

## **ABSTRACT**

*The Keniten Tofu Center is an MSME that produces traditional food from the city of Kediri. In its business journey, the Keniten Tofu Center has received training assistance and awards from the Kediri Regency Government. However, in this MSME, there is a problem with the inaccurate forecasting of tofu demand. This results in producers not having a definite schedule for ordering raw materials from suppliers. Consequently, suppliers struggle to estimate the amount of raw materials they need to provide. Additionally, the mismatch between the demand for yellow tofu and white tofu in the market, as anticipated by distributors, and the amount of tofu supplied by producers often leads to an excess stock of white and yellow tofu. Based on these issues among stakeholders, it is evident that visibility among stakeholders throughout the tofu supply chain is still problematic. Therefore, a supply chain model design is needed to enhance visibility among stakeholders through Collaborative Planning, Forecasting, and Replenishment (CPFR). The aim of this research is to design a supply chain using Collaborative Planning, Forecasting, and Replenishment (CPFR) by involving planning among suppliers, manufacturers, and distributors. The research began with forecasting using two methods: moving average and exponential smoothing. Next, error calculations were performed using MAPE, resulting in the appropriate forecasting method. Then, lot sizing calculations were conducted to determine the raw material replenishment method. Following that, CPFR modeling was carried out in three stages, including planning, forecasting, and replenishment, with the assistance of Figma tools. The results of this research have led the Keniten Tofu Center to improve operational efficiency, make demand forecasting more accurate, and strengthen business relationships among stakeholders, making them more mutually beneficial.*

**Keywords—Collaborative Planning, Forecasting, and Replenishment (CPFR), Forecasting, Supply Chain Design**