

A MIXED MARKETING STRATEGY USING AN INFORMATION SYSTEM TO BUILD CUSTOMER RELATIONSHIPS IN THE LOGISTICS SECTOR

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Abstract—It is essential for a firm to build a good and strong relationship with their customers. Information and Communication Technology, with its digital transformation, plays a big role in connecting a firm with its customers. A good and strong customer relationship can be initiated by the exchange of information and providing them with better, faster and competitive prices. The firm could become a partner to the discussion in order to solve the customer's problems and to provide solutions for every bottleneck problem. Marketing mixed strategies, when applied by a firm, build a strong customer relationship using management information systems that help them to serve better, faster and with an excellent delivery schedule, reducing the cost of transportation and logistics, hence both the firm and customer will benefit. The purpose of this paper is to present "Smart LogiS" (*Smart Logistic Solution*), an application developed to satisfy the customer need for logistic solutions using information technology in order to build a strong relationship between the firm and its customers.

Keywords— *customer value, marketing mix, service differentiation, strong customer relationship*

I. INTRODUCTION

The logistics sector has now become one of the most rapid changing sectors in business today. Having an on-time delivery schedule that is faster, where items are to be delivered at any quantity with competitive prices, has become a challenging task. This task includes keeping the existing customers (customer retention) and getting potential users to become customers. It is hard to count, but there are presently thousands of logistics companies competing with one another, offering similar services in the market, thus forcing the company to seek to stand out from the crowd if they want to survive. Through the marketing mix strategy, this article is important for any involved in the business of the logistics sector whose

company focuses on building customer relationships. With better and stronger relationships, the customer will continue to use the company's services for long periods. This is because the company is always putting in their best effort, solving the problems facing the customer, trying to sit together between the suppliers and supply chain as a whole, and offering an alternative solution to satisfy their needs and wants while also evaluating all things that maybe cause dissatisfaction.

II. LITERATURE REVIEW

Marketing involves a number of activities. Once a target is decided, the product or service is to be placed in the market by providing the appropriate product or service, price, distribution and the associated promotional efforts. These are combined at an appropriate proportion to achieve the marketing goal. This is commonly known as "Marketing Mix". Kotler said that 'Marketing Mix' is a set of controllable variables that the firm can use to influence the buyer's response. It is clear that marketing objectives are used to influence the buyer's response and to prompt them to purchase the product or service provided by the firm.



Fig 1: Marketing Mix Strategic Approach

The intention of this mix is that it is a systemic and harmonic point of view that is effective at influencing customers. What the needs and demands of customers are that should be considered are that the (service) product is of good quality in a suitable and proper

situation and at a reasonable price, even with contemporary marketing. This means that people are continually trying to discover new ways to improve the (service) product, situation, price and its enhancement. They are also seeking to gain customer satisfaction regarding their product quality (Alipour and Darabi, 2001). Marketing Value Offer or Marketing Mix (4Ps) is at the heart of marketing strategy and it is about choosing target markets (customers) and preparing a value offering for those customers (Ozturkoglu, 2016). In the service industry, marketing mix efforts hold an important position. As for the logistics services industry, there exist thousands of logistics companies offering similar services (Oflac et al, 2015).

