**INVENTORY MANAGEMENT SYSTEM FOR RETAILERS’ LITERATURE SURVEY**

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**INTRODUCTION:**

The emergence of the internet has been the greatest technological advancement after the industrial age. From the recent studies on internet penetration and usage in India it has been concluded that many Indians are using the internet to pay bills, purchase products online apart from regular surfing, checking e-mail and socialising on multiple social networks. The number is expected to grow from time as the internet becomes more pervasive and secure. The rise of the internet has created opportunities for entrepreneurs, and has changed the business landscape of e-commerce.

Managing inventory to create higher inventory turnover and just in time delivery practices is one of the most important processes for online retailers. Flexible systems that respond to customer demand and inventory uncertainties are most important in e-commerce.

**1. Retail Inventory Control Strategies**

**AUTHORS:**

Mackie L. Johnson

**ABSTRACT:**

Despite using computerized merchandise control systems in retail, the rate of stockouts has remained stagnant. The inability to satisfy customer needs has caused a loss of 4% in potential revenue and resulted in dissatisfied customers. The purpose of this qualitative multiple case study was to explore cost-effective inventory control strategies used by discount retail managers. The conceptual framework that grounded the study was chaos theory, which helped identify why some business leaders rely on forecasting techniques or other cost-effective strategies as an attempt to prevent stockouts. The target population was comprised of discount retail managers located throughout northeast Jacksonville, Florida. Purposeful sampling led to selecting 6 retail managers who successfully demonstrated cost-effective inventory control strategies for mitigating stockouts. Data were collected through face-to-face semi structured interviews, company websites, and company documents. Analysis included using nodes to identify similar words and axial coding to categorize the nodes into themes. Transcript evaluation, member checking, and methodological triangulation strengthened the credibility of the findings. Five themes emerged: (a) internal stockout reduction strategies, (b) external stockout reduction strategies, (c) replenishment system strategies, (d) inventory optimization strategies, and (e) best practices for inventory control. This study may contribute to positive social change by improving inventory management, which may reduce demand fluctuations in the supply chain and reduce logistics costs in the transportation of freight thereby leading to improved customer satisfaction.

**CONCLUSION:**

The purpose of this study was to explore cost-effective inventory control strategies used by discount retail managers. Retail managers traditionally carried more inventory than required until adopting inventory control strategies (Guimaraes et al., 2013; Martin & Irao, 2014; Turk, 2012). Some cost cutting strategies caused unintentional problems in retail supply chains, which increased the risk of stockouts, decreased revenue, and decreased customer loyalty (Adusei & Aunya-Vitor, 2014; Chin et al., 2012; Pizzi & Scarpa, 2013). The research question to guide this study was: What cost-effective inventory control strategies do discount retail managers’ use? In this study, I analysed data from six participants located throughout northeast Jacksonville, Florida. Five themes emerged from the data: (a) internal stockout reduction strategies, (b) external stockout reduction strategies, (c) replenishment system strategies, (d) inventory optimization strategies, and (e) best practices for inventory control. The responses from participants, documents collected from participants, and data from company websites led me to conclude that discount retail managers can successfully employ cost-effective inventory control strategies. However, a strong commitment to inventory control practices is required at all levels of leadership, to include nonsupervisory associates to have a well implemented strategy. The findings from this study could assist local discount retail managers who may be susceptible to frequent stockouts.

**2. A Literature Review on Models of Inventory Management Under Uncertainty**

**AUTHORS:**

Serhii ZIUKOV

**ABSTRACT:**

Inventories are raw materials, work-in-process goods and completely niched goods that are considered to be the portion of business’s assets that are ready or will be ready for sale. Formulating a suitable inventory model is one of the major concerns for an industry. e earliest scientist inventory management researches date back to the second decade of the past century, but the interest in this Scientia Rea is still great. Again, considering the reliability of any process is an important feature in the research activities. Values of some factors are very hard to dene or almost unreal. In such cases, fuzzy models of inventory management take an important place. They are paper analyses possible parameters of existing models of inventory control. An attempt is made to provide an up-to-date review of existing literature, concentrating on de-script ions of the characteristics and types of inventory control models that have been developed

