

Supply chain response to food safety incidents

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This dissertation investigates the role of supply chain positions when designing an effective logistic response to food safety incidents. The findings not only have value as an academic contribution that highlights the importance of the decision-making process, they are also directly useful for policy making.

Scientific contributions

Logistics and supply chain management in the realm of food safety are usually separate fields, studied by different groups in academia. This research integrates both fields and shows that decision-making theory is useful to better understand the complexity of the logistic response to food safety incidents from a supply chain perspective. Supply chain management theory focuses mainly on integrating vertical and horizontal collaborations between the actors, whereas the primary focus of logistics is on aligning internal functions (procurement, production, distribution, and transport) where the trade-off between costs, quality, and time, are leading. Food safety theory emphasizes aspects such as nutrition and contamination. Our empirical data supports the need to integrate these theories as the food industry strives for a more effective logistic response to food safety incidents.

More attention for organizational learning should not only improve health and cost effectiveness, but also shift the attention to the supply chain perspective. *Competence* is added as a critical decision-making element; decisions are often taken under time pressure without (full) data transparency, and competence improves the effectiveness.

Focus on the views from the different supply chain positions helps to understand why challenges in the logistic response still occur, and this merits more attention from researchers.

A longitudinal research approach is widely used in logistics and supply chain management studies, but not as an exploratory qualitative approach as applied here during almost a decade when studying the challenges of decision-making in relation to food safety incidents. We found interesting shifts over time for the logistic response to food safety incidents by the supply chain positions, enhancing the results. This might serve as encouragement for the logistic and supply chain scientific community to use a longitudinal research approach more often.

Contributions to logistics and supply chain practice

Our results do not culminate in a managerial blueprint, but they do provide a sense-making decision framework for practitioners dealing with the design of the logistic response to food safety incidents. This framework helps to systematically evaluate all phases of the decision-making process. The addition of a phase *lessons learned* can stimulate more organizational learning in order to improve quality in food organizations.

The identified critical decision-making elements (the 4Cs) in the framework can help managers to determine what aspects need to be considered and integrated in the decision-making process. The newly added element *competence*, representing the human factor, is perceived as important by all supply chain positions. This is because the decision-making process is highly challenged by a lack of (full) data transparency in combination with time pressure.

The results also provide insight into the views of the supply chain positions on the decision-making process, especially with regard to the 4Cs in the five response phases, and distinct differences are apparent. It is helpful for managers to better understand when and why other positions might make different decisions. The food industry can apply these insights to further enhance the effectiveness of the logistic response to food safety incidents where health, political and business risks are at stake.

The findings from this research also have value for the general public. An effective logistic response contributes to the consumer's trust in food safety. It creates more transparency in the decisions made during a food safety incident. Such incidents are and always will be unavoidable, and so the need to contribute to knowledge related to aspects of food safety is evident.