
Editorial: knowledge for the anthropocene and city preparedness for the climate crisis

Francisco Javier Carrillo

World Capital Institute,
Olivos 322, Jurica, Querétaro 76100, Mexico
Email: fj carrillo@worldcapitalinstitute.org

Biographical notes: Francisco Javier Carrillo is President of The World Capital Institute. His research interests include capital systems, knowledge for the anthropocene and city preparedness for the climate emergency.

In the editorial to the former issue 11(3), we acknowledged the production toll the Covid-19 pandemic had taken on the regular paper submission and review process. We are now getting back on track and expect to fully recover our regular publication schedule throughout 2021.

As we continue to receive papers on the two traditional editorial lines of this journal: Knowledge-Based Development at the explanatory research side and Knowledge Cities at the applied research one, we are seeking submissions on the two new lines. On the basic research side, we are taking contributions on the novel topic of Knowledge for the Anthropocene. If knowledge is the most important leverage to human action and the leading force to civilisation, how can knowledge societies come to terms with the foreseeable realities of the climate emergency and face the crisis in the best possible way? What relevant knowledge will become critical to cope with ongoing disruption of living conditions in the Biosphere? How can science, technology, innovation and education be re-invented for adequately responding? How can governments become a leading force for the conscience and action required? What is happening at the level of grassroots movements and civic participation? How our mind frames need to evolve in order to develop new terms of relationship with Earth's Critical Zone?

On the applied research side, a number of key questions also emerge, as the assumptions about urban life that were taken for granted through the Holocene may no longer be tenable. What are the minimum viable conditions for human settlements at different size scales? How can the provision of basic services be guaranteed for the population at large? Can alternative models for city-region viable integration be conceived and implemented? What forms of governance and community life are able to flexibly cope with the unpredictable consequences of state shift in the Biosphere? Can cities lead the international cooperation required to reach the effective global engagement required for mitigation and adaptation?

We look forward to serving as a publication platform for research addressing these and related questions. Paper submissions and special issue proposals are welcome.

Meanwhile, we will certainly continue to serve the more established research areas traditionally served by this journal. This issue contains a good sample of the

characteristic papers in Knowledge-Based Development and Knowledge Cities. The first three look at aspects of the transition from the industrial mindset and infrastructure to knowledge-intensive paradigms within the manufacturing industry in three different countries. The fourth one studies the application of the smart cities framework to transport systems in Turkish cities.

The first paper, by Pinheiro et al. looks at the role of absorptive capacity in predicting outcomes of the innovation ecosystem. The study addresses the literature gap between innovation competence orientations vs. market orientations by evaluating their relative mediation. The study was conducted on data from Portuguese manufacturing firms. Absorptive capacity was operationalised as a second-order factor consisting of three first-order factors:

- knowledge acquisition
- knowledge sharing
- knowledge creation.

The results suggest that the orientations of innovation competences (exploitation-exploration) have direct impact on the positive enhancement of business performance, whereas market orientations (responsive-proactive) have not. This seems to indicate that in the firm's value chain, the innovation function is ahead of the marketing function in producing an outcome impact on firm performance.

The second paper, by Nesello and Fachinelli, also looks at the manufacturing industry, in this case of Brazilian companies. In analysing the transition from industrial to knowledge-based strategies, this study looks for an appropriate knowledge-based development (KBD) framework. The research uses a mixed-methods approach, combining qualitative data from manufacturing companies in southern Brazil with a Delphi expert consultation. This study contributes a better understanding of the knowledge production process elements by examining how these elements can be articulated for producing new knowledge, in a cyclical and incremental fashion. Additionally, the study underscores the importance of KBD research as leverage for the transformation of traditional organisations. Further, an appropriate and localised KBD framework can enable the development of knowledge-based markets, thus fostering innovation, productivity and competitiveness.

Next, the paper¹ by Carrillo-Carrillo and Alcalde-Heras continues to deal with the manufacturing industry, now looking at the role of knowledge-based innovation in Mexico. This study examines the role of Technology-based Knowledge-Intensive Business Services (T-KIBS) as potential leverages to innovation. The study was conducted on foreign and domestic manufacturing firms in medium technology sectors. This study makes an emphasis on the mechanisms in which T-KIBS impact the innovation outputs of firms. The results suggest a potential positive impact that T-KIBS can exert as drivers of innovation in manufacturing firms of emergent economies. More concretely, T-KIBS could serve as innovation 'bridges' for industrial organisations. Such bridging could improve the technological knowledge flows and mobilise tacit knowledge across firms. Also, non-R&D-intensive business services can facilitate the diffusion of technical knowledge and provide solutions to problems faced by manufacturing firms.

The closing paper by Bıyık and Yigitcanlar addresses the functions and roles of intelligent transport systems and provides a critical overview of their development in Turkey. In doing so, the authors seek

- to provide a focused description of smart or intelligent transport systems (ITS)
- to provide a literature review on ITS
- to present practices and approaches related to the use of ITS in Turkish cities.

The results indicate that the ITS applications currently adopted in the urban transportation systems in Turkish cities consist of only priority strategies. Also, there seems to be a sound nationwide potential for the integration and widespread use of ITS strategies. A main conclusion is that there is a need for Turkish intermediate cities to develop an ITS architecture adapted to their unique conditions and constraints.

Note

¹There are no family, professional or any ties whatsoever between the first author and the Journal Chief Editor. As usual, this paper has been handled by one of our Associate Editors and all potential conflicts of interest have been cleared out throughout the review process.