**CONCLUSION:**

In the past years, the exigency of inventory management has become an area of ma-jar concern in business. New inventory models for managing the inventory levels are now available. The is paper has presented a literature survey of models of inventory control under uncertainty. Most of the analytical models addressed only one type of uncertainty and as-summed a simple structure of the production process. the most common dimensions to be considered as fuzzy variables are demand, the cost of acquisition. Each model, based on some assumptions, has its beets and disadvantages, but still, many authors continue to design inventory control models using such approach as fuzzy logic. the existence of such quantity of models shows that fuzzy set theory is one of the appropriate methods, which can suppose a great advance in inventory management. The emphasis in each review was to identify how the fuzzy set theory was used in the formula-Tion of the inventory model. The Classi Cation and review of models are quite general and

**3.A Review on of Inventory Management in Manufacturing Industry**

**AUTHORS:**

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**ABSTRACT:**

Inventory management is a challenging problem area in supply chain management. Companies need to have inventories in warehouses in order to fulfil customer demand, meanwhile these inventories have holding costs and this is frozen fund that can be lost. Therefore, the task of inventory management is to find the quantity of inventories that will fulfil the demand, avoiding overstocks. The primary aim of this work is to examine the effect a well-managed inventory has in a manufacturing company as well as to enhance the performance of inventory management in an organization and to reduce risk those are facing inventory management. It is determined whether there is a problem facing the inventory management in the company and the strategies are map out to train good store keepers who will manage the STOCK

**CONCLUSION:**

1. In this study, we focus on optimizing inventory management in the improvement of supply chain management. Reducing inventory is considered one of the most important aspects of inventory management. But in practice, low inventory level is not always a good solution. Manufacturers need to maintain the right amount of inventory at the right level.

2. It is clear that the ultimate purpose of reducing inventory levels is to reduce cost and increase profit through optimization of supply chain efficiencies. Reducing inventory is the main task of inventory management. If suppliers do not guarantee the availability of a requested quantity of raw materials (such as some scarce natural resource), or the price changes regularly (usually when it is increased), then keeping strategic inventories is necessary. Today, high inventory levels still happen at many manufacturers, even well-known ones.

3. A better inventory management will surely be helpful in solving the problems the company is facing with respect to inventory and will pave way for reducing the huge investment or blocking of money in inventory. From the analysis we can conclude that the Company can follow the Economic Order Quantity (EOQ) for optimum purchase and it can maintain safety stock for its components in order to avoid stock-out conditions & help in continuous production flow. This would reduce the cost and enhance the profit. Also, there should be tight control exercised on stock levels based on ABC analysis & maintain high percentage in fast moving items in inventories as per on FSN analysis for efficient running of the inventory. Since the inventory Turnover ratio shows the increasing trend, there will be more demand for the products in the future periods. If they could properly implement and follow the norms and techniques of inventory management, they can enhance the profit with minimum cost.

4. Therefore, although implementing advanced inventory management always sounds good in theory, in practice, the balance of cost and benefit should be considered. Mukt Shabd Journal ISSN NO: 2347-3150

**4.Current Order and Inventory Models in Manufacturing Environment**

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**ABSTRACT:**

One of the issues of designing supply chain network is "Supply chain ordering management ". Extra costs are the most important factors in the survival of an organization and have a significant impact on company compete- liveness. However, holding inventory, order accepting, and functional risks are factors that have not been studied simultaneously. The purpose of this paper is to provide a review on order and inventory and use of Activity based costing approach in regard to supply chain management and costs managing. This paper selected and reviewed 56 published articles in a decade of 32 important journals related to order and inventory of supply chain manufacturing industries which chosen from the “Science direct and Scopus” databases and in this regard, the applications of the Artificial Neural Network method which called “ANN”, ant colony algorithm and queue theory have been proposed. All published articles were categorized based on the author number, The first author's name, publica- Tion year, problems, factors, type of manufacturing industries, research methods and results and findings. Finally, International Journal of production Economics was ranked the first. Results of this paper acknowledge that order management and inventory control can help decision makers in solving some problems under uncertainties situations of demands in environmental manufacturing industries and this approach have seen increasing interest among previous researchers to use this approach in various steps of supply chain management.