A. Logistics.

Logistics is the management of the flow of goods between the point of origin and the point of consumption in order to meet any involved requirements, for example, those of the customers or corporations. The logistics of physical items usually involves the integration of information, material handling, production, packaging, inventory, transportation, warehousing and security. The minimization of the use of resources is a common motivation in logistics for import and export (Xiang Li, 2014). The Council of Logistics Management (now renamed as the Council of Supply Chain Management Professionals) referred to logistics as “the process of planning, implementing, and controlling the efficient, effective flow and storage of goods, services, and any related information from the point of origin to the point of consumption for the purpose of conforming to the customer’s requirements.” This includes inbound, outbound, internal and external movements and the return of materials for environmental purposes. Nevertheless, we present a rather widely adopted definition in this study, as provided by (J.T. Mentzer, R. Gomes, R.E. Krapfel, 1989). It is rather broad and it is not concerned with focusing on any specific discipline area. It adequately rejects the breadth of issues that are usually covered under this term: “Supply chain management is defined as the systemic, strategic coordination of the traditional business functions and the tactics across these business functions within a particular company and across businesses within the supply chain, for the purposes of improving the long-term performance of the individual companies and the supply chain as a whole” (J. T. Mentzer, W. DeWitt, J. S. Keebler, 2001). Generally speaking, the supply chain is a broadened concept with a wider range which can involve other similar subjects, such as network sourcing, supply pipeline management, value chain management and value stream management (Lamming and J. Hampson, 1996; Saunders, 1997). From the logistics provider perspective, service quality is measured by the ability to fulfill the customers’ orders (Limbourg, Giang and Cools, 2016). This definition is shared by others (Rinehart, Cooper and Wagenheitn,

1989) and it is seen of as an intelligent basis for the integration of marketing and logistics activities (Collier, 1991).

B. Information System

Today’s activities, including business activities, are always connected by sending and receiving information continually. The number, type, size and purpose of the information increases massively follow the growth of the business and its customer’s needs. The traditional style of managing the data using a computerized system has lost its power to calculate. This situation needs a new modern system which can process more data in a way that is faster, efficient, cost saving and reliable, so then it is useful for the management to use to make good decisions. To answer this question, a new concept for information systems will be developed to meet this condition. According to Laudon, *information systems* can be defined as a set of interrelated components that collect (or retrieve), process, store, and distribute information to support decision making and control in an organization (Laudon and Laudon, 2014).

Parallel to Laudon, O’Brien and Marakas explained that people rely on modern information systems to communicate with one another using a variety of physical devices (*hardware*), information processing instructions and procedures (*software*), communication channels (*networks*) and stored data (*data resources*) (O’Brien and Marakas, 2007). In other words, information systems connecting one part with other parts which are interrelated use physical devices to manipulate the data and processing into information that can be used for decision making. Essig (2000) found that coordinated procurement can reduce transaction costs, allowing for a lower purchase price to be obtained and leading to the more efficient use of procurement. [Bishop] showed that coordinated procurement can lead to the integration of the purchase process, better continuity and coordination and economies of scale. Tella and Virolainen (2005) argued that coordinated procurement members want to reduce their procurement costs and achieve lower management costs, lower logistics costs and higher mobility of the inventory. From the above analysis, we can absorb the following insights and future directions in the area of operational research related to logistics and supply chain management.

First, the logistics issue regarding people’s livelihood becomes a hot spot. *Second*, new directions for logistics and supply chain management can be brought about by the development of the economy and technology involved. *Third*, environment-related research will continue to be a big issue. *Finally*, multiple methodologies are an important direction for future study (Xiang Li, 2014). *Business processes* refers to the set of logic-related tasks and behaviors that organizations develop over time and use to produce specific business results and the unique manner in

which these activities are organized and coordinated (Laudon and Laudon, 2014, p.41). Businesses continuously seek to improve the efficiency of their operations in order to achieve higher profitability. Information systems and technologies are some of the most important tools available to managers for achieving higher levels of efficiency and productivity in their business operations, especially when coupled with changes in the business practices and management behavior. When a business really knows its customers and serves them well, the customers generally respond by returning and purchasing more. This raises revenues and profits (Laudon and Laudon, 2014).

C. Types of Information

Recurrent: this is the information required by an organization on a day-to-day basis. This includes the customer expectations, changing needs and the market share of the product. *Monitoring:* this refers to the market-related information collected by scanning information sources on a regular basis such as magazines, articles, government reports and annual reports. *Requested:* this information is generated in response to explicit requests from the marketing department (Vyas, Vyas and Devra, 2014).

