

# Customer Relationship Management (CRM) and Logistic Customer Satisfaction

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**Abstract---** Worldwide logistic industry is growing rapidly. Due to the extensive volume of logistics, companies overlooked the important challenge of customer satisfaction which effect adversely to performance of these companies. Low customer satisfaction level is now challenge for logistic companies, particularly in Indonesia. That is the reason the logistic performance is low among Indonesian logistic companies. According to the estimations, Indonesian logistics has low ranking as compared to various emerging economics such as Thailand, Malaysia, India, Chile, Brazil etc. It is found that the companies have low level of customer relationship management (CRM). Thus, this study attempted to address the crucial issues in Indonesian logistic industry and focused on customer relationship management (CRM) to increase the satisfaction level of logistic customers. In this study, customer orientation and technology-based CRM activities are considered to examine the effect on customer satisfaction. Knowledge management is taken as moderating variable. It is found that customer relationship management (CRM) has significant positive effect on customer satisfaction. Knowledge management strengthens the positive relationship between customer relationship management (CRM) practices and logistic customer satisfaction.

**Keywords:** *Logistic, customer satisfaction, customer relationship management, customer orientation, technology-based CRM.*

## 1. Introduction

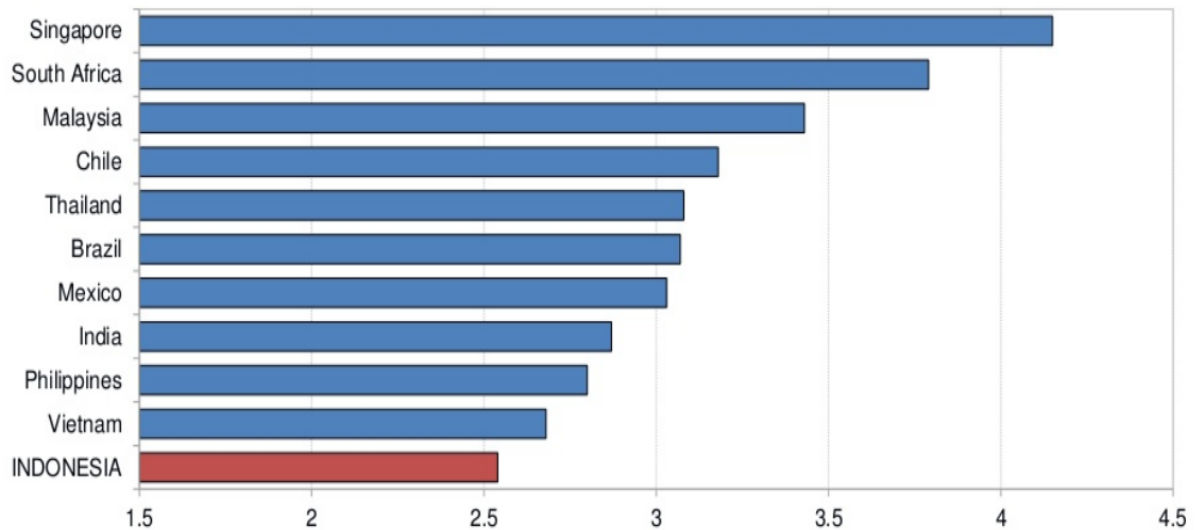
Logistic industry is an important industry which has worldwide importance. It has important contribution to the employment ratio worldwide [1, 2]. This industry is much important for various countries as it supported the economic development

[3-7]. Therefore, good performance of logistic industry has central importance worldwide. As better performance effect positively on economic growth.

Better performance of logistic industry required logistic customer satisfaction. Increase in customer satisfaction has positive outcomes in terms of performance [8, 9, 47-50]. Therefore, customer satisfaction is most important part of logistic success. It is the guaranty to get success in logistic operations. Thus, most of the companies are focusing on customer satisfaction on priority basis as compared to other elements.

Worldwide logistic is growing rapidly. Due to the extensive volume of logistics, companies overlooked the important challenge of customer satisfaction which effect adversely to the performance of these companies. That is why, this industry has various challenges and gowing increasingly [10, 11]. Major challenges are based on the customer relationship management (CRM). Low quality customer relationship management (CRM) practices decreases the performance of this industry, particularly in Indonesia.

