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Paper: NETWORKS FOR SUSTAINABLE ORIENTED INNOVATION IN INTERNATIONAL AGRISUPPLY CHAINS

TOPIC: Producer cooperatives

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The debate on companies directing their business activities toward sustainability through innovation was initially focused on eco-innovations. Environmental issues were recognized as sources of strategic change. Eco-innovations represent new or enhanced processes, organizational forms, as well as products or technologies that are beneficial to the environment in that they reduce or avoid negative environmental impacts. However, the concept of eco-innovations has evolved towards Sustainable Oriented Innovation (SOI). It is a more holistic view of sustainability, covering both environmental and social dimensions (Klewitz & Hansen, 2014). It is a process or direction toward sustainability which calls for deliberate management, i.e., ad hoc strategy (long term vision). SOI differ from conventional innovation in several ways (Cagliano et al., 2016): SOIs generally require more collaborative and/or open system approaches. Because of its complexity, the diverse types of knowledge needed, and its risk uncertainty, especially in terms of market acceptance, SOIs require the involvement of a number of different actors, especially non-conventional ones, including customers and other stakeholders such as local communities. Additionally, SOI implies modification (reorganization) of standard innovation classifications (technological, organizational, institutional, social, managerial, and marketing). In this sense, the following is now required (Neutzling et al., 2018): i) operational optimization, because companies have the objective of optimization with incremental innovations based on “technical-fixes” (both to processes or products) in order to reduce impacts; ii) organizational transformation, as sustainability becomes more deeply embedded in the company's strategy and culture and principles; iii) a new systems building perspective, and engagement and collaboration with internal and external stakeholders, because it will be necessary to improve the structural characteristics and internal resources of the supply chain in order to implement open Innovation models (Stanco et al., 2020; Meynard et al., 2017). Open innovation offers the prospect of lower costs for innovation, faster times to market, and the chance to share risks with others (Arcese et al., 2015). In this aspect, and based on literature review, research on strategic collaboration for sustainable agri-food supply is limited (Wike Agustin, 2015). Most of the literature has a classical vision (Ziggers & Trienekens, 1999; Galdeano-Gómez et al., 2015): To be successful, firms in agri-food must cooperate (horizontally and vertically), this means agreements about specifications, exchange of information, coordination and control or even redesigning the supply chain to realize superior customer value at minimal costs at the collaboration structure. Current discussions regarding innovation in food supply chains (FSC) usually contest the overwhelming ‘top-down’ models of innovation, which are thought to be a significant limitation for FSC progress. Usually, in this models’ innovations are originate in the dominant buying firm (Nair et al., 2016). Evidence suggests that instead of focusing on the “leaders”, we must actively seek to involve the heterogeneous actors that make up the entirety of the FSC in the development and of

innovations, in order to create a food ecosystem (FES) that is more representative of the globalized populations and based on collective decision making (De Bernardi and Azucar, 2019).

Another controversial issue in the agricultural sector is whether the concept of SOI is closer to the local supply, or short supply chain (SSC), than to that coming from international export-oriented chains. Some authors defend the first position (Kuokkanen et al., 2019). They argue (Eip-agri, 2019) that SSC has important benefits: i) developing new products and processes (added value for producers and processors; access to new markets; broader product range for consumers); ii) exploring innovative business and marketing models (efficient logistics and distribution; sharing costs and resources; close relationship with consumers); iii) linking cities and rural areas (access to fresh food for city consumers; stable supply chains; procurement contracts for public institutions). However, other authors express doubts about SSC economic and even environmental sustainability (Cagliano et al., 2016).

In this context, firstly, this paper will carry out a literature review to establish how the concept of SOI relates to current trends in agri-food supply chains or networks: green, circular, sustainable, etc. Secondly, a cooperative case study will be applied to analyze how the Spanish greenhouse vegetable production and marketing sector, which is export-oriented and immersed in an international supply chain dominated by large European retailers (Carrefour, Aldi, Lidl, Tesco, etc.), i) manages inter-organizational cooperative and non cooperative collaboration to improve its competitiveness through the application of SOIs and ii) positions itself with respect to new market trends that focus on a more local supply.

References:

- Arcese, G., Flammini, S., Lucchetti, M. C., & Martucci, O. (2015). Evidence and experience of open sustainability innovation practices in the food sector. *Sustainability*, 7(7), 8067–8090.
- Cagliano, R., Worley, C. G., & Caniato, F. F. A. (2016). The challenge of sustainable innovation in agri-food supply chains. In *Organizing for Sustainable Effectiveness*, vol. 5, 1–30. Emerald Group Publishing Ltd.
- De Bernardi, P. D. A. (2019). Innovation for Future Proofing the Food Ecosystem: Emerging Approaches. In *Contributions to Management Science book series (Management SC.)*, pp. 105–134.
- Eip-agri. (2019). Innovation in short food supply chains. European Commission.
- Galdeano-Gómez, E., Pérez-Mesa, J. C., & Giagnocavo, C. L. (2015). Food exporters and co-opetition relationships: An analysis on the vegetable supply chain. *British Food Journal*, 117(5), 1596–1609.
- Klewitz, J., & Hansen, E. G. (2014). Sustainability-oriented innovation of SMEs: A systematic review. *Journal of Cleaner Production*, 65, 57–75.
- Kuokkanen, A., Uusitalo, V., & Koistinen, K. (2019). A framework of disruptive sustainable innovation: an example of the Finnish food system. *Technology Analysis and Strategic Management*, 31(7), 749–764.
- Meynard, J. M., Jeuffroy, M. H., Le Bail, M., Lefèvre, A., Magrini, M. B., & Michon, C. (2017). Designing coupled innovations for the sustainability transition of agri-food systems. *Agricultural Systems*, 157, 330–339.
- Nair, A., Yan, T., Ro, Y. K., Oke, A., Chiles, T. H., & Lee, S. Y. (2016). How Environmental Innovations Emerge and Proliferate in Supply Networks: A Complex Adaptive Systems Perspective. *Journal of Supply Chain Management*, 52(2), 66–86.

- Neutzling, D. M., Land, A., Seuring, S., & Nascimento, L. F. M. do. (2018). Linking sustainability-oriented innovation to supply chain relationship integration. *Journal of Cleaner Production*, 172, 3448–3458.
- Stanco, M., Nazzaro, C., Lerro, M., & Marotta, G. (2020). Sustainable Collective Innovation in the Agri-Food Value Chain: The Case of the “Aureo” Wheat Supply Chain. *Sustainability*.
- Wike Agustin, D. (2015). Collaboration and sustainable agri-food supply chain: a literature review. *Matec Web of Conferences*, Vol. 58, 2016. The 3rd Bali International Seminar on Science & Technology.
- Ziggers, G. W., & Trienekens, J. (1999). Quality assurance in food and agribusiness supply chains: Developing successful partnerships. In *Int. J. Production Economics* (Vol. 60).