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LINKING FACTORS LEADING TO RETAIL HYPERMARKET WAREHOUSE OPERATIONS PERFORMANCE IN MALAYSIA

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Abstract

The objective of this article was to explore the leading factors, that influence the performance of a retailer's hypermarket warehouse operations, in Malaysia. An in-depth case study of top hypermarket retailers' warehouse operations in Malaysia, was conducted by using a qualitative research approach. The long-term viability of a retailer's hypermarket is

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determined by the effectiveness of the supply chain process, which strikes a balance between responsive and efficient warehouse operations. The findings of this study could have significant implications for academics and retailers and motivate them to further investigate theories, practices, and linking factors such as Human Capital, Information Technology, and Material Handling Equipment as well as other factors such as forecasting, transportation, and inventory management, which also have strong correlation with warehouse operations performance. Future research could investigate the relationship between the performance of retailers' hypermarket warehouse operations in Malaysia and the six leading factors.

Keywords: *Warehouse Management System, Warehouse Efficiency, Third Party Logistics*

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1. Introduction

The modern retail environment provides a wide range of product labels, quality, price, and brand choices **(Burt, 2000).** Consumers recognise a retailer as a whole instead of in isolation **(Swoboda et al., 2007).** Malaysia now has a wide range of hypermarket players and the industry's competitiveness is enhanced by new retail concepts **(Arnold and Luthra, 2000). Retail Food (2018)** maintained that traditional stores such as provision stores, grocery stores, specialty food stores, and other sundry shops, comprise mostly retail food sales. Warehouse efficiency has now become a core competency, a strategic weapon that many companies are using to enhance their position **(Tompkins et al., 2010).**

Although there are numerous examples of warehouse management system literature **(Kim et al., 2002; Rubrico et al., 2006),** the implementation of the warehouse management systems (WMS) should focus on improving warehouse efficiency. The leading factors, that influence warehouse operations performance, have yet to be explored. **Ramli et al. (2017)** and **Karim et al., (2018)** discovered that Human Capital, Information Technology, and Material Handling Equipment are some factors, that are linked to Warehouse Operations Performance. This study was motivated to identify other linking factors, in addition to the three factors mentioned by **Ramli et al., (2017)** and proposed to fill this research gap.

2. Literature Review

2.1 Human Capital

According to **Karim et al., (2018) and Azlina et al., (2020)**, labor productivity is important for determining warehouse operations efficiency and therefore, it can be a factor in warehouse failure in the Malaysian logistics industry, if it is not addressed properly. **Palšaitis et al., (2016)** also stated that the modern business world of logistics is constantly changing, posing new complex challenges to businesses and hence it is critical to focus not only on human resources but also focus on today's requirements that apply to a person's competencies.

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2.2 Information Technology

It is widely acknowledged that the performance of logistics, particularly warehouse operations, has a significant impact on customer satisfaction **(Stank et al., 2003; Sundram et al., 2020).** The use of sophisticated IT tools in warehouses and distribution centers, reveals this complexity. According to **Baker (2004),** the first challenge to warehouse operations, is to deploy a warehouse management system because it is difficult and involves so many trade-off decisions. In the study, conducted by **Heung (2006) and Vatumalae et al., (2020b),** warehousing contributes to between 2% and 5% of a corporation's cost of sales and therefore, reducing warehousing costs has emerged as a critical business issue. **Hékis et al., (2013)** stated that while sourcing for inventory management, some companies have decided to supply their products through warehouse management.

2.3 Material Handling Equipment

In material handling and logistics, there is a trend towards increasingly adaptable and flexible approaches at all system levels i.e., from the supply chain and logistic network level down to the factory and warehouse floors **(Delfmann et al., 2018).** Machine Handling Equipment (MHE) is an important tool in warehouse operations, to support the stock movement from various points, based on the type of warehouse activities **(Frazelle, 2002; Vatumalae et al., 2020a).**

3. Statement of the Problem

Although there is vast literature on warehouse performance, there are only limited studies, which examined the relationship between internal resources and warehouse operations performance **(Ramli et al., (2017).** Hence this study proposes to reveal the vital internal resources, which are essential for the efficient performance of warehouse operations.