Indonesian logistic industry facing different issues which decreases the overall ranking worldwide [12-14, 47-48]. Figure 1 show the ranking of logistics. It is evident that the Singapore is on top worldwide in logistic performance following by the South Africa which has second position. Malaysian logistic industry has third position and Chile has fourth position from these emerging countries. However, the Indonesian has last position in logistic performance. Thus, the Indonesian logistic industry faced serious issues in performance.



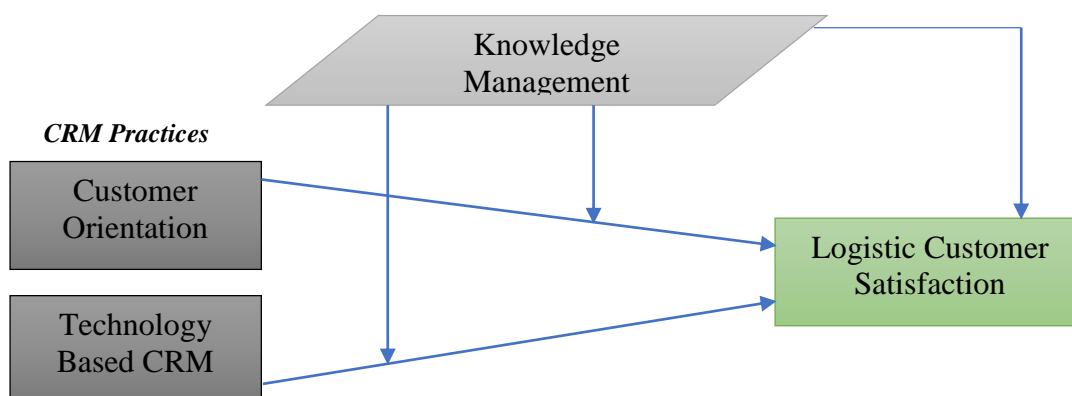
**Figure 1.** Logistic Performance Index  
Source: World Bank, World Development Indicators

Thus, this study attempted to address the crucial issues in Indonesian logistic industry and focused on customer relationship management (CRM) to increase the satisfaction level of logistic customers. Different researchers carried out research on logistics and supply chain, but they did not address the issues of customer satisfaction [15-17]. Therefore, this study addressed this issue in logistic firms.

This study carried out by taking two important dimensions of customer relationship management (CRM) include; customer orientation and technology-based CRM. Moreover, this study used knowledge management as moderating variable. As information management from customers is most important to produce customized service.

Knowledge management has important link with customer satisfaction[18, 19]. Hence, the objective of present study is to examine the role of customer relationship management (CRM) in customer satisfaction. Moreover, Figure 2 indicates the relationship between customer relationship management (CRM) and customer satisfaction. Sub-objectives are as follows;

1. To examine the relationship between customer orientation and logistic customer satisfaction.
2. To examine the relationship between technology-based CRM and logistic customer satisfaction.
3. To examine the moderating role of knowledge management.



**Figure 3.** Theoretical framework of the study showing the relationship between customer relationship management (CRM) and customer satisfaction

## 2. Literature Review

The idea of relationship marketing has been started at the end of 1970s and various researchers has investigated this phenomenon. The investigations for the most part stressed on the significance of dealing with the customer relationship. The idea has been mostly discussed within the business boundaries. As indicated by [20], relationship marketing can be characterized as a procedure to attract, keeping up, and improving the customers relationship by implementing the relationship techniques.

Researchers recommended to develop the relationship to give direction to the organization for accomplishment the ultimate objectives of companies. [21] depicted that relationship management is essential and it is one of the marketing issues. This is claiming most organizations relied upon few customers and providers. The companies who's depended heavily on customers, they need to develop good relationship with them. It will satisfy the customers and increases performance.

[22] portrayed that customer relationship is a marketing approach that can be connected as an organization methodology. It is utilized to make a long-term customer relationship that advantage the two sides, which is company and customer. Moreover, [22] additionally explained that customer relationship is one of the methodologies that utilized to handle customer relationship dependent on the customer information. Therefore, the customer information management is crucial which is related to the knowledge management.

