

FACTORS ON IMPLEMENTING SUSTAINABLE PRACTICES IN THE FOOD RETAIL SECTOR: CASE STUDY FROM SRI LANKA

Eranga Silva¹, Chathumi Kavirathna²

¹University of Kelaniya, Sri Lanka.

erangaoshini977@gmail.com

²University of Kelaniya, Sri Lanka.

chathumi@kln.ac.lk

ABSTRACT – Sustainability is becoming more pressing for today’s whole world. This study aims to explore the factors affecting the implementation of sustainable practices in the Sri Lankan food retail sector, by identifying the practices that can be implemented, and the factors influencing the implementation of sustainability practices. A literature review identified such practices and the factors in the global context, which were then confirmed for the Sri Lankan context by industry experts. Next, a questionnaire survey was carried out to collect empirical data from the food retailers, which were then analyzed using PLS-SEM (Partial Least Squares Structural Equation Modelling). Sustainable practices were identified under three categories: Facilities and Utilities, Internal Operations, and Market Activities, and the influencing factors were identified under five categories: Organization and Management, Economy, Regulatory, Society, and Industry and Market. The findings emphasize the need to increase the top management’s awareness of the various sustainable solutions, their benefits, and available financing schemes, staff training programs to enhance their knowledge, skills, and attitudes regarding sustainability, having a good functional integration in the firm, and introducing financing schemes to help companies in funding sustainable practices.

Keywords: Sustainability practices; Sustainability factors; Food retail sector; PLS-SEM

1. INTRODUCTION

The food retail industry contains any business that sells food to customers for preparation and consumption. The global food retail market is set to record a Compound Average Growth Rate of nearly 8.2% over the period from 2020 to 2026 1. Sri Lankan retail market is also growing rapidly, and it accounts for nearly one-third of the country’s Gross Domestic Production, with sales value exceeding \$30 billion 2. The growth of the food retail industry causes increments in negative environmental impacts too. The global food system accounts for approximately 26% of the world’s greenhouse gas (GHG) emissions 3. Supply chains account for 18% of food emissions where 3% of it comes from the food retail sector 3. To meet the issues of high GHG emissions, food waste, food insecurity, higher operational costs, maintaining customers, etc., in food retailing, cost-effective sustainable practices can be implemented that help increase productivity and decrease cost. Sustainable practices are those practices that support environmental, human, and economic wellbeing. Although sustainable practices derive many benefits, it is seen that many Sri Lankan food retailers are not much motivated to apply those practices due to some factors like the lack of knowledge and awareness about sustainable practices and their strategic benefits, and the difficulties in affording higher initial costs.

A comprehensive study on sustainability implementation in the Sri Lankan food retail industry is still absent in the literature. Similar studies have been carried out in several other countries such as the UK, and Brazil. In Sri Lanka, though similar studies focusing on the apparel industry, IT sector, etc. have been carried out, the food retail sector has not yet received attention. The main objective of the research is to develop a comprehensive framework for the Sri Lankan food retail sector to incorporate sustainable practices into their operations, by first identifying the sustainable practices that can be incorporated into Sri Lankan food retail industry, and the factors that affect implementing those practices, then identifying the importance of each factor for the implementation and finally developing the comprehensive framework. The relationship between sustainability practices and influencing factors would differ based on firm size and product types. It is seen that mostly large retailers are adopting sustainable practices and transit towards more sustainable methods,

acting as the “agents of change” 4. Further, different types of products have different environmental impacts associated with them which should be considered when interpreting the results of the study 5. Considering the effect of firm size, this study was designed to focus on large-scale food retailers while the effect of product type was assessed as a moderator variable.

2. MATERIALS AND METHODS

Sustainable practices that can be incorporated into the food retail industry, and the influencing factors were identified through a systematic literature review, and their applicability to the Sri Lankan context was assessed with the help of industry experts’ opinions. This assessment was done through interviews with three such practitioners from three different food retail chains, and, if two or more responded as applicable, it was considered applicable and used in the study. Then, three conceptual frameworks (Figure 1) were developed to analyze the relationship between the factors affecting sustainability implementation and the presence of sustainable practices related to facilities and utilities; such as energy-efficient lighting and use of renewable energy, internal operations; such as eco-friendly packaging and food waste recycling, and market activities; such as reverse logistics and product bundling, separately. Multiple indicators were used to measure each independent and dependent variable. Further, the effect of the product type for the above relationships was analyzed considering as a moderator variable. Then the hypotheses were defined. Data were collected from experts in the food retail industry through a questionnaire survey and the data were analyzed using PLS-SEM. The target population was the industry experts in the food retail industry. Due to resource constraints, convenience sampling was used as the sampling technique. Food retailers in the Gampaha District were considered as the sample. According to 55, this study requires a minimum sample size of 106 to achieve a statistical power of 80% for detecting an R² value of at least 0.1, with a 10% probability error.

