

## The influence of supply chain management on consumer loyalty

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**Abstract.** The purpose of this study is to determine and analyze the influence of supply chain management against consumer loyalty supermarket Maximart Thamrin Plaza Medan. The research method used is descriptive analysis method and simple linier regression analysis method which is statistically processed with SPSS version 16.0 for windows, that is with F-test model, t-test, and coefficient of determination (R<sup>2</sup>). Researcher take sample by purposive sampling method, that is sampling technique by using certain criterion or consideration. The result of determination coefficient of determination (R<sup>2</sup>) adjusted (adjusted R square) is obtained value equal to 0,105, it means that free variable of supply chain management able to explain 10,5% of influence to dependent variable to self-service loyalty Maximart Thamrin Plaza Medan, while the other 89.5% is explained by other variables.

### 1. Introduction

According to David Simchi Levi, et.al [1] supply chain management is an approach used to achieve more efficient integration of suppliers, manufacturers, distributors, retailers, and customers. This means that the goods are produced in the right quantity, at the right time and at the right place with the goal of achieving the minimum cost of the system as well as achieving the desired service level. Supply chain management (supply chain management) is able to overcome the problem of inventory so that the product is available and feasible consumption.

There are two benefits of implementing the first supply chain management to fulfill the importance of fulfilling the merchandise stock that has exhausted properties. The supply of consumer needs products must be controlled. Inventory control is very important. Control is done to control the supply of deficiencies and overproduction, supply, or demand. Lack of these products will cause complaints from consumers and companies will lose a number of opportunities to generate profits. That is the image of the brand and the retail image will be bad. Consumers become less loyal to consume the goods, and the negative impact that more consumers do not deliberately promoting from mouth to mouth to other consumers not to make purchases at retail. While excess inventory will caused harm to the producers.

The second benefit is to meet the customer's needs for the choice of merchandise in accordance with what the customer wants, and where they want it. Inventory control also becomes important because of the ever-changing consumption patterns. Every consumer is different in buying a product. There are intense every day, week, month, and there are also consumers who make a sudden purchase without the planned time or there are consumers who



buy in large or even small quantities even big days should also be a concern in determining inventory.

The core business processes of supply chain management include customer relationship management, customer service management, order fulfillment, manufacturing flow management, procurement, product development, commercialization. In terms of final customer satisfaction and loyalty are preferred [2]

Customer loyalty is a behavioral impulse to make repeat purchases. To build customer loyalty to a product or service generated by a company, takes a long time through a repetitive buying process [3]. Retail is the most important networking eye in supply chain management because retail is going to interact directly with the end consumer. In addition, retail also connects end users with sellers who provide merchandise. Given this role, it is the retailer's responsibility to analyze customer wants and needs and work with other members of the supply chain such as wholesalers, manufacturers, and transport companies, to ensure that the merchandise customers desire is available [4][5].

To meet the specific needs of customers with a large segment, retail is forced to prepare more units of goods (stock keeping units SKU) or more varied merchandise. Although many items are available in every store or retail on a global scale, some shops are often specialized to meet the needs of the local market. Without a sophisticated information system and supply chain, it would be impossible for the network to manage thousands of such inventory items and meet the needs of consumers with relative conformity.

Supply chain management is applied in all retail although not all retail apply it with good management. Seeing the large number of retail supermarkets in Medan, researchers restrict research conducted on 1 supermarket. Supermarkets Maximart is a branch of PT. Supermarkets Maju Bersama located in two plazas, namely in Yang Lim Plaza and Thamrin Plaza. Supermarket Maximart Thamrin Plaza was opened in 2009 while Supermarket Maximart Yang Lim Plaza was established in 2006.

## 2. Method

Data collection in this research is by using method documentation is by collecting and studying existing data in the object of research. The data of this study were obtained from the questionnaires distributed to the respondents.

Validity and reliability tests are intended to get results good research and quality. Test validity and reliability is done to the research tool, in this case is the questionnaire. Valid means instrument it can be used to measure what should be measured and data the data obtained by using the instrument can answer an research. While reliable means the instrument used several times to measure the same object, will produce the same data.

Researchers used the classical assumption test first to determine whether the data distribution is normal, before doing hypothesis testing. Testing These include:

- **Testing Data Normality**  
the normality test aims to test whether in the regression model, the intruder or residual variable has normal distribution ". If the residual value does not follow the normal distribution, test statistics become invalid for small sample count
- **Multicollinearity Test**  
This test aims to test whether the regression model found a correlation between independent variables. A good regression model should not occurs correlation between variables independent.