In spite of the fact that the appropriation of the customer relationship the management will assist organization with enhancing their performance in any case, there are numerous organizations that are absence of confidence. As per [23], customer

relationship has been commonly acknowledged as an essential business system particularly to enhance the capacity to compete in the business condition. According to [23], the primary reason that organizations embraced customer relationship is to oversee or hold their current customers, gain or get new customers and increase the organization benefit. For the organizations that does not adopt customer relationship as their business procedure, it is on the grounds that they have absence of confidence and need knowledge management. Subsequently, [23] has distinguished the advantages of relationship management with customers to support the repurchase ratio, increase customer and gathering valuable customer information. By expanding the repurchase ratio, it will straightforwardly build the organization benefit and performance.

Customer relationship is the important segment of every business [24]. It has key role to increase the business performance [25, 26] by increasing the customer satisfaction level. It has strong influence on customer satisfaction. Therefore, most of the companies are adopting relationship management as strategic tool to capture and retain the customers. Particularly, Indonesian logistic companies are needed to adopt good customer relationship strategies to increase the satisfaction level among customers and to increase the overall performance. No doubt the Indonesian logistic industry facing the issues, still it is growing. An evolution in this industry was take place from 2006 to 2011. As it is shown in Figure 4, the logistic performance is increasing gradually from 2006 to 2011. However, its market share was decreased in 2009, but increase in 2010 and 2011. This study addresses the current issues by taking two important customer relationship management (CRM) strategies, namely; customer orientation and technology-based CRM.



**Figure 3.** Evolution in Logistic Market of Indonesia  
Source: Indonesian Statistical Agency

### 2.1 Customer Orientation and Logistic Customer Satisfaction

[27] explained that customer orientation is commonly presented as a method which mean that the customers can get what they want and needs from the companies. [28] portrayed customer orientation is a lot of opinions in sales that attention on customer needs and customer satisfaction is on priority basis. It centres around unique communications between the company and customers just as rivals in the market and its inner partners. It includes an improvement in business. Customer orientation or the "customer is the best" is a keyword of the management economics. The reasons for the absence of customer orientation lie as often as possible in the way of culture, the structure, and the procedures. Customer orientation is system that requires new procedures and supportive organizational culture. In worldwide marketing ideas, customer orientation generally affect business unit performance [29].

[30] carried an observational investigation to look at the impact of the firm asset capacities and customer orientation to upgrade the customer data quality that can at last enhance the customer relationships and firm performance. The sample for the investigation comprised of 116 firms selected from Taiwan. [30] mentioned that customer orientation is considered as customer centre methodology. The relationship between customer orientation and CRM framework are essential. This is on the grounds that customer orientation will be incorporated inside CRM framework so as to provide the help toward the organization marketing system adequately and fulfilling the customer needs. The examination demonstrated that there is a positive relationship between customer orientation,

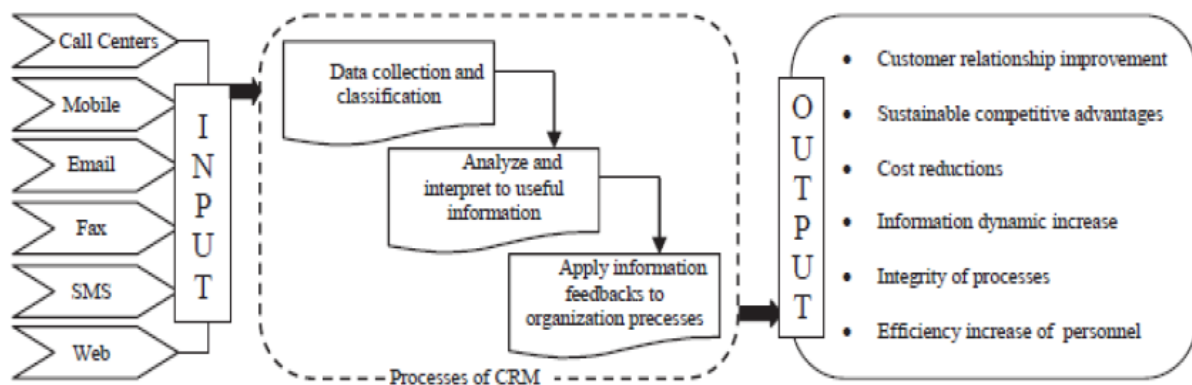
customer relationship management and firm performance. This is on the grounds that customer orientation will specifically impact the nature of the customer data, which will straightforwardly affect to the customer relationship and firm performance. Accordingly, for organizations that emphasise on customer orientation approach need to react for the customers' input, requests and needs. In this way, the nature of customer data is moderately pivotal for satisfaction.

