

Perceived Service quality, Supply Chain Collaboration, Supply Chain management as Antecedents of Loyalty and Customer Satisfaction: Exploring Moderating Role of WOM

Mariana Tenreng^{#1}, Arifin Idrus^{#2}, Annas Lalo^{#3}, Syamsiah Badruddin^{#4}

¹ Department of Management Postgraduate Universitas Esa Unggul, Jakarta, Indonesia

^{2,3} Department of Management Science of STIEM Bongaya, Makassar, Indonesia

⁴ Department of Sociology Faculty of Social and Political Science Universitas Nasional Jakarta, Indonesia

¹mariana.t@esaunggul.ac.id

²arifin.idrus@stiem-bongaya.ac.id

³annas.mappiasse@stiem-bongaya.ac.id

⁴syamsiah_badruddin@civitas.unas.ac.id

Abstract- Purpose – The main purpose of the current study is to examine the impact of supply chain management, perceived service quality and collaboration on customers satisfaction and loyalty. Moreover, mediating impact of customer satisfaction among supply chain management, perceived service quality and collaboration and loyalty is examined as well. **Analysis approach** – For this study we have used the survey-based method for data collection, therefore we prepared a structured questionnaire according to research objectives. **Findings** – the results show that supply chain collaboration has no significant impact on customer satisfaction. As well WOM and customer loyalty are not significantly related to each other. All the other proposed hypothesis has shown significant results. **Research implications** – Due to the limited sample size, the estimate and testing of a comprehensive model of the relationships between supply chain practices and customer loyalty are not presented. **Practical implications** – On managerial level, the study provide high level study regarding supply chain management, collaboration, service quality, customer satisfaction and customer loyalty in the business environments characterized by high supply complexity.

Keywords: Customer loyalty, customer satisfaction, supply chain management, supply chain collaboration, perceived service quality

1. Introduction

Success of every business depends upon the two factors namely the number of customers that are retained and satisfaction of the customers. Whenever a firm enters in the business, it first acquires few customers than these customers bring the profit. The companies that are able to retain their customers and are fully satisfied remain at the top of the business. Satisfaction of the customers is the key component to keep customer loyal on the long run basis [1].

Satisfaction of the customers is very important because customers buy the products or services to fulfil their needs and wants. These customers expect that the goods and

services being purchased by them can fulfil their needs and wants in exchange of money. The quality of the services offered must fulfil and according to the price the company is offering. The quality of the services offered plays important role in making a customer satisfy and retain them on long run basis [2].

The highest priority of the organizations is to keep the customer loyal by increasing their satisfaction level. The utmost effort of every organization is to keep its customers satisfy with the quality of services and products being offered. Among the other elements of the business, customer satisfaction is one of the critical elements to keep business profitable. Past researchers have revealed that profitability and loyalty of the customers is increased because of customers satisfaction. A number of academicians have mentioned that profitability as well as loyalty of the customers is increased because of satisfaction level of the customers and there exists positive relationship among them [3].

The set of measure used by the organization so the activities of partner, manufacturer and supplier can be unified in the process of distribution is called supply chain management. In order to ensure the optimal level of distribution and production goods and production along with in time delivery of the products, supply chain management is necessary. The main focus of the business is to reduce the cost at the stage of movement and distribution of goods to the distributes and retailers. This focus is very important to keep them profit oriented and to keep the customers along other stake holders satisfied. Therefore, Once the organizations use proper supply chain management system, cost of production is reduced, and customers are satisfied as well. Once the customers are satisfied with the in-time delivery of the product/ service and quality being offered as well, they spread positive opinion regarding the goods and service and the experience they got. This positive WOM plays important

role not only to retain the customers and acquire new one's as well [4].

Therefore, the main purpose of the current study is to examine the impact of supply chain management, perceived service quality and collaboration on customers satisfaction and loyalty. Moreover, mediating impact of customer satisfaction among supply chain management, perceived service quality and collaboration and loyalty will be examined as well. In the end, moderating impact of WOM among perceived service quality and satisfaction is being analyzed in the present study as well.

2. Literature Review

2.1 Supply chain Management and customer satisfaction

Supply chain management also known as SCM is defined in literature by a number of researchers. Scholars have defined SCM as the bundle of measures or activities which are put together to improve the partner, manufacturer and supplier services in the process of distribution in order to ensure the optimum level of distribution and production of goods in the quantities that are required. Moreover, appropriate place of delivery and timely production of good also plays important role in supply chain management and customer satisfaction as well [4].