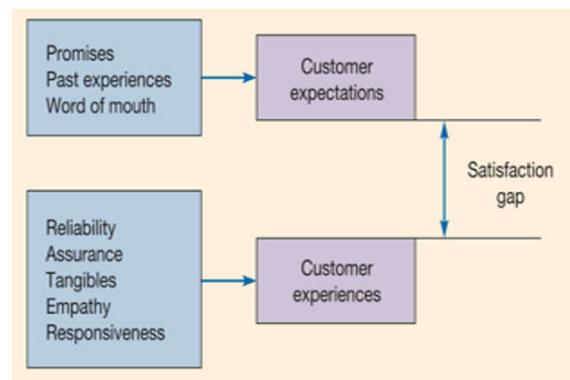
D. Managing the Customer Relationship

The sustainability of the company depends on the revenue or profit of their operations. It is very important to the company to maintain its existing customers and for them to continue using the company services. This is as well as finding new customers. Mutually satisfying and understanding one another in order to develop a good relationship with the customer in the long run will be of benefit for both the company and the customer, who returns to use the company's services. *Relationship marketing* aims to build mutually satisfying long-term relationships with key constituents in order to earn and retain their business (Kotler and Keller, 2016, p.43). The focus is on building lasting relationships through time and on post-purchase activities, all of which are subsumed under the term 'relationship marketing' (Kapferer, 2008, p.161). After having satisfied the customers, the firm can rely on this type of customer to improve its profitability. Moreover, if the trend of satisfaction among the customers keeps improving, then the company would expect customer loyalty. Loyal customers benefit the company in the long run.

E. The strategy to Developing a Strong Relationship

According to Timm, job number one for any successful organization must be to build customer loyalty by understanding what turns off customers, by holding on to potentially lost customers, by nurturing a "strong relationship" and by exceeding, in positive ways, what the customer expects from their experiences with the organization. He shows how to develop customer loyalty by giving the customer a high satisfaction surplus (Seven Power Strategies for Building Customer Loyalty) (Timm, 2001). The

expected value from the company to the customer is obtained by the interchange of data. The importance of collecting and analyzing competitive data focused on customer service performance is the greatest in firms that rely on their customer service skills to differentiate their products from the rest. Competitive intelligence is needed for strategic logistics planning to determine how logistics can be used to differentiate a firm in the marketplace and to provide a distinct competitive advantage (Copacino and Rosenfield, 1985). The concepts underlying lean consumption boil down to six simple principles. 1. Solving the customer's problems completely by insuring that all of the goods and services work and work together. 2. Don't waste the customer's time. 3. Provide exactly what the customer wants. 4. Provide what is wanted exactly where it is wanted. 5. Provide what is wanted where it is wanted and exactly when it is wanted. 6. Continually aggregate solutions to reduce the customer's time and hassle (Womack and Jones, 2005).



Source: adapted from Parasuraman, Zeithaml and Berry (1985) by Hooley et al (2017)

Fig 2: Assessing customer satisfaction

III. RESEARCH METHOD

In this paper, an empirical study and preliminary qualitative research design was implemented in order to analyze the importance of building customer relationships. Interviews were conducted with some of the customer supervisors, procurement managers and owners sampled, in which the interviews lasted from 10 to 20 minutes. The interviews that determined service quality, service attributes, service processes, delivery process, physical moving, storage, place-service to supply chain, safety issues during storage and delivery, price and promotions all took place in a limited location in the regional area of Medan, North Sumatera Province, Indonesia. Advanced research needs to implement a questionnaire, a wider range of interviews and a further ranging area for the survey to give a bigger picture.

