Research Article

Supply Chain Conceptual Model in Logistic Operation Strategies for Best Practice Performance

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Abstract.
Business actors, ranging from national to global levels, seek to capitalize on competitive advantages, and modern supply chains often adopt a globally distributed manufacturing system by outsourcing logistics processes to service providers. In the FMCG (Fast-Moving Consumer Goods) industry, companies must effectively control the supply chain through the establishment of a robust logistics and SCM (Supply Chain Management) management system. This study aims to analyze and describe an efficient logistics management model in the FMCG industry to enhance company performance. The research employs a qualitative descriptive method, utilizing a narrative literature study and conducting case studies on FMCG companies in Indonesia. The study's findings demonstrate that building and implementing an effective logistics model, particularly through the integration of information technology, service quality, and communication, along with optimizing delivery methods, can significantly improve company performance in the FMCG industry. Moreover, the study highlights the impact of commitment and trust on loyalty, attitudes, and behavior concerning logistics management within the FMCG sector.

Keywords: business, FMCG, logistics, operations management, supply chain management

1. Introduction

The supply chain management (SCM) strategy is the main backbone and plays a very important role in the operations of both for-profit and non-profit business organizations [1]–[3]. There is no single company that produces goods or services to meet consumer needs apart from SCM practices. In addition to playing a role in ensuring that the company's products reach consumers, SCM also plays a role in obtaining quality third parties and supporting roles for the progress of business organizations. SCM is an integrated method among the parties involved, either directly or indirectly in producing products or services [2], [4]. Where it starts in the process of getting raw materials from suppliers, goes to the production process and ends in the delivery process to end users based on the spirit of collaboration in order to realize the common goal of customer satisfaction [5].

The e-commerce industry or online trade opens up new economic opportunities and opportunities for various business sectors [6], especially in Indonesia. McKinsey data estimates that by 2022, the value of the e-commerce market in Indonesia will reach US$ 65 billion or around Rp 948 trillion. The advancement of this industry allows the Fast-Moving Consumer Goods (FMCG) business to reach buyers from all regions of Indonesia on a digital platform, without being hampered by distance and time factors. In addition to the increasing opportunities for FMCG products to grow, FMCG companies face several challenges in this digital era. Among them, the FMCG business often finds it difficult to get raw goods on time and faces high logistics costs, then it is difficult to build new skills due to limited human and financial resources [7].

There are a number of players or organizations involved in SCM, each player/organization can be located in the same area or in different provinces, islands, countries or continents [8]. The SCM process and its logistics can be very complex across national and continental boundaries that are thousands of kilometers long, so the implementation of SCM requires a method, accuracy and good cooperation between one actor and another. Any company that is able to manage the supply chain well, they will be competitive in the market and they will win the competition. So, implementing SCM and good logistics is very necessary if we want to compete in the market.

Determining the right supply chain for the company is very important to create the competitiveness of a company. Companies must be able to implement supply chain management strategies by providing products at the right place, in the right quantity, and at the right time [9]. If the production cycle time is shorter, the product will reach the consumer faster too. If the product quality is better, the quality competitiveness in the market will be better.

Logistics refers to a process starting from planning, implementation, to supervision that aims to achieve the effectiveness of the plans that have been made [10], [11]. Therefore, it is important to manage and maintain every asset in the logistics process so that the values of assets and products are not reduced and can provide profits in the business [12]. This management or arrangement is known as logistics management, so that logistics and the management processes in it are an inseparable unit. Efficient and effective logistics in supply chain management processes need to be supported by a management information system based on enterprise resources planning (ERP), whose function is to integrate all elements of related entities into a single supply chain management network [13]–[15].