Various studies found that customer orientation has relationship with firm customer satisfaction [31-34]. Increase in customer satisfaction, increases the performance as proved by various studies [35-37]. Therefore, customer orientation is an important CRM dimension for customer satisfaction.

**H1:** Customer orientation increases the logistic customer satisfaction.

### 2.2 Technology-Based CRM and Logistic Customer Satisfaction

It has significant relationship with customer relationship. It provides various tools to increase the relationship between company and customers which increases the satisfaction level. It includes various tools such as mobile, email, fax, SMS and web service to facilitate customers. It provides the facility to collect and classify the data, analyse and interpret the useful information and apply information feedback as shown in Figure 4. Regular communication with customers increases the satisfaction level. [38] proved that information communication technology has positive effect on logistic performance through satisfying the customers. Additionally, employee satisfaction is also important [39] which can be improved through better communications tools.



**Figure 4.** Technology based CRM and outcomes

Literature shows that IT has positive relationship with customer satisfaction [40-42]. Therefore, technology base CRM also has positive effect on customer satisfaction. Increase in satisfaction directly increases the performance of company.

**H2:** Technology-based CRM increases the logistic customer satisfaction.

### 2.3 Knowledge Management and Logistic Customer Satisfaction

Knowledge management is the procedure of sharing, creating, utilizing as well as handling the knowledge and information of an organisation. [43] explained that knowledge management is a procedure of managing, and after that organized the methodology in term of gathering, examining, sharing and use the knowledge into firm essential resources. With the accessibility of the knowledge, the organization can use it particularly to create the quality items or convey the quality administrations to the objective customers. In addition, [43] further clarified that knowledge management can guarantee that organization can perform adequately in term of the basic leadership. Likewise, the organization is additionally ready to apply the new business to react to the market changes dependent on the data sharing and correspondence.

[44] portrayed that knowledge management is the way toward making, picking up and sharing of customer information. Thus, it has relationship with customers. It is customer knowledge management with the reason to enhance the organization success. Customer knowledge management can arrange the customer information into different classes. The data will assist firm with customizing their item and services. Furthermore, the data can use to enhance customer fulfilment.

It is mentioned by literature that information collected from customers is not valuable until the valuable information is not sorted. Here the knowledge management is most crucial. Literature demonstrates that knowledge management is positive effect on customer satisfaction level [45].

**H3:** Knowledge management increases the logistic customer satisfaction.

**H4:** Knowledge management moderates the relationship between customer orientation and logistic customer satisfaction.

**H5:** Knowledge management moderates the relationship between technology-based CRM and logistic customer satisfaction.

## 3. Methodology

### 3.1 Rsearch Design

To test the hypotheses, quantitative research approach is appropriate. It is most suitable to accept or reject the hypotheses. As the current study is based on hypotheses testing, therefore, quantitative research approach is used. Moreover, data is collected at one point of time, thus, it is cross-sectional research design.

### 3.2 Population of the Study

The current study is based on Indonesian logistic companies to check the effect of customer relationship management (CRM) on customer satisfaction. The data is collected from the employees of these companies. Thus, the unit of analysis is individual.