4. Need of the study

This study is important to highlight the leading factors, that contribute to warehouse operations performance, despite the contribution of other factors **(Ramli et al., 2017).** Hence warehouse managers should be able to identify the critical internal resources, necessary for better warehouse performance, in Malaysia.

5. Objective of the Study

The objective of this study was to identify the other linking factors in warehouse operations performance, related to supply chain management, in Malaysia.

6. Hypotheses of the Study

In qualitative research, there is no hypothesis testing. **Chigbu (2013)** used conjectural propositions (hypothesis), to determine the relation between two or more qualitative variables. Therefore, the present study examined the following propositions.

H1: Human capital positively affects the sustainability of operations efficiency.

H2: Information technology positively affects the sustainability of operations efficiency.

H3: Material handling equipment positively affects the sustainability of operations efficiency.

7. Research Methodology

A case study approach and qualitative research were adopted. This study enabled the formation of exploratory research, that included a qualitative technique to gather information, concerning linking factors in a retailer's

hypermarket. While case studies are usually conducted in a time-constrained context **(Dodge, 2011),** data collection is not manipulated in this manner in a qualitative case study **(Patton, 2002).** The qualitative case study is a naturalistic technique in a specific setting, such as a real-life experience **(Bashir et al., 2008),** and in which words like credibility, dependability, and reliability may be utilized **(Golafshani, 2003)**.

7.1 Sampling Selection

A sample of four different retail companies in Klang Valley, Malaysia, was selected through the purposive sampling method. This type of sampling can be very useful in situations when you need to reach a targeted sample quickly and where sampling for proportionality is not the main concern.

7.2 Sources of Data

Data were mainly obtained from management of four warehouse managers from different retail companies in Malaysia, through semi-structured interviews. The semi-structured interview format encourages two-way communication, which allows for a comprehensive discussion of warehouse operations.

7.3 Period of Study

This study was conducted over a period of 12 months. The data collection took about six months. After data collection, the next step was data analysis, to capture the result.

7.4 Tools used in the Study

This was a qualitative study, where data were obtained via face-to-face meetings, at the respondents' warehouse site operations in Malaysia and follow-up interviews. All data were keyed into NVIVO 12 software.

8. Data Analysis

8.1 Demographic Factors

Table-1 showed the profile of managers of four warehouse operations, from four different retail warehouses. Majority of respondents were male (100 percent). Respondents' ages showed the highest age to range from 45 to 55 years (47 percent) and majority of respondents reported qualifications. The majority of respondents were working in the warehousing industry, for more than 10 years.

8.2 Thematic Analysis

In this study, **Creswell (2014)** proposed steps for performing thematic data analysis in qualitative research. Thematic analysis is a method, for analyzing qualitative data, that entails searching across a data set to identify, analyze, and report repeated patterns.

The purpose of this analysis was not to draw generalizations but rather to understand the real-time experiences of warehouse operations, leading factors, using the data collected from four warehouses of leading top retail hypermarket operators, in Malaysia and details are provided in **Table-2.**

Table-3 displays the result of the thematic analysis, based on 3 linking factors, for Hypermarket Retailer Warehouse Operations. The linking factors were based on the three main themes, which were human capital, information technology, and material handling equipment.

9. Findings and Discussion

9.1 Human Capital Factor

Manpower plays a very important role in ensuring the smooth operation of the warehouse.

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According to **Karim et al., (2018) and Munir et al., (2021),** labor productivity is important in determining warehouse operations efficiency and it is also potentially an important factor in warehouse failure, in the Malaysia logistics industry, if it is not addressed properly. The labor requirement for the warehouse operations needs to have the right skill to operate the warehouse operations and hence the company must employ skilled workers, as specified by the warehouse manager's requirements.