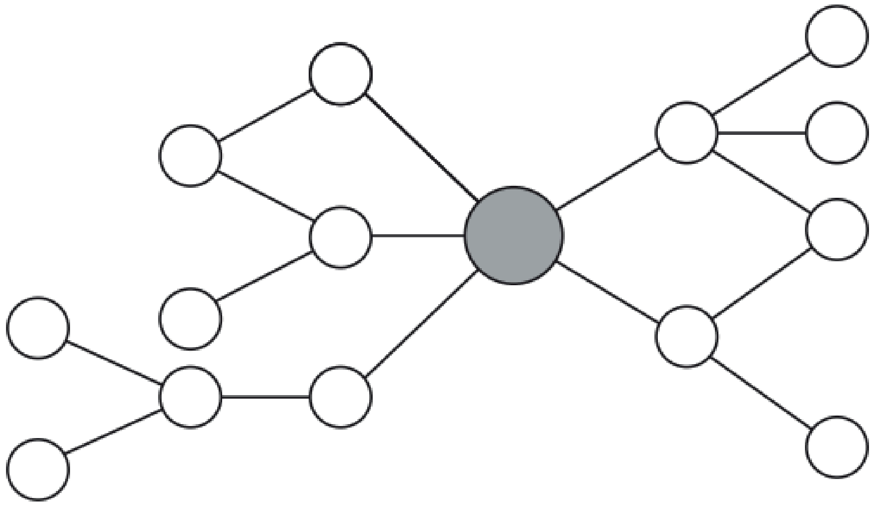

Figure 1: Networking in triangular based of competitive advantage linkage.

Similarly, the word 'chain' should be replaced by 'network' because there will usually be many suppliers and, indeed, supplier to supplier as well as several customers and customer customers to include in the total system. **Figure 1** illustrates the idea that a company is at the center of a network of suppliers and customers. The purpose of supply chain management is not only to integrate upstream and downstream activities, but also to structure the supply chain of a service or manufacturing company so that it is wider and has a competitive advantage compared to its competitors. This study aims to create a supply chain conceptual model in logistics operation strategies that can be used to improve company performance optimally based on the experience of the best companies in the FMCG industry in Indonesia.

2. Method

This research method used qualitative approach with a literature survey method. Qualitative secondary data analysis is carried out in a way based on the theory which can be applied to the focus of the problem [16]. Descriptive research attempts to describe a symptom, event, and incident that occurs when the researcher tries to photograph the events and incidents that are the center of attention and then describe them as they are [17]. Descriptive research methods are used to solve and answer problems that occur in the present. The study used primary data using in depth interviews with selected companies and also primary data obtained in Focus Group Discussion with relate entities similiary supply chain key person in one of good reputation company. While for secondary data using third-party data such as, books, white papers, journals, articles and others.

3. Result and Discussion

3.1. FMCG in Indonesia

FMCG is a term used for various products with affordable/cheap prices and can be sold quickly, such as products for consumer households, which usually measure the time to store them for a short time because they are often used immediately after purchase [18]. Examples of household FMCG products such as cosmetics, medicines, drinks or snacks, toiletries and so on. The term FMCG is familiarly used in Asia, Europe and Oceania. In general, FMCG does have several products with a short shelf life, focusing more on consumer loyalty and also products that can be consumed or used in their daily activities. Therefore, from various companies with FMCG sector, it can be ascertained that the trading volume is large, and even many FMCG companies have crossed to various countries in the world. Thus, it can be concluded that a wide distribution network is very important for an FMCG company to be successful. Characteristics and variety of FMCG companies [19], [20], namely:

1. Characteristics of FMCG from a consumer perspective
2. Repeat purchases;
3. A more affordable or cheaper price;
4. Shorter storage time than other items, other than FMCG; and
5. Consumed by consumers continuously.
6. Characteristics of FMCG from a seller perspective
7. High sales volume because FMCG is often used by consumers;
8. Low contribution margin; and
9. Extensive distribution.

10. Variety of FMCG products

11. Processed foods, such as ready-to-brewed pasta, ready-to-brewed chicken porridge, cereals, instant noodles, instant rice and so on;

12. Beverages, such as bottled mineral water, packaged juice, soda, packaged coffee, jelly, nata de coco, packaged iced chocolate and so on;

13. Pastry, such as various sweet-tasting snacks, cakes, breads and so on;

14. Fresh and frozen foods, such as vegetables, fruit salads, vegetable salads, frozen french fries, chicken nuggets, chicken sausages, beef sausages, meatballs, chicken karage, shrimp tempura and so on;

15. Medicines, such as vitamins and drugs that consumers can buy even without a prescription;

16. Cleaning tools, such as dish soap, floor cleaner, detergent and so on;

17. Cosmetics and personal care, such as toothpaste, shampoo, bath soap, body scrub, body lotion, facial cleansing soap, makeup, hand cream or various other cosmetics; and

18. Equipment to support office work, such as rulers, pens, pencils, erasers, markers, and others.

In essence, FMCG products or goods are produced on a large scale, because consumers often buy FMCG products. FMCG products can be stored for a maximum of 2 years. Based on Brand Footprint Indonesia 2022, national FMCG companies that dominate the needs of FMCG products in Indonesia include PT Indofood Sukses Makmur Tbk (INDF), PT Mayora Indah Tbk (MYOR) and Wingsgroup [21]. Table 1 shows the ranking carried out by YouGov BrandIndex 2021 by taking the average impression, quality, value, satisfaction, recommendation, and reputation scores over a 12-month period.