- Heteroscedasticity Test  
This test aims to see whether in the regression model occurs the variable inequality of the residual one observation to other observations.
- Autocorrelation Test  
The autocorrelation test aims to test whether in the linear regression model there is a correlation between the errors in t period and the intruder error in period t-1 (previous). after the classical assumption test is done then the next hypothesis test.

### 3. Results and Discussions

Testing the validity of the instrument in this study was conducted on 30 Indomaret Padang Bulan Supermarkets Medan. With the questionnaire contains 15 questions concerning the independent variables, namely supply chain management (supply chain management), and variables bound, that is consumer loyalty. Of the 15 questions, 2 items invalid question. The results of the management of the validity test can be seen on table 1.

**Table 1.**Item -Total Statistics

Question	Scale Mean If item deleted	Scale variance item deleted	Corrected Item-Total Correlation	Cronbach's alpha if item deleted	Validity
1	53.1667	33.730	.733	.848	Valid
2	53.1333	33.568	.714	.849	Valid
3	52.9333	38.754	.047	.877	Invalid
4	53.0333	35.964	.402	.863	Valid
5	53.3000	34.079	.409	.866	Valid
6	53.0667	37.444	.155	.877	Invalid
7	53.2667	36.271	.374	.864	Valid
8	52.8333	34.833	.453	.861	Valid
9	53.5000	34.741	.586	.855	Valid
10	53.4333	31.013	.668	.850	Valid
11	53.1667	34.626	.674	.852	Valid
12	53.4000	33.352	.677	.850	Valid
13	53.6667	35.126	.546	.857	Valid
14	53.2333	33.978	.721	.849	Valid
15	53.3333	33.333	.697	.849	Valid

Based on table 1 above then 2 invalid questions in throw away. Thus there are only 13 questions to be disseminated to respondents Swalayan Maximart Thamrin Plaza Medan. Results the validity management for 13 statements.

Simple linear regression analysis is performed to find out how much influence the variable Supply Chain Management (Supply Chain Management) to the Self-Service Loyalty Supermarket Maximart Thamrin Plaza Medan. This analysis is done with the help of SPSS version 16.0 using enter method. This enter method is used for regression analysis in order to know whether the independent variable has a positive and significant effect on the variable dependent.

**Table 2.** Item -Total Statistics

Model	Variables Entered	Variables Removed	Method
1	Supply Chain Managemen <sup>a</sup>	.	Enter

Supply Chain Management is a process the unification of the business from the end user through the original dealers who providing products, services, and information to add value customer. Supply chain management capabilities include operating on efficient, creating quality, fast, flexible, and innovative. Supply ability chain management is designed in such a way as to meet the strategic objectives a product in the eyes of the customer ie, cheap, quality, and timely.

Supply Chain Management (Supply chain Management) tooth paste Pepsodent in Supermarkets Maximart Thamrin Plaza Medan is quite influential for consumer Supermarket Maximart Thamrin Plaza Medan.

The result of the statement data, of which the respondent states agree that supply chain management is applied from supplier and retail is good enough first through Pepsodent price which is quite affordable due to the discounted price through the contract cooperation (trading term) between PT Adam Dani and Swalayan Maximart Thamrin Plaza Medan. The second quality of Pepsodent toothpaste is fixed guaranteed, whereby suppliers of PT Adam Dani and Supermarkets Maximart maintain Pepsodent toothpaste does not pass from 2 years after the production date stamped on Pepsodent toothpaste. This is in accordance with the provisions of the World Organization Health (WHO). When it is close to date then toothpaste Pepsodent will be sold at a discount. The third Pepsodent toothpaste always available at the supermarket Maximart Thamrin Plaza. This is supported by check conducted by the supplier from PT Adam Dani once a week and also the on line system used by Supermarket Maximart Thamrin Plaza. And the fourth all varieties of Pepsodent tooth paste available at the Maximart supermarket Thamrin Plaza Medan.

#### 4. Conclusions

Research on supply chain management to Self-Service Loyalty Maximart Thamrin Plaza Medan yields the following conclusions:

1. Supply chain management is influential positively and significantly to Consumer Self-Service Loyalty Maximart Thamrin Plaza Medan. This can be seen from the result of t test as partial testing. Where the result of t-test is  $t_{count} (3.320) > t_{table} (1.96)$  and a significant value of 0.01 below or less than 0.05.
2. The results of determination coefficient test obtained R value of 0.324 (32.4%). This data shows the level of correlation between management variables supply chain management on Consumer Loyalty Supermarkets Maximart Thamrin Plaza Medan is not tight. From the results R test is also obtained at 0.105 (10.5%). This data means that 10.5% dependent variables are influenced by independent variables supply chain management while 89.5% explained by other factors, such as discounts, environment store, and so forth.

#### 5. Reference

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