### 3.3 Sampling Technique

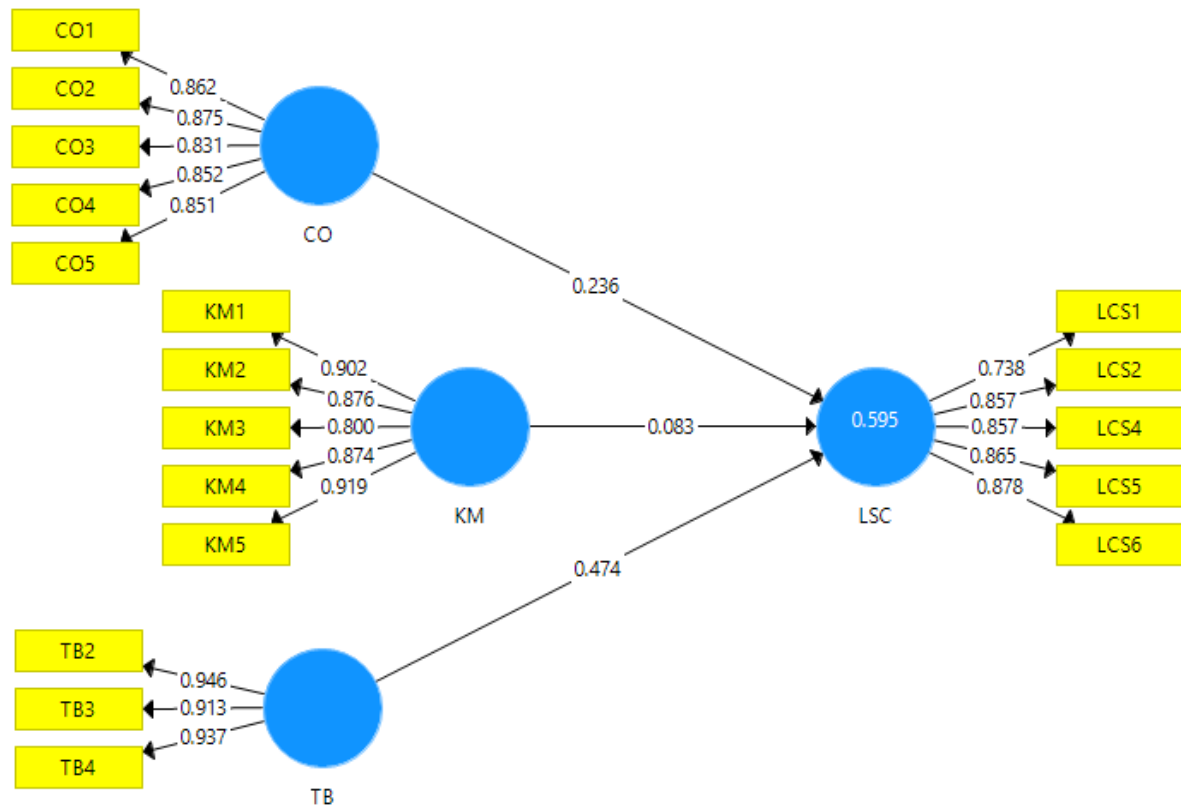
In this study, simple random sampling is used to collect the data. The list of employees was collected from companies and then respondents were selected randomly from these lists and questionnaires were distributed among them.

### 3.4 Questionnaire and Sample size

Total 350 questionnaires were used for data collection. Seven-point Likert scale was used in this study. Questionnaire was based on three major portions including the respondent's demographic information, items related on independent variables and moderating variable. Third section was based on items on dependent variable.

## 4. Data Analysis and Results

From the Table 1, Table 2 and Table 3, it is confirmed that measurement model achieved the minimum level to qualify for structural model assessment. Factor loadings is above 0.7, composite reliability (CR) is also above 0.7 and average variance extracted (AVE) is also above 0.5 which achieved the convergent validity. After that, discriminant validity is assessed through AVE square root which is given in Table 3. Thus, this analysis was proceeded for hypotheses testing.



**Figure 5.** Measurement Model

**Table 1.** Factor Loadings

	CO	KM	LSC	TB
CO1	0.862			
CO2	0.875			
CO3	0.831			
CO4	0.852			
CO5	0.851			
KM1		0.902		
KM2		0.876		
KM3		0.800		
KM4		0.874		
KM5		0.919		
LCS1			0.738	
LCS2			0.857	
LCS4			0.857	
LCS5			0.865	
LCS6			0.878	
TB2				0.946
TB3				0.913
TB4				0.937