IV. RESULT AND DISCUSSION

The objective of this paper was to apply the above concept to real business practices, especially when and where working with logistics handling including custom clearance, storage, handling and transportation. The quality of service provision, and subsequently the level of satisfaction of the customer, is directly related to the difference (or ‘gap’) between expectations and experiences (Hooley et al, 2017). There is a race between manufacturing companies in their respective market segment to present their product in a manner that is available physically without delay when needed with a reasonable price and accepted quality. The customer wants to be served with the product being handled well and the company should manage their business with care. The customer is very fragile and can turn to a competitor anytime they want. There are a numbers of evaluations available focused on the performance of services, and the most enduring classification is the five-dimensional model proposed by Parasuraman *et al* (1988). It is easily remembered using the acronym RATER: Reliability, Assurance, Tangibles, Empathy and Responsiveness (Hooley et al, 2017). The delivery schedule will be the main concern of this paper as it is the failure to fulfill a delivery schedule. This will increase some of the costs. The four types of cost of inventory are: 1. Item cost, 2. Ordering (or set up) cost, 3. Carrying (holding) cost – cost of capital, cost of storage, cost of obsolesce, deterioration and loss and 4. Stockout cost (Schroeder, 2018). This paper will introduce an Android application on a digital basis named Smart LogiS (Smart Logistic Solution). This study will also develop a complete solution to *handling import logistics*, including customs clearance, quarantine inspection, port handling, delivery, packaging/repackaging, storage and redelivery to the final destination, where the main objective is to reduce or avoid any additional costs due to any changes from the customers. This way, the items are to be sent only when needed and at the required quantity. This application trying to give a solution to minimize cost of inventory because of this application easily adjust delivery schedule when customers need change. Changing to the schedule would be difficult and will takes time if do it manually. The Smart LogiS (Smart Logistic Solution) application give the ability, flexibility and capable to rescheduling quickly by using the information system as reducing operational cost will follow automatically because of handling and delivery depend on what, where and when needed. Planning and coordination between the company and its customers is easier, saves time and reduces the number of errors. This is a must.