One of the focuses in the FMCG industry is meeting product availability for customers. Therefore, the role of Supply Chain Management (SCM) is needed. As a company that produces basic necessities and sells out quickly, it can be said that the prospect of FMCG business in Indonesia is quite high. The FMCG business prospects are as follows:

1. Large population, resulting in increasing demand so that companies must produce goods in bulk and continuously;

Table 1: FMCG Rankings in Indonesia 2021.

PERSONAL CARE			
Rank	**Brand Name**	**Score**	**Company**
1	Pepsodent	50.1	Unilever
2	Lifebuoy	39.1	Unilever
3	Dettol	36.6	Reckitt Benckiser
4	Wardah	31	Paragon Technology and Innovation
5	Vaseline	28.6	Unilever
6	Rexona	27.2	Unilever
7	Nivea	24.1	Beiersdorf
8	Pantene	22.8	Procter & Gamble
9	Dove	21.7	Unilever
10	Rexona Men	21.3	Unilever
BEVERAGES			
Rank	**Brand Name**	**Score**	**Company**
1	Aqua	54.8	Danone
2	Yakult	50.2	Yakult Indonesia Persada
3	Pocari Sweat	40.6	Otsuka Indonesia
4	Le Minerale	39.3	Mayora
5	Good Day	26.8	Santos Jaya Abadi
6	Cimory	26.6	Cisarua Mountain Dairy
7	Teh Botol Sosro	26	Sinar Sosro
8	NutriSari	25.7	Nutrifood
9	Buavita	24.7	Unilever
10	Teh Pucuk Harum	24.3	Mayora
COOKING INGREDIENTS			
Rank	**Brand Name**	**Score**	**Company**
1	Indofood	50.1	Indofood
2	Bango	41.9	Unilever
3	Blue Band	40.8	Upfield
4	ABC	37.3	Heinz ABC Indonesia
5	Royco	32.8	Unilever
6	Bimoli	28.8	Salim Ivomas Pratama
7	Masako	24.1	Ajinomoto
8	Sedaap	21.5	Wings Corp
9	Sajiku	20.1	Ajinomoto
10	Saori	19.8	Ajinomoto

Table 1: (Continued).

PERSONAL CARE			
PACKAGED FOOD			
Rank	**Brand Name**	**Score**	**Company**
1	Indomie	65.2	Indofood
2	Oreo	42.1	Mondelez International
3	Frisian Flag	37.8	Frisian Flag
4	Dancow	35.6	Nestle
5	Tango	34.1	Orang Tua
6	Mie Sedaap	33	Wings Corp
7	Good Time	32.8	Arnott's
8	Kacang Garuda	31.3	Garudafood
9	Roma	30.1	Mayora
10	Chocolatos	29.9	Garudafood
HOUSEHOLD CARE			
Rank	**Brand Name**	**Score**	**Company**
1	Sunlight	52.9	Unilever
2	Rinso	42.3	Unilever
3	Molto	40.1	Unilever
4	Downy	38.5	Procter & Gamble
5	Mama Lemon	28.6	Lion Wings
6	Paseo	26.5	APP Sinarmas
7	SoKlin	25.6	Wings Corp
8	Baygon	24	SC Johnson
9	Wipol	23.1	Unilever
10	Super Pell	20.8	Unilever

2. The price of FMCG products in Indonesia is relatively cheap and affordable by various groups, so that the prospect of FMCG business is high public consumption power;

3. FMCG distribution channels in Indonesia are facilitated by the state because the state provides adequate distribution channels, so that FMCG products can be enjoyed by all Indonesian people;

4. FMCG products are products that are needed on a daily basis by the community, so that the marketing process is not too difficult; and

5. The product diversification strategy is an effective strategy used by the company because people look forward to the latest products with innovations in various aspects.