**Table 2.** Results of Measurement Model

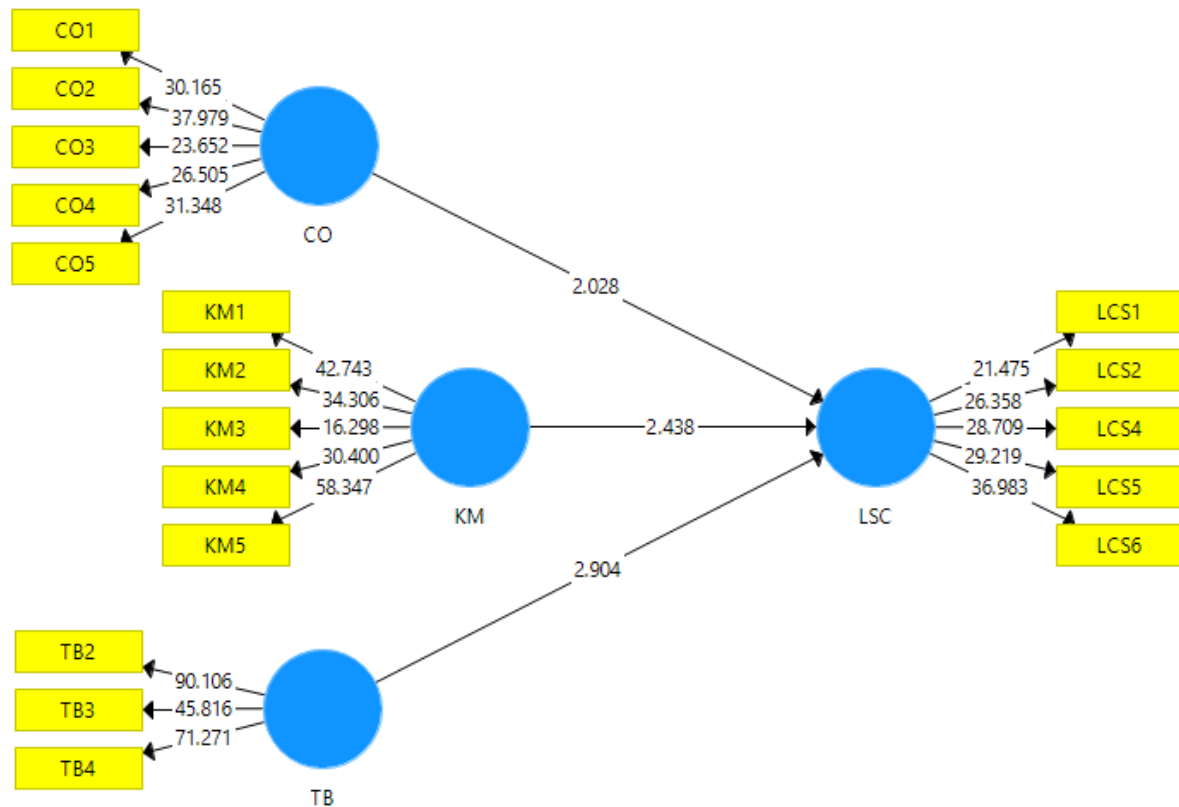
	<b>Cronbach's Alpha</b>	<b>rho_A</b>	<b>CR</b>	<b>(AVE)</b>
CO	0.907	0.909	0.931	0.73
KM	0.923	0.931	0.942	0.766
LSC	0.896	0.902	0.923	0.706
TB	0.925	0.925	0.952	0.869

**Table 3.** Discriminant Validity

	<b>CO</b>	<b>KM</b>	<b>LSC</b>	<b>TB</b>
CO	<b>0.854</b>			
KM	0.776	<b>0.875</b>		
LSC	0.741	0.707	<b>0.840</b>	
TB	0.711	0.779	0.762	<b>0.932</b>

Direct results without moderating variable (knowledge management) is shown in Figure 6 and results are shown in Table 4. It is clear that the relationship between customer orientation and logistic customer satisfaction has t-value 2.028 which supported H1. Moreover, H2 and H3 are also

accepted as the t-value in both cases is also above 1.96. Therefore, customer orientation, technology-based CRM and knowledge management has positive effect on logistic customer satisfaction.  $R^2$  is given in Figure 6 which is 0.595.

