Literature Survey

Retail Store Stock Inventory Analytics

1. **Cinthya Vanessa Muñoz Macas, Jorge Andrés Espinoza Aguirre, Rodrigo Arcentales-Carrión, Mario Peña "Inventory management for retail companies: A literature review and current trends"2021**

In recent years, the correct management of inventories has become a fundamental pillar for achieving success in enterprises. Unfortunately, studies suggesting the investment and adoption of advanced inventory management and control systems are not easy to find. In this context, this article aims to analyze and present an extensive literature concerning inventory management, containing multiple definitions and fundamental concepts for the retail sector. A systematic literature review was carried out to determine the main trends and indicators of inventory management in Small and Medium-sized Enterprises (SMEs). This research covers five years, between 2015 and 2019, focusing specifically on the retail sector. The primary outcomes of this study are the leading inventory management systems and models, the Key Performance Indicators (KPIs) for their correct management, and the benefits and challenges for choosing or adopting an efficient inventory control and management system. Findings indicate that SMEs do not invest resources in sophisticated systems; instead, a simple Enterprise Resource Planning (ERP) system or even programs such as Excel or manual inventories are mainly used.

2. **J. D. Sterman y G. Dogan, "'I'm not hoarding, i'm just stocking up before the hoarders get here.': 2020.**

Food hoarding is prevalent during the COVID-19 pandemic. To investigate the mechanism of urban consumers' food hoarding behaviors, we categorize hoarding motives into rational and irrational ones. Using random online survey samples from three cities in China, we employ the multivariate probit model to investigate the rational and irrational motives on food hoarding behavior. Our results confirmed the existence of both rational and irrational food hoarding, and also found factors attributing to the different buying behaviors. The amount of food at hand and the expectation on the infection possibility of COVID-19 are two major factors affecting rational hoarding. Bad mood and herd psychology are factors contributing to panic buying. This study provides an empirical evidence to support intervention policies aiming at mitigating panic buying behavior.

3. **Y. Wang, S. W. Wallace, B. Shen, y T.-M. Choi, "Service supply chain management".2021**

This article provides an economic assessment of the impact of the global pandemic COVID-19 on the economic e□ciency of commercial airlines. □e dominant role of airlines in the formation of □exible service supply chain and service travel chain has been identi□ed, which increases their customer orientation and competitiveness in the air transportation market, as well as allows them to adapt more quickly to the changing logistics environment. It has been proven that the use of the outsourcing mechanism in combination with the diversi□cation of services provided, allows, on the one hand, to create added consumer value for customers, and on the other - necessitates building complex integration relationships with business partners in service supply chains. Analysis of statistics and experience of leading airlines with di□erent business models in the air transportation market has shown that outsourcing business processes in a global pandemic has allowed carriers to optimize costs according to the volume of work, respond exibly to changes in consumer demand and better overcome negative impacts external logistics environment.

4. **S. Mahar y P. D. Wright, "The value of postponing online fulfillment decisions in multi-channel retail/e-tail organizations"2015**

Relative to brick-and-mortar retailers, online retailers have the potential to offer more options to their customers, with respect to both inventory as well as delivery times. To do this entails the management of a distribution network with more decision options than a traditional retailer. The online retailer, not the customer, decides from where items will ship, by what shipping method, and how or whether multiple-item orders will be broken up into multiple shipments. What is the best way to fulfill each customer's order to minimize average outbound shipping cost? We partner with an online retailer to examine this question. We develop a heuristic that makes fulfillment decisions by minimizing the immediate outbound shipping cost plus an estimate of future expected outbound shipping costs. These estimates are derived from the dual values of a transportation linear program (LP). In our experiments on industry data, we capture 36% of the opportunity gap assuming clairvoyance, leading to reductions in outbound shipping costs on the order of 1%. These cost savings are achieved without any deterioration in customer service levels or any increase in holding costs. The transportation LP also serves as the basis for a metric that provides information on the quality of the inventory position. Based on initial successful piloting, our industrial partner has implemented the metric as well as a version of the heuristic that it is applying to every fulfillment decision for each of its stock keeping units in North America.

5. **A. Fink, Conducting research literature reviews: From the internet to paper. Sage publications, 2019.**

Massive open online course (MOOC) is an online learning tool, especially for distance learning. It has attracted a great deal of attention by higher education institution around the globe. It also gave rise to academic discussion on MOOC impact, design and research. However, researches on MOOC's impact on language learning are still lacking. Therefore, this study aims to assess the research trend in MOOC for language learning around the globe by using the Systematic Literature Review approach from three databases within periods 2013 until 2018. Ten full assessed articles have been selected from ScienceDirect, ERIC and Research gate. The major findings show that the English language has dominated in language learning using MOOC. It is also revealed that MOOC has the potential to enhance language learning among students in other languages.