**CONCLUSION:**

This review paper aimed to review previous studies that applied order management and inventory control during 2008 until 2018 in 32 international scholarly journals which are indexed in science direct and Scopus databases. In addition, this review paper classifies published articles into 8 main areas: the author number, The first author’s name, publication year, problems, factors, type of manufacturing industries, research methods and results and findings. As a result of probing 56 articles, 6 articles have implemented ABC approaches, nevertheless, the need for further research is felt in setting of inventory and order of the means of production that not considered synchronously. Moreover, a number of factors for instance product innovation, reduced collection demands and documentary credits are important too that have not surveyed yet. Based on review findings, research methods for instance the applications of artificial neural networks, ant colony algorithm and queue theory have not studied also, we recommended them for future researches. This review paper classified the selected articles into 8 fields of order management and inventory control, it is suggested that future researches can review and classify articles in different areas and sub-areas. This review paper checks out articles that are published in Science direct and Scopus data-bases, thus, future review researches can peruse other databases. In addition; our re-view paper only focused on English scholarly journals rather than other languages, therefore; future review surveys can consider and focus on other languages. Because of the importance and necessity of researching in order and inventory, it is recomb-mended that in the fields of operational risk, the collection of demands and documentary credits along with ABC approach come to future studies. It is also suggested that a combination model of these four items will be presented. These fields mentioned above are critical to answer the needs and orders of all customers as well as the sur-viral of an organization, which if ignored, the organization will face with a lack of funds and, in consequence, a bankruptcy and elimination of the competition cycle completely will come about. Moreover, it is recommended that further researches will be done in the fields mentioned with different state of multi-product, single product or perishable products and green supply chain, also their costs or the closed-loop supply chain with two forward and backward flows to help managers in costs managing of their supply and demand and organization's survival.

**5. A STUDY ON INVENTORY MANAGEMENT AND CONTROL**

**AUTHORS:**

PRATAP CHANDRAKUMAR. R1 GOMATHI SHANKAR2

**ABSTRACT:**

This research proposes to get exposure in inventory and it is very important to the company. It is to ensure quality in business that control the transaction between the consumer goods. It is important to do proper inventory management and control in the production company. This project is to analyse the inventory control in the leading brake manufacturing company (WABCO INDIA). This study shows the analysis of ABC items in the inventory, SAP, stock policy followed. It deals with entire process carried in inventory department. Also, it was found that there no proper demand forecasting by the company it is done only by suppliers and supply materials to the company along with the demand forecasted in SAP. This affecting the production process in the company. It is suggested that to develop communication between the suppliers and properly forecast the demand. This will result in managing inventory and use man-power according to the demand in order to produce more and control the inventory space. It leads to reduce the inventory of finished products. ABC analysis has shown that the management must have more control on C items than A & B because C class as a highest in number that occupies more space in inventory. This is done through maintaining routine check in orders in SAP, by maintaining proper forecasting it will result reducing the dead stock in inventory.

**CONCLUSION:**

This study contains proper observation of inventory management in the company. A better inventory management can solve all the problems occur in inventory and helping the company to face the problems by following proper techniques and controlling. This will reduce the huge money investment problems and it will lead the way for avoiding such circumstances. Inventory is timely changing physical asset which is sold or being a dead stock have by the company. It creates way for the production process if shortage occurs in the production and also it gets more even after the production. An efficient inventory management can control and make the company to grow more and if in inefficient way it will ruin the company business. Companies are always concentrates on domestic as well as international in order to increase the business globally based on trends. This study is on leading brake manufacturing company conducting ABC analysis for items predicting the future demands which should be forecasted by the company. From the study it is shown that buying of materials and shortage occurs due to improper way of forecasting the demand. ABC analysis is carried to find out the materials which are moves fast and important to the company and which is differs from sales and volume in the inventory

**6.SPARE PARTS INVENTORY MANAGEMENT. A LITERATURE REVIEW AND DIRECTIONS FOR FUTURE RESEARCH**

**AUTHORS:**

Federico AdobeAir, Andrea Bacchetti, Nicola Saccani

**ABSTRACT:**

In industrial contexts the proportion of the stock range that is devoted to spare parts is often considerable (e.g., Vereecke and Verstraete, 1994) and small improvements in spare parts management may be translated to substantial cost savings (Eaves and Kingsman, 2004). Many research projects have considered issues related to the management of spare part inventories, but very few studies have the need to bring together the current state of knowledge in this area and critically review the relevant research advancements. The aim of this paper is to cover this gap providing a review of the literature currently available in this area and focusing on the main future research challenges.