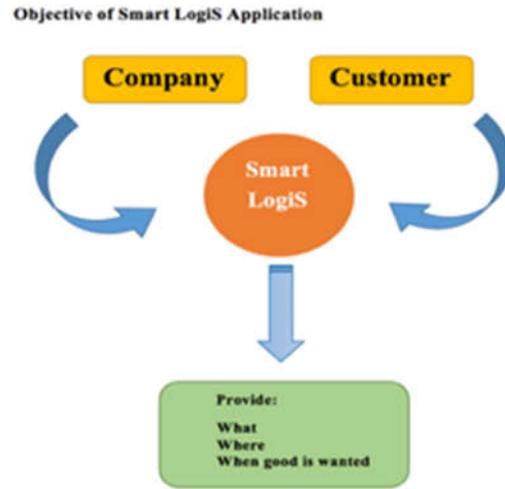


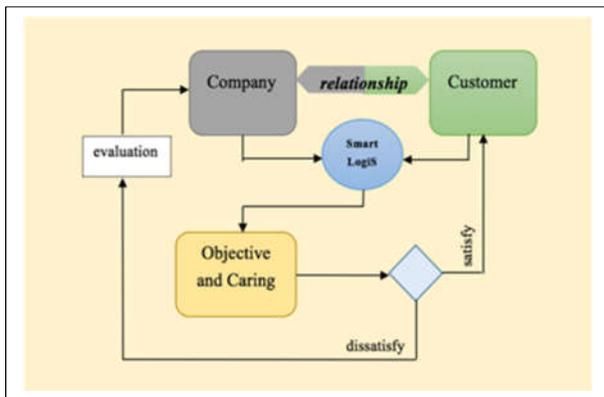
Fig 3: Objective of the Smart LogiS app

Most problems facing the customer are due to miscommunication or a lack of information among their shippers because in between the start and finish, there are two or more parties involved to the shipping process, say the loading port, the shipping company, the controller of the transshipment schedule, the agent at the discharging port, the forwarding company, container depo etc. The chain of information given to these parties, unfortunately, is often imprecise so then the company is always doing their work through trial and waiting for the given schedule. The solutions offered by this application include scheduling, budgeting according to the duty fee and tax, the customs clearance processes, handling the cargo, delivery, packing and repacking, storage, redelivery etc. One important thing is flexibility in the schedule and having a design to match almost all of the required volumes and quantity. The objective is help to find a minimum cost and to reduce or avoid any additional costs which may potentially occur. This study focuses on lowering the costs, as described by a trio of economists – Adam Brandenburger, Barry Nalebuff and Harborne Stuart – who remind us to think not only about what’s best for the company but also about how it affects others with their strategy and if it can provide added value. The customer’s willingness to pay essentially secures the customer’s satisfaction with a good service, and the supplier’s (here acting as the company) willingness to supply essentially secures the opportunity cost. This is the lowest price at which company is willing to sell to a particular firm (Montgomery, 2012, p.54). This has been shown in the chart below.



Fig 4: Strategy and Added Value (Source: Montgomery, 2012, p.53)

Service Routine Delivery from the company to the customer as requested assures the customer that them receiving the cargo is a routine activity. If there are any changes by the customer, then flexibility in the delivery can be enacted such as adjusting the quantity and schedule through the application. The company will prepare this request and act immediately. This strategy will give the perception that the company is responsive to their needs and wants. This perception will give the customer the perception that company care and empathy when finding a solution to their problem will satisfy their needs. The company takes their place indirectly in the supply chain by fulfilling the delivery of goods from within the production process or through their selling activity exactly when needed. In the long run, this good relationship will stimulate a strong customer relationship. Smart LogiS works with the technology information process, in which the data exchange and processing depends on the availability of the internet, using electronic hardware i.e. handheld gadgets, computers and having the required software to process the input data. A company's marketing mix elements play into its function of bonding with customers by using this application and advanced information technology. Nevertheless, creating a strong relationship always needs continuous evaluation as described in the below figure.



Figures 5: Building Customer relationship through SmartLogiS

Customer satisfaction can be accessed through their expectations. The repurchase of a company's product means that the "satisfaction gap" becomes narrower and it may even be eliminated between the company's experiences and the customer's expectation. In the long run, a company should enhance and enrich this relationship by widening the options of the services provided. Perceived product quality is defined as the consumer's judgment about a product's overall excellence or superiority (Chen and Dubinsky, 2003).

For the results of this discussion, the company differentiated their services from those of other competitors by evolving a simple yet powerful android application called Smart Logistic Solution (Smart LogiS), which could be accessed through a smart phone. It is an alternative way for the company to build a relationship and a new way to satisfy what the customer needs and wants. The distance, or "gap", between the company and customer becomes narrower. Technology, in this case the smartphone, the software, an internet connection, cloud technology and the information itself are the interrelated components that help the management to obtain the best decision available to them. If the customers respond, then this means that the relationship has already been constructed and so the company is on the right path. Moreover, if the customers return and purchase more, then a strong relationship has occurred and this condition will raise revenues and generate profit.

V. CONCLUSION:

All marketing mixed elements work together in one information system that is integrated and linked with human methods for collecting information from both internal and external sources, analyzing them to obtain a decision. Marketing Mix strategy, through the information system, is trying to gain an advantage over its competitor and through the human resources of the company and through the operational people, it has an improved operational efficiency and flexibility by exchanging data using communication networks. To provide high-quality services, a company must first understand its customers' needs and expectations. In this paper, the service quality scale of logistics providers is where customers' perceptions begin to form and develop from the order placement through to service completion. They may place a difference in emphasis on the service quality. The flexibility to respond to the customers' changes is to the company's advantage. The ability to reschedule quickly using the information system is easier, it saves time and the errors are reduced. A company should pay more attention to weaknesses such as the shipping links, freight, the cost of storage, any free time periods, agency fees and shipping charges, in addition to the claims and haulage costs that can create favorable conditions for logistics services. The company needs to do all that it can to create product service differentiation. This is related to the company's objectives as well as caring for the

customer's needs and wants, providing them with an alternative solution to fulfill their expectations. This offers the best value to the customers and this will create a strong relationship in the long run.

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