Reviews performance Suppliers in the analysis and optimization of supply chain with fuzzy parameters

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A R T I C L E   I N F O

A B S T R A C T

Objective: Dynamic and changing environment consists ruling today has created a highly competitive environment, so that organizations require for survival and the success of new methods and efficient in all aspects of their work. **Methodology:** Therefore, supply chain management, as one of the factors contributing to the quality of performance, special attention has been drawn. Since the quality of the final product is heavily dependent on raw material suppliers of the product and efficiency, proper operation of the supply chain will be the suppliers to guarantee stability. The aim of this study was to evaluate the performance of suppliers in the analysis and optimization of supply chain with fuzzy parameters. **Results:** This article was descriptive and data were collected through newspapers and a library. The results of this study showed that the choice of reliable suppliers as well as the use of fuzzy parameters and optimizing the supply chain improves. **Conclusion:** The results showed that the combination of Parameter fazy and reliable suppliers for better functioning supply chain.

1. Introduction

In recent years, the rapid development of global trade and the rapid transmission of information, a great impact on how productive the firm's supply chain management. One of the issues that have been affected by this change, how to configure the supply chain that can occur with different approaches. A supply chain associated with the planning, coordination and control of raw materials, processes and final products. Supply chain management is the prevailing attitude on linking all processes of production and supply of raw materials to final customer and can involve several organizations. On how to exploit the supply chain management processes, technologies and capabilities to enhance the competitive advantages focused suppliers. framework for supply management, and has been designed to do that because of it, suppliers will be able to store products. This leads to a reduction in transport time is.

In today's world, we are living through a complex set of supply chains. Chains that are parallel to one another, some of them intersect, and as a set of interlocking fibers are involved in the supply needs of the people (Hildayanti and Alie, 2016).

The traditional supply chain network design in place to locate and determine the capacity and the number of manufacturing facilities and distribution and transportation deals with defining the types of connections. In the absence of certainty of process, unreliable result of the manufacturing process due to failure car and uncertainty demand in shopping centers increased interest in the use of mathematical models contingency planning and planning phase. Due to the use of the contingency planning, requires historical data and However, this data may not be available or not known accurately, so the theory of fuzzy sets can be a good choice to represent the ambiguity and uncertainty in the parameters. Haul and Corey (1992) fuzzy sets to problems of integration of production planning / distribution with multi-product, multi-period supply chain, taking into account the time value of money used for any operational expenses. Fuzzy multi-objective linear programming model they are trying to simultaneously pan, total costs and total time with respect to inventory levels, machine capacity and labor in addition to commercial demand and available space at each destination, and the limited budget of at least.

1.1. History Studies

Chan and Kumar (2007). The two-objective planning model, including minimizing the cost and maximizing accountability for an integrated supply chain network provided direct and reverse.

Lin et al. (2011), by offering a new approach to reduce the cost of maintaining inventory of discount when the multi-step distribution systems were available.

Dynamic (2004) that by taking several models of transport and distribution at the same time you can save more on the cost of the network.

Qrhblagh (2009) a model of fuzzy mixed integer mathematical programming or fuzzy demand was.

2. Materials and methods

2.1. Theoretical

2.1.1 Supply chain

Supply chain logistics management is an integrated business model Is. This section, the flow of goods and the provision of Visitors to the production chain Distribution to the consumer End cover A. To Enhance the overall competitiveness of the enterprise, supply chain management an operational model Considered River. In the 60s and 70s, enterprises in order to increase their competitiveness and improve their internal processes attempted to Baa standard better quality products and lower cost to produce. In the 80s, with increasing diversity in the patterns of customer expectations, organizations are increasingly Pzyrshdr to increase flexibility of production lines and develop new products to satisfy the needs of customers interested in. The early 90 AD, as well as improvements in production processes and the use of re-engineering models, managers found that many industries for the continued presence on the market only improve internal processes and not enough flexibility in the ability of companies and parts suppliers in the materials with the best quality and lowest the cost of producing and distributors products should also have a close relationship with manufacturers market development policies, with such an attitude, approach and supply chain management institution into being. On the other hand, the rapid development of information technology in recent years and extensive applications in supply chain management, supply chain management, new ways of doing many of the activities is essential. Demand for high quality customer service and rapid increase in the pressure has been is There is, therefore, more than this alone cannot handle all the work. In the competitive market, businesses and productive addition to the organization and internal resources, to manage and monitor resources and related elements outside the organization needs to have. The reason for this is access to benefits or advantages with the aim of gaining a greater share of the market. The supply and demand activities such as planning, material procurement, production and Product planning, product maintenance, service, inventory control, distribution, delivery and customer service, all of which previously took place at the corporate level now shifted to the level of the supply chain. The key issues in supply chain management, control and coordination of all these activities. Supply Chain Management (SCM) is a phenomenon that can do it in a way that customers reliable and rapid service with quality products at the lowest cost receive.