On the other hand, scholars also defined SCM as the function that is integrated that creates link among major functions of the business process and components into an effective model. Collaborative activities play important role in the system integration. Among the collaborative activities' expertise and resources of the firms are shared which create process that is value added in order to meet the dynamic needs of the customers. Thus, supply chain management, create satisfaction among the customers by the collaboration of the activities [5].

2.2 Supply Chain Collaboration and Satisfaction

Collaboration also known as cooperation is consider as the integral part of the social structure. Among the human relationship and social structure, it has the importance if backbone. The management process is determined by the interaction among supply chain partners. Researchers defined the concept of collaboration as the process in which the people working in the organization are kept in a system, they interact and manage connection for the benefits that are mutual. In order to create satisfaction of the customer, this level of interaction among all customers plays important role [7].

Under the collaboration, such situation is created within the firm in which individuals and firms are involved in the process of supply chain in order to pull the resources together and share the information related to operations so

the common objective can be achieved related to optimize the functions of the supply chain. Collaboration is also required provide value to the customer and minimize the cost of production as well. In order to use the resources efficiently, collaboration effort is necessary by the organizations among their functions and departments [6]. Researchers revealed that when there exists collaboration among different functions of the organization among the supply chain, suppliers and customers in order to optimum use the resources and satisfaction of the customers. In order to explain and prove this point, scholars mentioned that collaboration is created by the firm in the supply chain process so the core competency can be developed. As it is not possible for an organization to operate in isolation optimally, therefore it is very critical to collaborate so resources can be used at optimum level [8]. Skills, expertise and efforts of a firm are the factors that plays important role in the supply chain efficiency. Collaboration among the firms is required which are working together so the relationship of value creation can be developed. The most important participants of the supply chain are the final consumers whose satisfaction is mainly dependent upon the collaboration of the supply chain so the value for the stake holders can be created from the suppliers of the material [9].

2.3 Customer Satisfaction

In past literature, scholars have defined customer satisfaction in a number if ways. Researchers defined satisfaction of the customer as the level of desire fulfilment of the customers from the service or product that is being paid. Researchers have defined customer satisfaction as the customer's perception which is purchased and experienced by the customer. The experienced product effectively meets the expectations of the customers. Another layman definition was given by researchers in which customer satisfaction is the evaluation of a service or product in terms of level of expectations and needs are met by the services or product [11].

Satisfaction of the customer is important for the success of the organization. level of the customer satisfaction depends upon the facilities, expectations and needs fulfilled by the product or service. Further satisfaction of the customers depends upon the actionable information obtained by the customers [12].

2.4 WOM

Researchers argue that customers are encouraged to provide positive word of mouth of the as a result of positive perception of quality. It is very important to conduct the research in the context of word of mouth. In case of the services, word of mouth plays very important role in promoting the business. It is very important to

mention that customers who are attracted by the firm based on WOM try to attract more customers by spreading twice WOM. Several researchers are of the view the WOM is very important in attracting customers who are new. Despite this, very little attention is given to the WOM and its moderating role. WOM is considered as one of the most important and valuable informal communication mean among the customer [13].

A number of researchers have defined the concept of WOM, and they have endorsed the definition which was originally produced by [10]. The researchers have stressed upon the aspects that are related to informal aspects under the WOM communication. Under the WOM communication, communicator do not have any link with the commercial source. For the same reason, WOM is treated as communication that is informal related to evaluation of services and goods. Moreover, a number of scholars have taken the account of personal recommendations while conceptualizing WOM. Moreover, different scholars also consider informal advertising, interpersonal influence, personal influence, interpersonal relationships and interpersonal communication [15]. Basically, WOM is the informal communication regarding the particular services or the products or the organization.

Word of Mouth is basically the informal communication regarding the features of the product or service which the customer has experienced. Past scholars have mentioned two dimensions of WOM namely WOM valence and activity. Under the WOM activity, the communication among the members take place. Moreover, it is considered that the amount of information which is available. On the other hand, WOM valence mention the content of the WOM, negative or positive WOM. Under this study WOM is considered as the unidimensional variable. Moreover, the relationship among perceived service quality and satisfaction is inconsistent as mentioned earlier. Therefore, in this study, WOM is moderating the relationship of customer satisfaction and perceived service quality [14].

2.5 Customer Loyalty

In past literature a number of authors have given importance to the variable of customer loyalty and therefore, a number of different definitions of the variable are mentioned as well. First of all, researchers defined it as the commitment which is deeply held in order to rebuild and re-patronize the services or the product for the future use or purchase. These commitments occur despite the marketing efforts and influence of the market in order to switch the product. Moreover, researchers also view customer loyalty as the relationship strength. Despite that satisfaction is one of the most important factors in terms of the strength among customer and organization. Positive financial results and repurchases on the regular patterns

are created if the customers are satisfied with the products [16].

