

Extended Abstract

Paper/Poster Title	EXAMINING THE RESILIENCE OF AGRO-FOOD SUPPLY CHAIN DURING THE COVID-19 ERA
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Abstract	200 words max
<p>An unprecedented crisis has forced to impose lockdowns and to declare states of alarm in Spain. These restrictions have had an important impact on the normal activity of firms. This study aims at assessing the impact of COVID-19 crisis on the agro-food sector and determining the factors that could contribute to build the resilience of firms in the supply chain context. To do so, we use a structural equation modelling based on social capital theory. We found evidence that the agro-food supply chain in Catalonia has shown a degree of resilience amid the pandemic to meet the basic requirements to feed a confined population. Our results also show that social capital plays an important role in building both active and proactive organizational resilience which is a key factor toward a sustainable agro-food sector.</p>	
Keywords	Supply Chain, COVID-19, Disruption, Social Capital, Resilience
JEL Code	C1, D3, O1, Q2
Introduction	100 – 250 words
<p>Nowadays, actors involved in agro-food supply chain are facing disruptive events that could threaten their operations and performance (Williams et al., 2017). Previous research studies have attempted to examine the resilience of firms to respond to disruptive actions and to adapt their mitigation strategies to new business environment (Van Der Vegt et al., 2015; Williams and Shepherd, 2016). In this regard, knowledge about both proactive and reactive capabilities of firms would be of great importance to build organizational resilience as well as for policy makers who are interested in enhancing the performance and competitiveness of agro-food supply chain. The covid-19 crisis presents significant health problems for the population. In addition to the human impact, it is also having a clear impact on supply chains from food production to food marketing. The COVID-19 pandemic has become a major risk for the normal operation of firms. On the other hand, information regarding the behaviour of producers and different actors involved in the agro-food supply chain and their needs are very scarce in Spain. In this context, the present study responds to the increasing social concerns about the impacts of COVID-19 and to what extent the agro-food supply chain meets the needs of society. Furthermore, our work attempts to examine the resilience of agro-food supply chain as well as to determine the factors that may contribute to build the adaptive resilience of firms. This work would provide a more comprehensive view of proactive and reactive aspects of organizational resilience in the context of COVID-19.</p>	

Methodology	100 – 250 words
<p>The empirical model consists of 16 observed variables integrating four latent variables. In addition, firm size (i.e. number of workers) and marketing channels diversity are also used to estimate the model. Two “resilience latent variables” (proactive and reactive resilience) and two “social capital latent factors” (structural and relational capital) were identified. We defined all constructs based on indicators and evaluated on a Likert scale ranging from ‘0=strongly disagree’ to ‘10=strongly agree’. Thus, we measured structural capital using the interactions frequency and multiple connections across different hierarchical levels and activities between firms and its supply chain partners. In addition, the relational capital variable embraces three items: collaboration with competitors and support from associations and mutual beneficial relationship between firms and partners (Carey et al., 2011). Following Bode and Macdonald (2017), proactive resilience focuses on practices before the lockdown such as internal awareness, assessment of likelihood and impact of interruption, prevention ability, and contingency strategy. Whereas, reactive resilience (Pettit et al., 2013; Bode and Macdonald, 2017), relies on examining firm’s reactive aspects after the lockdown like rapid identification of threatening situations, establishing a formal response group, and communication.</p> <p>To examine the relationships between latent variables based on observed indicators and to validate the hypotheses specified in the theoretical model we use the structural equation modelling (SEM) approach. The latter is adopted to estimate the path parameters’ effect and sign assumed amongst variables. To do so, we interviewed a sample of agro-food firms that survived and were still operating in 2020-2021.</p>	
Results	100 – 250 words
<p>The impact has been uneven between different actors along the supply chain, affecting more the retail sector and the processing industry and less the primary sector. Despite the state of alarm, different actors have demonstrated a social responsibility to continue feeding the population and providing necessary inputs and services for the chain. Thus, 88% of the actors kept partially operating under contingency plans and avoided interrupting their supply chain. Actors affected by the pandemic have implemented other measures to overcome the effects of the crisis (Briz et al., 2020), highlighting the opening of direct sales channels to retailers through web platforms and consumers through online sales and home deliveries.</p> <p>To alleviate the economic impact caused by the COVID-19 epidemic, the government has approved urgent economic measures to minimize the impact of this crisis and to support firms through preferential policies, especially small and medium sized and strategic enterprises (alleviate tax burden, postponing loan repayments, supporting key enterprises, etc.).</p> <p>Overall, the empirical SEM the accepted goodness-of-fit criteria pointing out that the conceptual model adequately fits our data. Results reveal that five hypotheses are significantly supported. We found that structural capital displays a direct and positive association with both reactive and proactive resilience of firms. In contrast, the conceptual model does not support the relationship between relational capital and the two dimensions of firm’s resilience. Firm size is further positively related to proactive resilience. Diversification of marketing channels tend to have a positive influence on proactive organizational resilience. Finally, our findings support that proactive organizational practices positively affect the reactive resilience of firms.</p>	

Discussion and Conclusion**100 – 250 words**

Our empirical findings support that structural capital contributes to improve both proactive and reactive resilience while relational capital has no significant impact on organizational resilience. Consistent with previous studies (Doerfel et al., 2010), we found evidence that established relationships between actors helps enhance the resilience along the supply chain. As expected, stronger structural capital would improve both reactive and proactive resilience of firms. More flexible structural capital is likely to let firms respond rapidly to unpredicted disruptions. Sharing information with key supply chain actors and cooperating regularly contribute to better proactive resilience of firms (Wang et al., 2018; Jial et al., 2020). Thus, stronger structural capital allows to recognize threats, to quickly diagnose and elaborate possible responses that anticipate potential impact of a disruption and avoid deep business loss (Jia et al., 2020). The relational capital based on mutual collaboration and benefit and engagement in association show a positive impact on proactive resilience to assist in better business recovery (Prasad et al., 2015). However, the impact is not significant. This could be attributed to the importance of other forms of capital (human and financial) in the short-term to improve prevention capacity of firms and to undertake contingency scenarios (Jia et al., 2020).

Finally, results suggest that stronger proactive resilience of firm may strengthen the reactive resilience indicating that awareness of and preparing for potential interruptions is likely to enhance its reaction ability to quickly bounce back. However, this may require a collaborative behavior of firms where cultural and organizational aspects are well internally and externally embedded within and between firms along the supply chain.