

## ABSTRACT

Sociolla, a leading beauty retail company, has been known with its innovation in omni channels, one of which is through incorporating the use of the Internet of Things (IoT) in its replenishment system. With its initial aim to perform accurate demand forecasting and simultaneous increase in consumer shopping experience, the reality of IoT utilization has created supply chain disruptions, leading to overstocking phenomenon. Due to this, the research aims to deep dive into the impacts caused by IoT towards its inventory management as well as onto consumer satisfaction, where solutions to address such surging problems are proposed. To support such objectives, the data collection methods utilize purposive sampling through mixed-method approach, including: 1) interview, 2) document analysis, 3) observation, and 4) questionnaire. The data collection analysis will be done through incorporating Mean Absolute Percentage Error (MAPE), as the main evaluation tool to assess the Collaborative Planning, Forecasting, and Replenishment (CPFR), and the score gap in Service Quality (SERVQUAL), which relationships will be expanded through the Stimulus-Organism-Response (SOR). As a result, it is found that most of the forecasts are inaccurate, with January 2024 having the highest MAPE for 13%, and with only two months producing accurate remarks of demand forecasting. On the other hand, amongst the dimensions of SERVQUAL, Tangible holds the biggest gap of -0.040, signifying a need for in-store improvements for Sociolla. Hence, the solutions proposed focus on technological integration, whereby the use of Artificial intelligence (AI) will help tackle the demand forecasting inaccuracies, while Augmented Reality (AR) will help overcome the poor shopping experience caused by overstocking, as well as employee training to be equipped with digital skills.

**Keyword:** Sociolla, Omnichannel, Inventory Management, Consumer Satisfaction, Demand Forecasting, Internet of Things (IoT), Collaborative Planning, Forecasting, and Replenishment (CPFR), Mean Absolute Percentage Error (MAPE), Service Quality (SERVQUAL), Stimulus-Organism-Response (SOR) Model