In the current era, market is very unforgiving in which it is very complex to maintain the loyalty of the customer. It is very important for the organizations to provide quality services to the customers so they can remain loyal. Providing value is also very important because by this way customers can develop long term relationship with the customers [17]. On the other hand, researchers mentioned that organizations can be more profitable through loyalty. Organizations have to spend more cost in order to acquire a new customer rather than to retain the old customer. Moreover, the customer who is loyal will spread positive WOM and encourage others to use the service or product again. Moreover, the customer who is loyal will think more than twice to switch the brand. It is not possible that organizations will get customers loyalty by accident. They need to do proper working on it in order to create loyalty among the customers [18].

2.6 Customer Satisfaction and loyalty

Among the important antecedents of loyalty, customer satisfaction is critical and important one. Under the literature, a number of researchers have tried to examine the impact of customer satisfaction on loyalty. Due to all this research, a number of studies have provided the direct relationship between customer satisfaction and loyalty. It is very difficult to find the loyal customer despite the reason the customer is satisfied with the services and function of the product [19].

On the other hand, the attitude as well as behaviour of the consumer holds a lot of importance towards a particular service or product. A customer is said to be loyal customer if the behaviour is positive towards the product or service provider. In past literature, two type of loyalty is discussed by the researchers namely emotional and behavioural loyalty. Frequent buying is known as behaviour whereas the concern of the customer on the basis of past experience of usage and buying regarding the product or service is known as emotional loyalty. If the customer satisfaction increase, the emotional as well as behavioural loyalty both must increase. Customers can launch the complaint and switch to competitors if they are not satisfied with the services or usage of the product. On the other hand, past studies have mentioned that only around 60% of the customers remain happy with the usage of the product or service. For this reason, there are other factors as well which may play important role along satisfaction in creating customer loyalty [20].

2.7 Perceived Service Quality

Quality of the service is very important to keep a customer loyal. Customer satisfaction is determined by the quality of the services which are offered to the client [21]. Several

researchers have mentioned that customer satisfaction is impacted by service quality. Perceived quality of the service increases the satisfaction level of the customer regarding the services. Researchers have mentioned that marketers and managers use service quality as the ultimate weapon to increase the service quality. Researchers have revealed that perceived service quality positively impact the customer satisfaction and customers evaluate the product or service positively because of the service quality [22].

Researchers have made in depth analysis of perceived service quality. It is described as the gap among expected service quality and perceived service quality [2]. On the other hand, there are few academicians who have presented this concept differently and defined it as functional quality and technical quality. On the contrary, it is mentioned that there exists another dimension of perceived service quality as environmental service quality. While, few researchers mentioned perceived service quality as interactive quality, corporate quality and physical quality [23].

Scholars have mentioned that past literature have lack of quality of outcome which is published regarding service quality. Despite all these researchers argue that WOM of the customer regarding the product or service is impacted perceived service quality [24]. therefore, it is unique and important to conduct research on the perceived service quality in the context of service industry. Moreover, WOM will moderate the relationship of perceived service quality and customer satisfaction.

Based on above mentioned literature, following hypothesis are developed:

H1: CS plays significant role in creating customer loyalty.

H2: SCM plays significant role in creating satisfaction among customers.

H3: SC collaboration plays significant role in creating satisfaction among customers.

H4: Perceived SQ plays significant role in creating satisfaction among customers.

H5: SCM plays significant role in creating customer loyalty.

H6: SC collaboration plays significant role in creating customer loyalty.

H7: Perceived SQ plays significant role in creating customer loyalty.

H8: Customer satisfaction mediates the relationship between SCM and customer loyalty.

H9: Customer satisfaction mediates the relationship between SC collaboration and customer loyalty.

H10: Customer satisfaction mediates the relationship between perceived SQ and customer loyalty.

H11: WOM moderates the relationship between perceived SQ and customer satisfaction.