The characteristics of FMCG companies that produce products with high sales volume, often cause problems on the part of producers because producers must be able to maintain their production capacity to meet market needs. This production capacity is not only the availability of machine and labor capacity, but includes raw material supplies. Raw material supply management including the availability of the number of main materials and supporting materials at the required time with the right quality [22]. From a logistics perspective, this is a problem in the inbound logistics aspect. On the other hand, manufacturers also face problems in the aspect of outbound logistics. Problems can occur in the process of fulfilling requests or sending finished products to retailers. This can occur due to various reasons, such as the unavailability of the type and quantity of the product requested, or the unavailability of the delivery fleet. Based on the results of interviews and literature studies through annual reports in the last 5 years, several problems that arise within the company's internal and have an impact on the company's financial losses. Common problems that occur in the business of the three companies (INDF, MYOR and Wingsgroup) include:

1. Choosing the wrong supplier

   The supplier problem is not only about the existence of the product, but also the lead time so that inventory is immediately available for production. The problem in choosing suppliers also tends to be fixed inventory prices. Ideally, the higher the price of raw materials, the higher the price of the product. The higher the price of the product, it will be very difficult to compete in the market share. Therefore, as an FMCG producer, it is very important to consider the selection of cheap inventory with high quality so that it can sell products at competitive prices by considering its track record and consistency in providing services.

2. Unprofessional logistics management

   In logistics management, there are several functions that cannot be avoided, including the planning function, the need determining function, the budgeting function, the procurement function, the storage function, the distribution function, the maintenance function, the elimination function, and the control function. Of all these functions, not all of them can run efficiently, lack of accountability, and inappropriate planning for the implementation of the management system. Problems in logistics management can also be caused by other factors such as errors in calculating logistics needs or due to limited facilities and infrastructure to support logistics needs.

Weak and unprofessional logistics management system is one of the main causes of failure in the company. An unprofessional logistics management system results in the procurement of goods being not well controlled and the lack of regulation of the warehousing management system. Furthermore, a procurement system that is too weak can hamper the timeliness of supplying raw materials for production.

3. Undirected consumer taste and target market

   It is very important for FMCG business people to know the purchasing preferences of customers which are the basis for selling their business. Thus, the company can determine the type of goods and the amount provided to meet consumer needs. Apart from seasons and trends, several other factors such as economic conditions, marketing, and competition in the FMCG industry can also influence consumer tastes. Therefore, companies must pay attention to factors that can build consumer tastes to produce more accurate demand forecasting.

4. Negative and Provocative Issues

   A bad product can be judged easily and spread quickly. This condition has been experienced by INDF, MYOR and Wingsgroup. Of course, negative and provocative issues can affect other customers and harm the company, both in terms of image and profit. Another problem could be the existence of a company that is not accepted by the community. For example, a food product factory causes waste to the surrounding environment. The company may have to face protests and demonstrations for residents living around the factory. Things like this need to be followed up so as not to have a long-lasting impact on the company. FMCG companies are required to have special Human Resources to manage Corporate Social Responsibility (CSR).

5. Technology That Doesn't Provide Solutions

   The key to the success of FMCG companies is based on two aspects, namely speed and accuracy. Technology must provide convenience for business strategy so that it can predict future business. The technology used tends to be related to technology for collecting and analyzing large amounts of reports. Financial reports are indeed one aspect that cannot be separated from FMCG business operations. Moreover, for a large FMCG company with many branches and sub-branches in each district, of course, it requires a way so that financial reports can be prepared effectively. Currently, there are many types of software and applications to facilitate the preparation of financial reports. With this technology, companies no longer need to use spreadsheets or even pen and paper. Ideally, accounting software or applications can generate reports by saving time and increasing team work productivity. However, not all financial reporting software can provide solutions, so companies are required to be able to choose the right software. Most FMCG companies today rely heavily on business intelligence applications, especially to collect data and gain insights that can be used for decision making. However, sometimes the application does not provide comprehensive information so that it tends to confuse users.

FMCG companies need to find the right way to adapt to the technology used. Companies must also be able to immediately catch the changes that occur in order to stay on top and survive the existing business competition. For this need, technology is needed to prioritize the risk and benefit values of each product category so that companies can identify products that will survive in the market. The existence of various digital applications today is a transition from traditional models to new, more innovative models. With this media, FMCG companies can develop an action plan with a clear work breakdown structure, an appropriate timeline for achievement, and a clear division of labor roles.

However, please note that not all technologies, both digital applications and software can provide solutions and convenience. For example, an application that is too complex with features that are foreign to its users. Therefore, it is necessary for FMCG companies to be more observant in choosing applications that are easy, modern, and can be integrated.