9.2 Information Technology Factor

The warehouse management should strive to coordinate all warehouse processes and distribution effectively and efficiently **(Tompkins et al., 2010; Nurul Syakirah, et al., 2020)**. The review of the literature reveals that implementing Information Technology (IT) such as a Warehouse Management System, is a key factor in achieving logistics excellence **(Bowersox et al., 1999; Global Logistics 1995)**, allowing businesses to optimize their service levels **(Barbosa & Musetti, 2010)**, As a result, IT implementation was found to be changing the dynamism of doing business by providing reliable, accurate, and timely information, thereby automatically increasing supply chain performance **(Li et al., 2009)** and having a significant impact on the performance of modern logistics firms **(Evangelista et al., 2012).**

9.3 Material Handling Factor

Machine Handling Equipment (MHE) is an important tool in warehouse operations to support stock movement from one point to another, based on the type of activities in the warehouse operations. According to the current study's findings, supported by the findings by **Frazelle (2002)**, order processing is the most important aspect of warehousing and it refers to the workflow, associated with delivering products, ordered by a customer to a shipping carrier. Machine Handling Equipment (MHE) is critical in warehouse operations. According to the study, manager relies heavily on machine availability.

10. Suggestion

The finding suggests that there are other linking factors such as forecasting, transportation, and inventory management, contributing to the warehouse operations performance. These factors need to be given a comprehensive review by the organization, while managing the sustainability of the long term warehouse operations performance.

11. Conclusion

The linking factors of human capital, material handling equipment, and information technology, as well as new linking factors such as forecasting, transportation, and inventory management, were found to be the main contributors to the efficiency of the operation in Malaysian retail hypermarket warehouse operations. The study's empirical findings would facilitate retail hypermarkets, in understanding the underlying leading factors and developing a robust strategy and competitive advantage in the warehousing industry.

12. Limitations of Study

Some limitations such as high-level managers' input, were not considered for this interview, due to time constraints.

13. Scope for Further Research

The recommendation for future research is to involve high-level management insights and to conduct a similar case study in the context of

a Third Party Logistic Service Provider to identify more leading factors in warehouse operations performance.

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Table-1: Respondent Detail in the Hypermarket Retailers in Malaysia

Company	Respondent Designation	Gender	Work Experience (Years)	Highest Educational Qualification	Interview Duration (Minutes)
Company A	Warehouse Operations Manager	Male	>20 years	Bachelor's Degree	60 minutes
Company B	Warehouse Operations Manager	Male	>15 years	Diploma	55 minutes
Company C	Warehouse Operations Manager	Male	>13 years	Diploma	75 minutes
Company D	Warehouse Operations Manager	Male	>10 years	Diploma	70 minutes

Table-2: Top Retail Hypermarket Operators in Malaysia

Company	Description
Company A	Established in Malaysia in the early 1970s, it is the country's largest food retailer in terms of sales and retail outlets. Under multiple brands, the retailer operates hypermarkets and supermarkets throughout the nation. In Malaysia, the supermarket and hypermarket brands were indeed well-known as trusted home-grown brands.
Company B	By the early 2000s, the company had been established in Malaysia. In terms of sales growth, the brand is one of Malaysia's largest hypermarket food retailers. The retailer is present in all of Malaysia's major cities and with its competitive price offers on its products, the brand is aggressively targeting the mass market, as are other retailers.
Company C	After the acquisition of one retailer in Malaysia, the company was founded in early 2012. The brand has a nationwide presence and is Malaysia's largest high-end department store chain with a full-service supermarket within its mall. The brand operates high-end stores in Malaysia that cater to middle- to upper-income shoppers.
Company D	Since its inception in Malaysia in the early 1940s, the brand has evolved from a small family business to an emporium and now a hypermarket chain of retailers. In Malaysia, the brand is more than a mere competitor to all local retailers. Malaysians recognize the brand not only for its low-cost products but also for its premium brand among customers and as well as local manufacturers.

Table-3: Theme of Linking Factors for Hypermarket Retailer Warehouse Operations

Themes	Categories	Sub-Categories
Human Capital	Manpower Capability & Experience	• Labor-intensive warehouse operations • Labour communication & productivity management • Labour capability in handling warehouse activities
Information Technology	Warehouse Management System	• Goods inventory tracked and real information • Track goods movement and inventory visibility • Order management and warehouse operations efficiency
Material Handling Equipment	Machine usage in Warehouse Operations	• Handling different levels of warehouse operations ie put away, let-down, moving stocks to picking area, loading, etc • Support smooth warehouse operations in moving goods • High dependency on Machine usage in moving goods

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