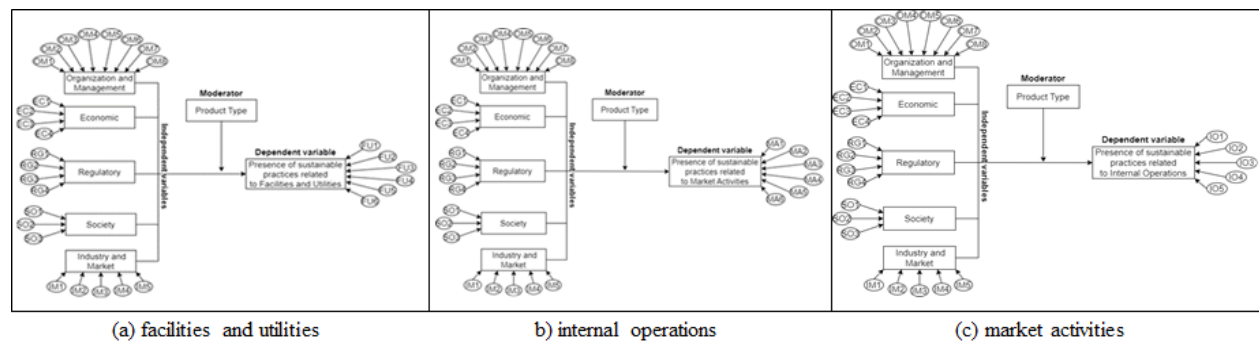


Figure 1. Conceptual Frameworks for the Proposed Models

3. RESULTS AND DISCUSSION

To ensure the responses’ validity, the respondents’ demographics were analyzed. A preliminary data analysis was conducted to ensure the minimum quality standards using IBM SPSS Statistics software along with the visual inspection. The measurement model was assessed to examine whether the indicators have measured the relevant constructs correctly, and, if not, to remove such indicators. This was assessed in terms of Internal Consistency Reliability, Convergent Validity, and Discriminant Validity. Internal consistency reliability was assessed using Cronbach’s alpha and Composite reliability of the constructs values. To evaluate the convergent validity of the constructs, the indicators’ outer loadings and the average variance extracted values were assessed. To assess the discriminant validity of constructs, Cross-loadings, the Fornell-Larcker criterion, and the Heterotrait-Monotrait Ratio were used. Since the model contains only reflective indicators but no formative indicators, the measurement model was checked only for the reflective type.

Structural model assessment results were used to evaluate the hypotheses, based on the strength and the significance of the relationship between the identified factors and the presence of sustainable practices, and the moderating effect of product type on each relationship. The sample was split into three categories based

on the product types sold. Categorization was as cooked and baked food items, processed food items, and food that requires refrigeration requirements. No moderating effect of product type on any relationship was found which denotes that the relationships are not significantly different, whatever the product types they sell. As per the results derived from the data analysis, the economy was found to have a significant impact on the sustainable practices related to facilities and utilities, internal operations, and market activities, and the organization and management were found to have a significant impact on the sustainable practices related to internal operations, and market activities. This was assessed using the path coefficients between each independent variable and the dependent variable. If a particular relationship was statistically significant at a 0.1 significance level, it was stated with 90% confidence that the particular independent variable has an impact on the particular dependent variable, and similarly, for non-significant results, it was stated with 90% confidence that the particular independent variable does not have an impact on the particular dependent variable. Finalized conceptual frameworks are shown below in Figure. Food retailing organizations who wish to implement sustainable practices in the stores are recommended to focus more on their organizational management and the economy. It is doubtful whether these practitioners possess sufficient knowledge regarding the various sustainable solutions available, their benefits, available financing schemes, etc. It is much needed to make them aware of such information. Also, staff training programs should be promoted to enhance their knowledge, skills, and attitudes regarding sustainability. Having a good functional integration in the firm also benefits sustainability implementation. Another possible procedure for financial companies and other responsible authorities would be to introduce financing schemes to help organizations in funding sustainable practices implementation.

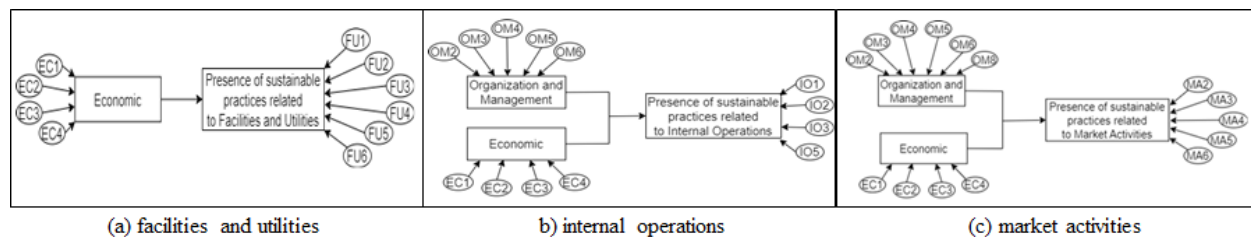


Figure 2. The Framework Developed from the Results

4. CONCLUSION

This study develops three models for implementing sustainable practices in facility and utilities, internal operations, and market activities in the Sri Lankan food retail sector. Results emphasize the difference in factors influencing sustainability implementation in these three aspects. Moreover, though different product types contribute differently to environmental issues, they have no significant moderating effects on the implementation of sustainable practices in food retail stores. The focus of the study was only on large-scale food retailers. So, future work can be done focusing on small entities as well, maybe considering the firm size as a moderating variable. The effect of firm ownership type on the implementation of sustainable practices also can be considered. There is space to carry out a sensitivity analysis with the identified significant factors as well.

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