Co-creating Inter- and Transdisciplinary Knowledge for Sustainability: First Insights for the Cosmetic Industry from a Service & Systems View

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Purpose – Inter- and transdisciplinarity are key issues of sustainability. Co-creation approaches are required to integrate the knowledge produced inside and outside multiple disciplinary domains. This work aims to discuss the basis of a theoretical framework of reference for the practice of knowledge co-creation, in order to boost dialogue among and beyond the different disciplines that contribute to sustainability using the cosmetic industry as a real case example.

Design/Methodology/Approach – Drawing on the main contributions of literature on inter- and transdisciplinarity issues in sustainability research, we integrated the outcomes of service and systems research about knowledge co-creation to advance the research on knowledge creation for sustainability. The problems of inter- and transdisciplinarity are considered as expressions of sustainability complexity; thus, possible reference models and approaches to knowledge co-creation are illustrated and supported by practical examples derived from the cosmetic industry.

Findings – The results of this study offer interesting insights for a general reflection about the importance for addressing the theoretical and practical problems posed by the multidimensional nature of sustainability and the need to co-create knowledge in multidisciplinary and transdisciplinary contexts, involving science, policy and industry actors. The way different-minded actors can dialogue to co-create knowledge for sustainability is discussed according to the systems thinking view, highlighting the leading role of science.

Research Limitations/Implications – This paper is the outcome of a preliminary study whose aim was to outline the key issues of sustainability research and the possible contribution of service and systems research. Deeper analysis and further discussion based on empirical research are required to advance further the study.

Originality/Value – The present paper represents one of the first attempts to investigate the contribution of service and systems research to the inter- and trans-disciplinary issues of knowledge co-creation for sustainability. The originality of this study also lies upon the adoption of a similar approach in cosmetic industry. This preliminary study offers interesting insights in terms of the importance that an open and constructive dialogue among and beyond the disciplines that interact in a specific industry domain, such as cosmetics, can have on the sustainability of its companies and their contribution to the challenge of sustainability.

Keywords: *Sustainability, Interdisciplinarity, Transdisciplinarity, Knowledge co-creation, Cosmetic industry.*

Conceptual paper

Essential references

Aquino, R.P., Barile, S., Grasso, A., & Saviano, M. (2018). Envisioning smart and sustainable healthcare: 3D Printing technologies for personalized medication. *Futures* 103, 35-50.

Badinelli, R., Barile, S., Ng, I., Polese, F., Saviano, M., & Di Nauta, P. (2012). Viable service systems and decision making in service management. *Journal of Service Management*, *23*(4), 498-526.

Barile, S., Orecchini, F., Saviano, M., & Farioli, F. (2018). People, technology, and governance for sustainability: The contribution of systems and cyber-systemic thinking. *Sustainability Science*, *13*(5), 1197-1208.

Barile, S., & Saviano, M. (2018). Complexity and sustainability in management: insights from a systems perspective. In *Social dynamics in a systems perspective* (pp. 39-63). Springer, Cham.

Barile, S., Franco, G., Nota, G., & Saviano, M. (2012). Structure and dynamics of a "T-Shaped" knowledge: From individuals to cooperating communities of practice. *Service Science*, *4*(2), 161-180.

Chen, Y., Spohrer, J., & Lelescu, A. (2008, July). Three factors to sustainable service system excellence: A case study of service systems. In *2008 IEEE International Conference on Services Computing* (pp. 119-126). IEEE.

Ciasullo, M.V., Cosimato, S., & Palumbo, R. (2017). Improving health care quality: The implementation of whistleblowing. *The TQM Journal*, *29*(1), 167-183.

Farioli, F., Barile, S., Saviano, M., & Iandolo, F. (2018), Re-reading sustainability through the Triple Helix model in the frame of a systems perspective, in T. Marsden (Ed) *The Sage Handbook of Nature* (pp. 10-36).

Hadorn, G. H., Bradley, D., Pohl, C., Rist, S., & Wiesmann, U. (2006). Implications of transdisciplinarity for sustainability research. *Ecological economics*, *60*(1), 119-128.

Lang, D. J., Wiek, A., Bergmann, M., Stauffacher, M., Martens, P., Moll, P., ... & Thomas, C. J. (2012). Transdisciplinary research in sustainability science: practice, principles, and challenges. *Sustainability science*, *7*(1), 25-43.

Mauser, W., Klepper, G., Rice, M., Schmalzbauer, B. S., Hackmann, H., Leemans, R., & Moore, H. (2013). Transdisciplinary global change research: the co-creation of knowledge for sustainability. *Current Opinion in Environmental Sustainability*, *5*(3-4), 420-431.

Mele, C., Pels, J., & Polese, F. (2010). A brief review of systems theories and their managerial applications. *Service Science*, *2*(1-2), 126-135.

Polese, F., & Di Nauta, P. (2013). A Viable Systems Approach to Relationship Management in SD logic and Service Science. *Business Administration Review, Schäffer-Poeschel, Vol.73, No.2, Mar-Apr, pp.113-129.*

Reynoso, J., Barile, S., Saviano, M., & Spohrer, J. (2018). Service Systems, Networks, and Ecosystems: Connecting the Dots Concisely from a Systems Perspective1. *The SAGE Handbook of Service-Dominant Logic*, 241-259.

Sahota, A. (Ed.). (2014). *Sustainability: how the cosmetics industry is greening up*. John Wiley & Sons.

Saviano, M., Barile, S., Spohrer, J. C., & Caputo, F. (2017). A service research contribution to the global challenge of sustainability. *Journal of Service Theory and Practice*, *27*(5), 951-976.

Saviano M., Del Prete M., Caputo F. (2018). "Mindful Leadership for Sustainability: a theoretical and conceptual path", In 21th "Excellence in Services" EISIC Conference Parigi EISIC - LeCnam - Paris, France, 30-31 August 2018, 635-648.

Scalia, M., Barile, S., Saviano, M. Farioli, F. (2018). Governance for Sustainability: A Triple Helix Model. In *Sustainability Science – 13*(5), 1235-1244.

Spohrer, J., Maglio, P. P., Bailey, J., & Gruhl, D. (2007). Steps toward a science of service systems. *Computer*, *40*(1).

Vargo, S. L., Maglio, P. P., & Akaka, M. A. (2008). On value and value co-creation: A service systems and service logic perspective. *European management journal*, *26*(3), 145-152.

von Wehrden, H., Guimarães, M. H., Bina, O., Varanda, M., Lang, D. J., John, B., ... & Lawrence, R. J. (2018). Interdisciplinary and transdisciplinary research: finding the common ground of multi-faceted concepts. *Sustainability Science*, 1-14.

Lusch, R. F., & Spohrer, J. C. (2012). Evolving service for a complex, resilient, and sustainable world. *Journal of Marketing Management*, *28*(13-14), 1491-1503.