>2</sup>, Anne-Laure Mention<sup>3</sup>

<sup>1</sup>INESC TEC - INESC Technology and Science and FEUP - Faculty of Engineering, University of Porto, Portugal; <sup>2</sup>Lappeenranta University of Technology, Finland; <sup>3</sup>Luxembourg Institute of Science and Technology, Visiting Professor & Deputy Director of Centre d'étude de la Performance des Entreprises University of Liège

jppf@fe.up.pt, marko.torkkeli@lut.fi,  
anne-laure.mention@list.lu

As stated by the Cambridge on-line dictionary, Editorial, as a noun, is “an article in a newspaper that expresses the editor's opinion on a subject of particular interest at the present time”, whereas/and as an adjective, Editorial is “relating to editors or editing, or to the editor of a newspaper or magazine“. On the other hand, about the definition of a Journal, the same dictionary says “a serious magazine or newspaper that is published regularly about a particular subject“. This means that, in the Editorial, the editors express their perspectives or opinions “on a subject of particular interest at the present time“. It is in this context that we came across the idea of talking about Winter, as this issue was being prepared, Winter was indeed coming and this led to the title of this editorial. Then we thought about the southern hemisphere, where Summer was coming, we started wondering whether this would be acceptable and we realized it should be fine to restrict our thoughts to the winter season. We will come back to this... So let us talk about Winter and innovation, and the question is, would we say that Winter fosters innovation? We have no particular study on this issue, but if we associate Winter with extreme cold weather, we may start having some clues. And this argument stems from X-language proverb that “Necessity is the mother of invention“, and where X is likely to stand for most world languages. Going now back to the Summer, we could as well think about extreme hot conditions. We could add more variables such extreme humidity, or even drought. As we know, these extreme conditions emerge in very different world regions, causing trouble or discomfort, and are likely to trigger the production of innovations by people living in those regions.

With these ideas in mind, a search in SCOPUS was conducted (31/December/2015), limiting results to conference papers and articles. The following results were obtained for the selected keywords:

(KEY (extreme weather) AND KEY (innovation))	Count = 8 papers
(KEY (severe weather) AND KEY (innovation))	Count = 3 papers
(KEY (winter) AND KEY (innovation))	Count = 31 papers
(KEY (summer) AND KEY (innovation))	Count = 41-14=27 papers

14 Excluded: Summer School = 6 papers and Summer Camp = 8 papers

The publication dates for these papers range from 2006 to 2015. No limits were

imposed for the search in the publication date range.

In total, we have 11 papers referring to either severe or extreme weather. However, if we cross this and look for papers whose keywords include winter or summer, there is no paper at all relating severe or extreme weather to winter or summer. This seems to be interesting, and is likely to result from the actual fact that extreme or severe weather conditions take place in areas of the globe where those conditions have been standing for generations and, as a result, innovations have been existing there for decades. Both the conditions and the novelties are part of the local culture and are not documented in the literature as such. It seems however that the actual trigger for the innovation is not the actual Season, but the extreme nature and conditions associated to it. On the other hand, if we disregard the extreme component and only refer to the occurrence in keywords of:

(Winter OR Summer) AND Innovation

the result is 58 papers where we have either Winter or Summer, and Innovation.

These numbers look very small indeed. In line with the above rationale, one would expect many more! The question to be asked is why? One possible cause is that most research papers would focus on the phenomena being studied and on the new principle or concept that was applied or developed, and the issue is no longer the extreme weather but, for example, the low temperature or even the air humidity. The application of those concepts, pre-competitive knowledge, seldom becomes published as the description of the actual innovation that those new principles or concepts have enabled. For understandable reasons, Intellectual Property issues and patent submission may actually hinder this publication process.

JIM aims at bridging this gap and we hope to have publications from all areas of knowledge telling us about how their science results have actually become innovations that have entered the market for the benefit of the whole world population.

This Winter issue, we would like to share with you a set of interesting letters and papers revealing the multidisciplinary nature of JIM. The first letter, a letter from academia, by Mike and Fu, is looking at University Spin-outs and argue that “it is important to develop a more comprehensive ecosystem for academic entrepreneurship that includes a wider range of actors and mechanisms” and includes a revealing literature review. The second is a letter from Industry by Almada-Lobo. By focusing on the Manufacturing Execution Systems (MES), this letter argues that in the move towards Industry 4.0, plants, fueled by technology enablers, will have to face a paradigm shift towards the manufacturing systems of the future.

In their review, Kesting et al. discuss about the different leadership styles and the contingencies between specific leadership styles and the types and stages of the innovation process. Their finding suggests that transformational leadership is not the prevailing leadership style associated to innovation, and that the effectiveness of different leadership styles is congruent to innovation stages, types and elements such as R&D and resistance.

Salmela et al. explore the front end innovation process and the extent to which time pressure is beneficial or detrimental in this early stage of the innovation journey. They

empirically examine this question in the context of digital jewellery and highlight that time pressure can be productive if visionary leadership, project momentum and team collaboration are concomitantly present, and some positive stress is maintained at a level that keeps the group momentum in motion.

Exploiting two waves of the Mannheim Innovation Panel data, Bzhalava examine the relationship between R&D outsourcing and research output, captured both qualitatively and quantitatively. The study unveils that R&D outsourcing as well as the interaction between internal R&D efforts and R&D outsourcing are positively and significantly associated with innovation quantity. On the other hand, R&D outsourcing and the combined effects of internal R&D and R&D outsourcing are not positively and significantly associated with innovation quality, thus stressing the need to further delineate the composition of outsourcing deals and partners. The empirical analysis further sheds light on the fact that manufacturing firms are more likely to combine internal and external R&D strategies to develop novelties, which might be explained by the difficulties to capture innovation efforts typically encountered in such surveys.

In their empirical analysis of patent documents, Matron Kiss and Buzas identify the basic features of the mobility network of US inventors. They uncover the role of central nodes, community structures and unveil the hidden core of the network. Their implications revolve around the influence of a small number of nodes, which can efficiently and effectively absorb knowledge from the network. In this specific setting, the core is found to be mainly composed of IT and semiconductor companies, as well as large universities in the US.

Flipse et al. propose a decision support tool to support interdisciplinary innovation teams in their decision making process, embracing considerations and expertise which go beyond the techno-scientific insights. Their tool visualises the innovation project performance and success chances, based on past projects conducted within the organisation. The tool is aimed at fostering the communication and collaboration within interdisciplinary teams by offering practical improvement areas based on shared expertise, embracing socio-ethical, societal, economic and management related aspects.

Tsimiklis and Makatsoris elaborate an open innovation framework in an industrial mature industry, the food industry. Arguing on the benefits of adopting an open and collaborative approach to new product development, the authors advocate to work with customers and selected partners to design food products which would offer an integrated sensory experience of both food and packaging, and would embrace customization, health and sustainability desiderata.

Innovatively Yours,

João José Pinto Ferreira, Anne-Laure Mention, Marko Torkkeli  
Editors

## References

- Bayus, B. (1998) An Analysis of Product Lifetimes in a Technologically Dynamic Industry, *Management Science*, 44(6), 763-775.
- Rogers, E. M. (1962). *Diffusion of Innovations*, Glencoe: Free Press. ISBN 0-612-62843-4.