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	<b>Tot. .... /90</b>
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*(See Authorization to be compiled in this Issue)*

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See the following Pre-Editing rules.

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**WCSA - WORLD COMPLEXITY  
SCIENCE ACADEMY  
II° CONFERENCE**

**September 26<sup>TH</sup>-27<sup>TH</sup>,  
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***COMPLEXITY SYSTEMIC SCIENCES  
AND THE GLOBAL ENERGY AGENDA***

**SPECIAL ISSUE:**

***“Complexity Science in Business”***

*(by G. Dominici)*

# Editorial Note

## The path of complexity science: from theory to managerial practice

Gandolfo Dominici

My interest in Complexity and Systemic Sciences started in 2001 when I attended the PhD in “Economics and Finance for Firms Governance” at University “*Sapienza*” of Rome, where Prof. Gaetano Golinelli founded his school: the Viable Systems Approach. Having studied in classical high school, it was amazing for me to root the knowledge of firms’ governance to what I had learned of philosophy at high school; what until then, I considered just theoretical erudition suddenly assumed a practical sense to me. My PhD thesis was developed in Japan (Nagasaki University) and was about supply chain management focus on the links between the Japanese business environment and the Toyota Production System, the systemic approach was of great ease for me to be able to understand how the environment impacts on the firm as a system.

In my studies I always found the importance of multi disciplinary discussion and research environment, fields of research that seem far from the problems of the firm demonstrate their relevance to practicing managers and entrepreneurs.

That is why I was happy to have the opportunity to act as guest editor for a special issue about Complexity Science in Business for the WCSA Journal that has an ambitious name “*Nuova Atlantide*” (*New Atlantis*), a name that has the meaning of place of enlightenment, a place of wider horizons, a place where walls among research fields are blurred and fuzzy.

The application of complexity science to business has always been a difficult task because it is not easy to demonstrate the relevance of complexity theories to practicing managers. We accepted this challenge with this Special Issue, and I think we are giving a good contribution in this sense.

The papers selected for this issue cover a variety of perspectives. The order of selected papers follows the

path from the theoretic framework to actual applications of complexity theory in management.

Our first paper is “*A Framework for Understanding Social Systems Through Complexity and Self-Organization: Key Steps for Reaching a General Model*” by José Rodolfo Hernández-Carrión and Ignacio Martínez de Lejarza of the University of Valencia. *This paper represents the background and the actual state of the art of Systems Science’s framework.* The authors outline how self-organizing social systems can be regarded as open socio-spatial and temporal systems typified by unstable internal processes that are in constant interaction with the environment.

After this outstanding remarks to the issue of systems in social sciences, we shift a step forward towards the business topic with another theoretic paper: “*Reframing the Systemic Approach to Complex Organizations as Intangible Portfolios*” where Andrea Pitasi and I attempt to pave the way towards the inclusion of mainstream sociological approaches (based on Luhmann’s approach) for the studies of firms-organizations. To do so we analyze the evolution of systemic approaches to find a way to conciliate the systemic sociological views with those of business management science, focusing in particular on the main difference about the two approaches that is the issue of “structure”.

This is followed by two papers about Innovation and its systemic implications. The paper “*Paths for “Stars Manufacturers”: Forced to be Systems (complexity) Integrators*” by Massimo Paoli (early passed while his article was in review) presents a deep discussion about new theoretical advancements on knowledge and consequently about why and how the control of systems integration can actually be maintained and directed. The paper stresses on the idea that support of redundancy of knowledge bases, therefore redundancy of agents as bearers of knowledge and of organizational contexts, can be conceived as “containers”, predisposed to allow men and their different knowledge bases to be integrated in order to construct the fundamental axes of systems’ integration.

The second paper about systemic innovation is “*The ‘Systemic’ value of Creativity*” by Simone D’Alessandro. The contribution highlights how the processes of business creativity need to be captured in procedures, thus generating routines of innovation. According to Dr.

D'Alessandro these procedures are “recombination programs” of organization system languages that, through a process of memetic recombination, contain a systemic value of creativity. In this way creativity processes are able to govern the habitual business practices, transforming values, products and services.

The last paper of this issue is “*On Selection of project team members and complexity*” by Dimitris Antoniadis, Francis Edum-Fotwe and Tony Thorpe. The paper investigates some specific issue about the implementation of team member selection in construction organizations and the adoption of new techniques to manage the effects of interconnections in a complex environment. The contribution concludes that the implementation of appropriate selection techniques and a better understanding of complexity issues should enable the formulation of a framework of actions which will manage the effects of complexity characteristics.

The above papers provide an interesting cross section of the types of research being undertaken in the area of Complexity Science.

Finally I would like to thank the reviewers from industry and academia who supported this special issue and all the authors of submitted papers both those who were successful in being included in this special edition but also those who are reworking their papers for possible inclusion in future publications.

Indeed, the application of Complexity Science to Business is an area of great potential for research and business practice. I believe that the key is to translate these ideas to make them relevant to practitioners. I hope the articles in this special issue will provoke discussion and further work in this field.