Supply chain on all activities associated with the flow and transformation of goods from raw material stage (extraction) until delivery to the final consumer as well as the information flows associated with them will be included. On the whole supply chain, all activities related to the flow of goods and the transformation, from the raw material to the final product delivered to the customer are included. About the Kaladv other streams that flow of information and the flow of credit and financial resources also present. (Eidro et al., 2010)

SCM on the integration of supply chain activities and related information flows through improved supply chain relationships in order to achieve reliable and sustainable competitive advantage, is included.

2.1.2 Fuzzy parameters

Fuzzy set theory, first proposed by Professor Zadeh (1965). This theory is capable of many of the concepts, variables and systems that are vague, inaccurate and out of context in the form of mathematical reasoning, inference, control and decision making under uncertainty provide.

Many models, which are concerned with quantitative and numerical and one of the best ways to show this ambiguity, the use of. Fuzzy number, a normal convex fuzzy set is defined as the actual values. Fuzzy numbers may be defined in different ways in the meantime, triangular fuzzy numbers are the most used in the calculation phase.

2.1.3 Methods for ranking fuzzy numbers and fuzzy model into deterministic models

Various methods have been developed for solving mathematical programming phase. The most important methods for solving problems of mathematical programming phase will be the Max-Min method, combined Maks- mine operator convex, phased and pragmatic approach and Huang Lai noted.

To show the effect on output parameters and objective function value. That should include recognition of a fuzzy limits: Dgzt.

G in a phase in which demand product sales center z in period t is a symmetric trapezoid fuzzy number. Given the other restrictions of the same model are smaller Ku, but limits the demand is greater than or equal because of the type of objective function is minimization. (Pishvaee et al., 2010)

2.1.4 Suppliers

Of one of the techniques Group management to determine the total The measures, nominal group technique Is. In this process, the participation of all people and all measures and options Available to fairly judged Answer. The issue, according to the Comments were the four general criteria (quality of service, cost, risk factors and characteristics of supply A) to The main topics were agreed as criteria and then identified and comments and criteria different parts of a total of 28 sub-criteria for supplier selection Suppliers on a global scale in each of the core of the conceptual framework, include: Expenses (cost of materials, transport costs, management costs, logistics costs), quality (rate of return, reliability, innovation, ability to repair, research and development) services (customer attitude, communication, response rate Overall, the communion, the use of technology), shipping (accuracy, latency, location), trust (reputation, ability and competence). Liang and Cheng (2008) The court to When, quality, cost, expertise (expertise), call Of the needs of customers, long-term relationship with suppliers By Amin and Zhang (2012) Price (delay costs, transport costs, tariffs Customs), quality (number

of defects, product return rates, quality assessment, quality problems), services (program delivery, research and development support, ease of communication) feature Security (The financial condition, history and history of performance, capacity, production facilities) Lander et al. (2007).

3. Discussion and results

3.1. Properties Security Business

Background and security features for choosing the best provider It is of utmost importance. Companies want to work with supplier's recent high value Are. They the history and performance of suppliers Business About the choices they make Making the There. Some features Important Security Participants are summarized below: a) management and organizational structure: producers want to work with security Visitors have the correct and sustainable management and organizational structure are. Organizational Structure Supply The relationship of supply with manufacturing production. As a result, manufacturers prefer not to provide a major problem with its organizational structure, work. The management structure Significant all ties will be confused. B) financial situation: financial stability, such as economic structure and stability of supply Is of paramount importance. The supplier selection process Global suppliers, manufacturers have to review and consider the financial situation in their choice. They can provide analysis of financial condition of the annual earnings reports etc. Gain. C) reputation: reputation companies Satisfaction or dissatisfaction caused by customers A. D) Experience: History Security It is likely that the outcome of future performance. The supplier selection process Suppliers must provide the manufacturer to analyse the experience Suppliers including business resources, response to market conditions and delivery Their time. E) near relation: Security Recent customer oriented with a good structure should be an option Others are preferred. Security with this capability, users can keep your customers happy. Respond to changes, flexible and, according to the wishes and the needs of producers and accept the new conditions, including key factors in the closer relationship between supply Suppliers and manufacturers considered A. and legitimacy in a global environment, compliance with laws and legitimacy in all sectors of the utmost importance. Security must all licenses and documents Is required to not cause problems in the future for the organization.

4. Conclusion

The first critical step in managing the global supply chain, choosing the right partners is. To Therefore, this paper aims to highlight the importance of supply chain management and procurement in the global supply chain system is. Choose the best and most competitive in the world's biggest problem today, large companies are in critical need of a methodology for security assessment Recent and choose the best option from among them. the results of this study showed that the choice of reliable suppliers as well as the use of fuzzy parameters and optimizing the supply chain improves. The results showed that the combination of Parameter fazy and reliable suppliers for better functioning supply chain.

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