ABSTRACT

Koperasi Peternak Sapi Bandung Utara (KPSBU) is a single primary cooperative with over 3,466 active members and 18,612 cows. One of its key business units is MAKO, a concentrate feed product serving as a nutritional supplement for cows, produced from eight types of raw materials. The quality and composition of MAKO play a crucial role in influencing both the quantity and quality of milk production. Despite its importance, KPSBU faces significant supply chain challenges, including delays in raw material supply on the upstream side, as well as delivery delays to customers on the downstream side. This research aims to identify and mitigate risks in the MAKO supply chain by integrating the House of Risk (HOR) method with smart supply chain technology. The study identified 28 risk events and 25 risk agents, with 12 prioritized for mitigation. A comparative analysis of smart supply chain technologies was conducted to determine suitable proactive actions, resulting in 13 recommended mitigation strategies. These include providing training on technology usage, developing a website-based database to integrate internal and external data, implementing barcode technology in warehouse operations, and adopting e-procurement systems for procurement activities. The smart supply chain solution was implemented through the development of the AgriKu website, which was verified using the System Usability Scale (SUS) and achieved a score of 78.9, indicating good usability and acceptance among stakeholders. The actual system was tested using black box testing, confirming that all features functioned correctly and were well-integrated. This integration of the HOR method with smart supply chain technology demonstrates an effective approach to mitigating risks in the livestock feed supply chain in real-time. The integration of the House of Risk (HOR) method with smart supply chain technology for real-time supply chain monitoring has proven effective in mitigating risks in the livestock feed supply chain.

Keywords: House of Risk, Concentrate Feed, Risk Mitigation, Supply Chain, Technology, Smart Supply Chain.