6. **M. Bieniek, "The ubiquitous nature of inventory: Vendor Managed Consignment Inventory in adverse market conditions", European Journal of Operational Research,2019**

Consignment is the shifting of the inventory ownership to the supplier. In this form of business arrangement the supplier places goods at a customer's location without receiving payment, until the goods are sold. We consider a single period supply chain model, where the supplier contracts with the retailer. Market demand for the product is price–dependent and uncertain. The supplier decides the consignment price and the retailer chooses the retail price for each unit sold. Two arrangements called retailer managed consignment inventory (RMCI), and vendor managed consignment inventory (VMCI) are studied. The only difference between these arrangements is that under RMCI contract the retailer is allowed to choose the service level, and under VMCI contract the supplier decides about this service level. In our paper we give the optimal solutions for the retail price, the service level and the consignment price in closed–form, which maximize the expected profit of the retailer or the supplier under both consignment regimes. We consider the additive demand linearly dependent on price. We also illustrate the solutions by a numerical example, which explains the general results well.

7.**Zohreh Molamohamadi, A.Mirzazadeh" Ordering Policies of a Deteriorating Item in an EOQ Model under Upstream Partial Order-Quantity-Dependent Trade Credit and Downstream Full Trade Credit"2021**

In the classical inventory systems, the retailer had to settle the accounts of the purchased items at the time they were received. But in practice, the supplier applies some strategic tools, such as trade credit contract, to enhance his sales channel and offers delay period to his customers to settle the account. Any member of the supply chain may offer full or partial trade credit contract to his downstream level. Full trade credit is the case that the latter is allowed to defer the whole payment to the end of the credit period. In partial trade credit, however, the downstream supply chain member must pay for a proportion of the purchased goods at first and can delay paying for the rest until the end of the credit period. This paper considers a two-level trade credit, where the supplier offers order-quantity-dependent partial trade credit to a retailer, who suggests full trade credit to his customers. An economic order quantity (EOQ) inventory model of a deteriorating item is formulated here, and the Branch and Reduce Optimization Navigator is applied to find the optimal replenishment policy. The sensitivity of the variables on different parameters has been analyzed by applying some numerical examples. The data reveal that increasing the credit periods of the retailer and the customers can decrease and increase the retailer's total cost, respectively.

8. **B. S. Onggo, J. Panadero, C. G. Corlu, y A. A. Juan, "Agri-food supply chains with stochastic demands: A multi-period inventory routing problem with perishable products"2022**

The inventory routing problem arises when inventory management and vehicle routing decisions are integrated instead of treated as separate problems. The technique of combining such decisions could lead to solutions that are better than merging the optimal solutions of the smaller subproblems. Hence, the problem is prominent and has been the focus of extensive research in recent years. When the products considered in such a problem are perishable, the importance is intensified; the current paper presents a literature review of the inventory routing problem for perishable products. This review classifies papers according to five attributes, namely, the number of products, the type of product (including the types of product perishability and types of perishable products), the type of demand, the number of objective functions, and the solution approach. A comprehensive analysis is performed based on these five attributes. Finally, based on 89 relevant reviewed papers, directions for future research on the perishable inventory routing problem are presented.

9. **L.-H. Zhang, T. Li, y T.-J. Fan, "Radio-frequency identification (RFID) adoption with inventory misplacement under retail competition"2018**

We investigate RFID adoption strategies in a decentralized supply chain with one manufacturer and two competing retailers both of whom face inventory misplacement problems. If a retailer adopts RFID, his misplacement problem is resolved. Retailer 1 is a Stackelberg leader in the retail market and Retailer 2 is a follower. The two retailers sequentially make decisions on whether or not to adopt RFID. After that, the manufacturer offers a wholesale price contract to a non-RFID adoption retailer or a cost-sharing contract to an RFID adoption retailer, and delivers products with(without) RFID tags to the RFID (non-RFID) adoption retailer. The two retailers then sequentially determine their retail prices to engage in price competition. We fully characterize the equilibrium on RFID adoption, contracts and retail prices. It is shown that the equilibrium RFID adoption strategies depend on the competition intensity, misplacement rates, and RFID tagging cost. We highlight the strategic role of RFID adoption in a competitive market: when the unit RFID tagging cost is intermediate, the two retailers use differentiated RFID adoption strategies such that exactly one of them adopts RFID. With more intense competition, a retailer can be more likely to adopt RFID, identifying competition as a key driving force of RFID adoption. Both retailers adopting RFID cannot be an equilibrium when the competition intensity is low. If only one retailer adopts RFID technology, he pays the manufacturer the same price for an RFID-tagged item regardless of whether or not the other retailer adopts the technology.