**CONCLUSION:**

Although the critical review of the 19 Although 1 paper in the database has not been completed at the present time, some preliminary observations can be drawn on the descriptive findings provided in the previous section. First of all, spare parts inventory management is a topic that attracted, in recent years, considerable attention by researchers from the Operations Management and Operations Research fields. In particular, we noticed a concentration of papers in few journals (IJPE, EJOR, JORS, Management Science, IIE Transactions and OR) which are leading the debate on spare parts inventory management. Since very few works provided a wide literature review on the topic (Guide and Srivastava, 1997; Kennedy et al., 2002) and given the increase in contributions published in the last years (we recorded more than 100 papers between the year 2000 and 2011), we believe that a re Calibri (Body) search effort aimed at an updated categorization of this research stream, as proposed in this paper, can be valuable to the scientific community, and this will be the aim of the completion of the critical review. One of the main point emerging is that a modelling approach dominates the publishing activity on spare parts inventory management, in line with the OR orientation of most of the journals cited above. This shows the interest in academia in advancing the theoretical knowledge in this field. On the other hand, however, we find a limited number of papers (less than one third) adopting also a managerial approach (i.e., that include a holistic perspective on the spare parts management problem and a practitioner orientation in the application of the proposed method). Empirical applications through case studies, moreover, involve only 24% of the collected literature. This may be seen as a reason contributing to the research practice-gap encountered in the field of spare parts management, as pointed out by previous works (Wagner and Liederman, 2008; Boone et al., 2008; Syndetons et al., 2009). Methods presented in research are from one side perceived as too complex by practitioners, or too costly to be put into practice (human resources, systems); on the other hand, they are sometimes based on hypotheses that do not take into account all the complexities of a real-world setting, ending up in difficult practical applicability or poor performance (Bacchetti and Saccani, 2011). Finally, the organizational perspective within companies is of utmost importance when implementing inventory management systems (Zomer Dijk and de Vries, 2003), but despite Tahiti's often neglected by inventory management literature. Based on this comment we identify as an area for future research the extension of the stream of investigation that focuses on aspects that help in “bridging the gap” between research and practice, aimed towards a more widespread adoption on advanced spare parts inventory methods in business practice. Finally, some gaps pointed out in the previous section suggest further research directions. The obsolescence problem, for instance, is very important in business practice (according to Cohen et al., 2006, 23% of parts become obsolete every year) and companies do often lack methods and tools for dealing with this issue (identification, management and prevention of the obsolescence phenomena). Conversely, only 4% of the contribution in our literature database address this issue, and deserves increased attention. As a second important avenue for research, managing multi-echelon spare parts network in which different actors are involved (parts suppliers, OEMs, distributors and wholesalers, dealers, service shops, et cetera) poses certainly a major challenge for excelling in either cost or service performance (or both), from

a global supply chain standpoint. The issue of information sharing among different supply chain tiers and players, that can be the basis for improved practice or specific techniques such as Vendor Managed Inventory or Lateral Transhipments, is also under-investigated in literature and can be a promising area for conceptual as well as applied research. Although the critical review of the 191 papers in the database has not been completed at the present time, some preliminary observations can be drawn on the descriptive findings provided in the previous section. First of all, spare parts inventory management is a topic that attracted, in recent years, considerable attention by researchers from the Operations Management and Operations Research fields. In particular, we noticed a concentration of papers in few journals (IJPE, EJOR, JORS, Management Science, IIE Transactions and OR) which are leading the debate on spare parts inventory management. Since very few works provided a wide literature review on the topic (Guide and Srivastava, 1997; Kennedy et al., 2002) and given the increase in contributions published in the last years (we recorded more than 100 papers between the year 2000 and 2011), we believe that a research effort aimed at an updated categorization of this research stream, as proposed in this paper, can be valuable to the scientific community, and this will be the aim of the completion of the critical review. One of the main point emerging is that a modelling approach dominates the publishing activity on spare parts inventory management, in line with the OR orientation of most of the journals cited above. This shows the interest in academia in advancing the theoretical knowledge in this field. On the other hand, however, we find a limited number of papers (less than one third) adopting also a managerial approach (i.e., that include a holistic perspective on the spare parts management problem and a practitioner orientation in the application of the proposed method). Empirical applications through case studies, moreover, involve only 24% of the collected literature. This may be seen as a reason contributing to the research practice-gap encountered in the field of spare parts management, as pointed out by previous works (Wagner and Liederman, 2008; Boone et al., 2008; Syndetons et al., 2009). Methods presented in research are from one side perceived as too complex by practitioners, or too costly to be put into practice (human resources, systems); on the other hand, they are sometimes based on hypotheses that do not take into account all the complexities of a real-world setting, ending up in difficult practical applicability or poor performance (Bacchetti and Saccani, 2011). Finally, the organizational perspective within companies is of utmost importance when implementing inventory management systems (Zomer Dijk and de Vries, 2003), but despite that it is often neglected by inventory management literature. Based on this comment we identify as an area for future research the extension of the stream of investigation that focuses on aspects that help in

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