3.2. Supply Chain Conceptual Model in Logistic Operation Strategies

SCM is a system in the form of a flow that regulates a process from the initial input in the form of raw materials and processed. Thus, the output is in the form of finishing goods that can be delivered to the end customer. SCM activities in the FMCG business are proportionally more than 75% carried out in factories. Especially for Input activities such as purchase plans, raw materials, packaging, to activities to ensure standards or Quality Control (QC) for purchased inventory. Furthermore, SCM is still needed to ensure that the warehouse space can collect the quantity of stock it has.

After the input activity is completed, a Work in Process (WIP) will be carried out, which is a series of activities that include processing raw materials in the production machine. Furthermore, Quality Control (QC) activities are still carried out to ensure that the products produced are in accordance with the standards. Until the last stage, namely the packaging of production and distribution of goods. After ensuring that the products produced are in accordance with the standards, the outputs can be said to be finished goods.

Not infrequently in SCM, at the finished goods stage, product arrangement activities will be carried out. Thus, the stock of goods can go out according to the flow, usually using the First In First Out (FIFO) method. The last stage in the SCM process in an FMCG company is to carry out distribution which includes several activities such as plotting the vehicle according to its load to ensuring that the product is delivered in accordance with the sales order from the customer.

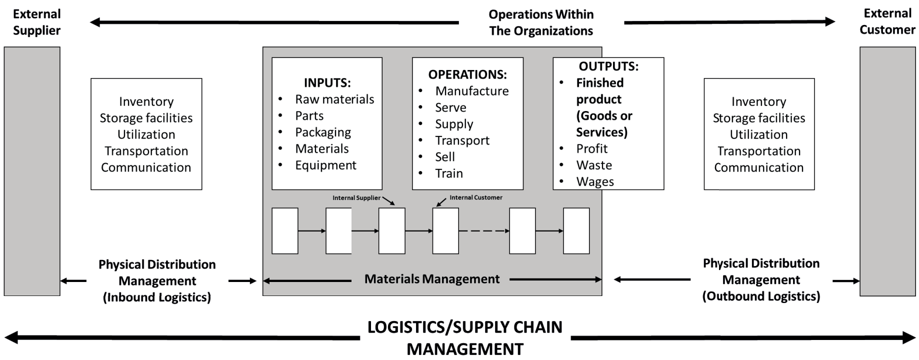

Figure 2: Supply chain conceptual model in logistic operation strategies..

Figure 2 shows the supply chain conceptual model in logistic operation strategies. Physical distribution is an activity of transportation and distribution of goods from the factory where the product is produced to the customer where the customer will buy or use the product [23], [24]. Physical distribution is the movement of goods which includes planning, organizing, implementing, and controlling the flow of materials and final products from the place of origin to the user's place or from the producer to the consumer to meet customer needs at a profit. This distribution is intended for the purpose of marketing goods and transferring them from the producer to the final consumer or industrial user. There are four aspects related to physical distribution, namely; First, the essence of physical distribution. what is physical distribution, what activities, what important decisions. Second, the strategy used by the company to manage physical distribution activities. Third, the role of the warehouse or often referred to as the distribution center, and fourth, transportation.

A company can be viewed as a whole system, as well as the channels used by the company in reaching the final consumer. In this case, the success of the company often depends on the results of its distribution work because physical distribution is a network of organizations that carry out functions that connect producers with end users. Physical distribution consists of interdependent and interrelated institutions and agencies, functioning as a system or network that works together to produce and distribute a product to end users. Physical distribution management (PDM) is the management of the flow of goods from receiving orders by the company, sending goods to goods received by customers. PDM is related to a system that ensures the company's logistics and supply chain strategy is able to form an optimal distributive function. Factors that need to be integrated in PDM include:

1. Order management

   Order management is a very important activity to ensure that customers get what they ordered and with appropriate services to support customer satisfaction. Accuracy and timeliness are the main goals of the order process. Orders can be submitted in various ways by post or telephone, through a salesperson, or via online and electronic data exchange. Once received, the order must be processed quickly and accurately, non-existent products are considered pending orders, goods shipped are accompanied by shipping and billing documents, usually sent to various departments. Both the company and the customer benefit if the processing steps are carried out efficiently.

   Order processing varies by industry, but in FMCG industry order processing consists of four major activities, namely: credit checks; sales records; make accounting entries; and finding items, shipping, and adjusting inventory records.

2. Inventory

   Inventory management aims to minimize the amount of investment and fluctuations in inventory while serving customer needs. Inventory decisions involve knowing when to order and how much to order. In deciding when to order the company balances the risk of shortage against the cost of holding too much.