**Figure 6.** Structural Model

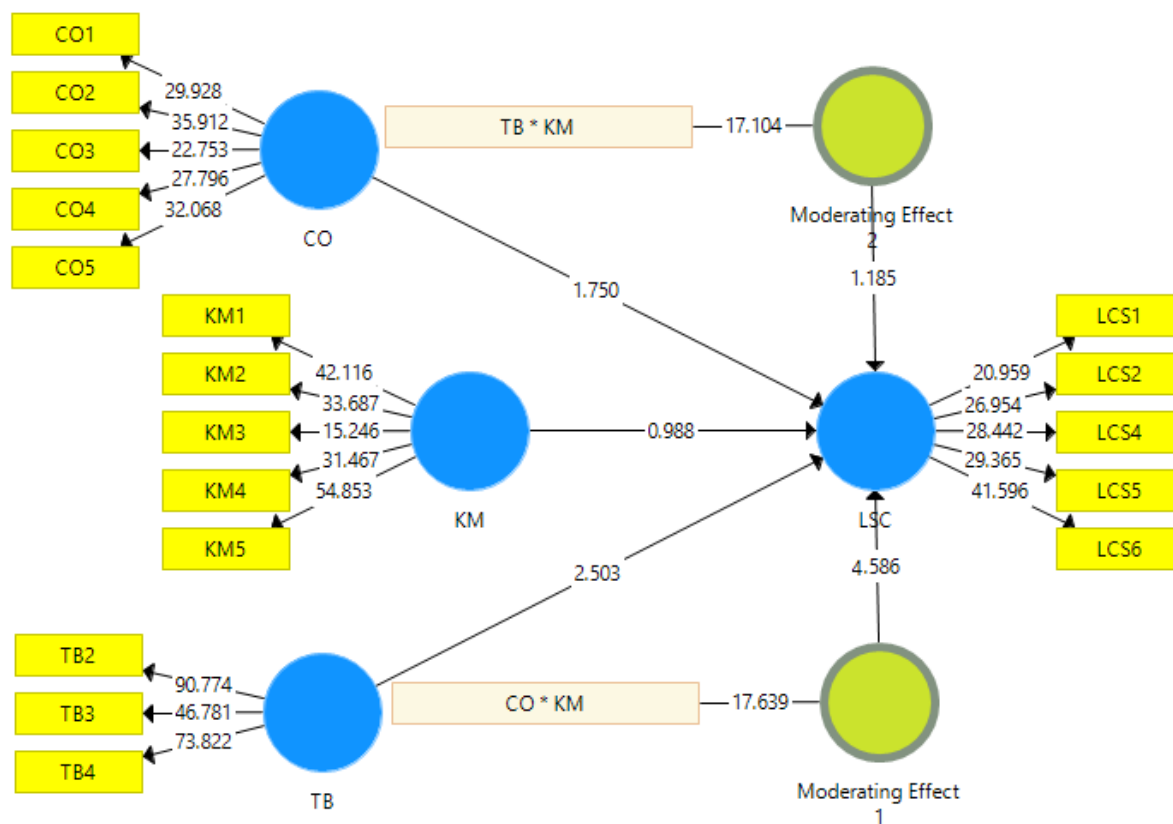


**Table 4. Results**

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics ((O/STDEV))	P Values
CO -> LSC	0.236	0.229	0.116	2.028	0.043
KM -> LSC	0.083	0.099	0.035	2.438	0.026
TB -> LSC	0.474	0.468	0.163	2.904	0.004

Moderation effect is given in Table 5. Moderation effect of knowledge management between customer orientation and logistic customer satisfaction is not significant as the t-value is 1.185 below 1.96. Thus, H4 is not supported. The moderation effect between technology-based CRM

is significant with the t-value 4.586 with positive beta value and supported H5. Therefore, it highlighted that knowledge management increases the positive effect of technology-based CRM on logistic customer satisfaction. Moderation effect is shown in Figure 7.



**Figure 7. Moderation Effect**

**Table 5. Moderation Effect**

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics ((O/STDEV))	P Values
CO* KM -> LSC	0.031	0.029	0.027	1.185	0.781
TB* KM -> LSC	0.342	0.340	0.076	4.586	0.000

**5. Conclusion**

Based on the massive volume of logistics services, most of the companies ignored the crucial challenge of customer satisfaction. It effects

adversely on logistic companies' performance in Indonesia. Thus, this study attempted to provide the solution of this issue with the help of customer relationship management (CRM).



End results of the study highlighted that customer relationship management (CRM) has major contribution to promote logistic customer satisfaction. It is found that customer orientation has significant positive relationship with logistic customer satisfaction. More customer orientation by the logistic company boost the satisfaction level among customers. Logistic companies should focus on customer orientation. Moreover, technology-based CRM also has same results. The focus of company towards technology-based CRM increases the communication between company and customers. It provides the ease to solve customer problems quickly. Thus, technology-based CRM increases the satisfaction level among customers. It is suggested that logistic companies should focus on technology-based CRM practices. Future research is required to add other dimensions of customer relationship management (CRM) in the model of current study.

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