3. Warehousing

   Warehousing is a means of storing products before they can be sold. A company must be able to decide how many and what types of warehouses it needs, and where they will be located. Therefore it must balance the level of customer service with distribution costs. Today, many companies, such as FMCG companies, have strategic warehouses that can directly process orders so they can be shipped directly to customers.

4. Transportation

   The logistics supply chain must decide which mode of transportation is used to move products from suppliers to producers and from producers to buyers, because transportation costs can account for 5-10% of the product price. Marketers need to pay attention to their company's transportation decisions. Companies can choose to use the means of transportation by land using trucks and trains or by water using ships.

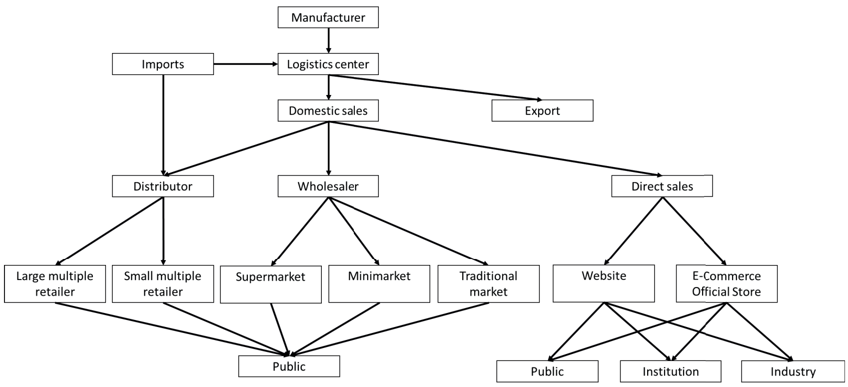

Figure 3: Simplified supply chain for FMCG distribution.

In the FMCG market, customer loyalty from a short-term perspective is often weak, so companies need to provide new insights and innovations through effective supply chain management and logistics (Figure 4).

Many companies face the right challenges with high employee turnover, because it is associated with recruitment and training costs, showing that customer loyalty is a matter of organizing customers as external human resources. Practical contributions to the conceptual model are suggestions for learning from experiences of successful employee recruitment, and employee motivation, when viewing and working with customer loyalty.

4. Conclusion

It is known from the discussion of the conceptual model of logistics management in the FMCG sector that commitment and trust have different effects on attitude and behavior loyalty. Investigates the concept of customer loyalty and presents ideas about beliefs and the need for enterprise-customer identification. Overall, there are strong indications

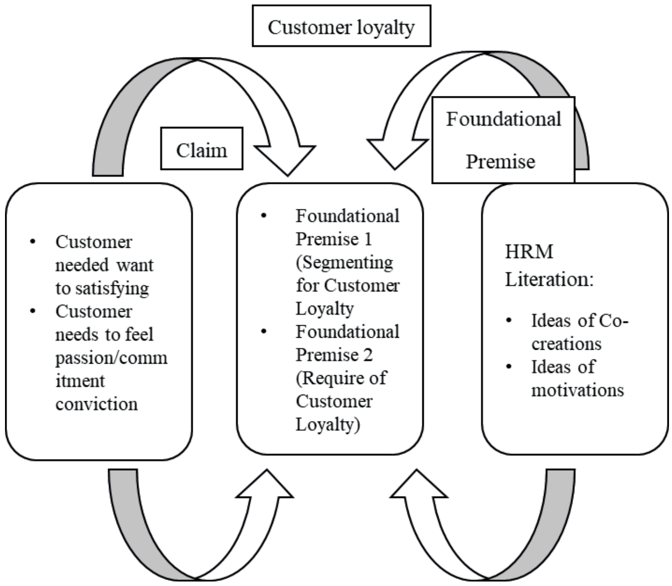

Figure 4: Conceptual model for viewing and using customer loyalty.

that the fundamentals of value are changing, leaving retention and focusing on how to view loyal customers. The skills needed to manage an FMCG company include:

1. Understanding of the product life cycle, because FMCG products are goods that have a short life. The company must know the durability of each product and the estimated amount of production carried out, so that the short-lived product is sold in the right time frame and avoids losses;

2. Ability to capture quality channels so that FMCG products can be distributed evenly and on target;

3. Coordination and management of the field distribution team so that between divisions can carry out product processing in a balanced manner; and

4. Stock analysis and logistics because the movement of FMCG products is very fast.

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