2.8 Research Framework

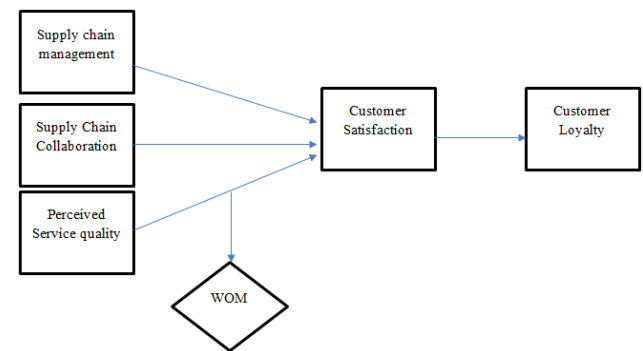


Figure 1. Framework

3. Methodology

For this study we have used the survey-based method for data collection, therefore we prepared a structured questionnaire according to research objectives. For the data analysis this study has choose the structural equation modelling, which is also known as second generation technique, because there are some limitations associated with the techniques of first generation. PLS-SEM helps researcher in estimation of relation interrelated series simultaneously by analysing the complexed models [25]. It allows researcher to create the latent variables with the help of indicators and measurement errors in similar model [26]. So, we can say that SEM modelling which is second generation technique can surmount the limits of first generation [27].

SEM is basically a statistical method which is designed for testing the theoretical or conceptual model. It also allows researcher in recognizing earlier unknown association among latent variables and find significant insights. SEM is known as multivariate method which combine the characteristics of multiple regression and factor analysis, for assessing the number of connected dependent relations at the same time [28]. May other techniques can be integrated with the help of PLS such as covariance analysis, classical test theory, variance analysis (ANOVA, pp.principal component analysis, econometric modelling, recursive and non-recursive path analysis. Moreover, it is also considered as path analysis by showing dependent relation with latent variables in multivariate data. We can also assess the uni-dimensionality, validity and reliability of every individual construct with the help of PLS [29].

4. Results

We can evaluate the measurement model (MM) by determination validity and reliability of measured items. In assessment process of MM, we should consider the for standards, for the determination of validity.

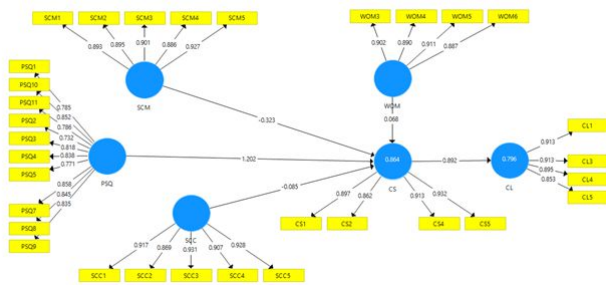


Figure 2. Measurement model

There are two measures of validity 1) discriminant validity, 2) convergent validity [30].

The degree or level at which score of one scale are related with other scales score which are designed for estimation of factor loadings of similar construct is known as convergent validity [31]. As per the study of [32], the scope at which various items measure the similar construct must allocate a high proportion of change in common.

Table 1. Outer Loading

	CL	CS	PSQ	SCC	SCM	WOM
CL1	0.913					
CL3	0.913					
CL4	0.895					
CL5	0.853					
CS1		0.897				
CS2		0.862				
CS4		0.913				
CS5		0.932				
PSQ1			0.785			
PSQ10			0.852			
PSQ11			0.786			
PSQ2			0.732			
PSQ3			0.818			
PSQ4			0.838			
PSQ5			0.771			
PSQ7			0.858			
PSQ8			0.845			
PSQ9			0.835			
SCC1				0.92		
SCC2				0.87		
SCC3				0.93		
SCC4				0.91		
SCC5				0.93		
SCM1					0.893	
SCM2					0.895	
SCM3					0.901	
SCM4					0.886	
SCM5					0.927	
WOM3						0.902
WOM4						0.89
WOM5						0.911
WOM6						0.887

The Composite Reliability (CR, pp.Average Variance Extracted (AVE) and reliability of indicator must be evaluated for convergent validity. The estimation of composite reliability (CR) Is next criteria for the assessment of internal reliability of measure items. CR shows the level at which we can describe the latent

variables with observed variables and explains as Cronbach's alpha.

Table 2. Reliability

	Cronbach's Alpha	rho_A	cr	(AVE)
CL	0.916	0.920	0.941	0.799
CS	0.923	0.925	0.945	0.813
PSQ	0.943	0.949	0.951	0.661
SCC	0.948	0.952	0.960	0.829
SCM	0.942	0.944	0.955	0.811
WOM	0.920	0.923	0.943	0.805

AVE is degree at which several items measure the similar construct must allocate greater portion of change in common. It is stated that AVE shows the level many items of the research are agree for the measurement of similar concept. For the square loadings of indicators that are associated with the construct AVE is magnificent average value for them. The minimum cut off value for AVE is 0.50 or greater than 0.5, which shows a satisfied

Table 3. Validity

	CL	CS	PSQ	SCC	SCM	WOM
CL	0.894					
CS	0.892	0.901				
PSQ	0.871	0.906	0.893			
SCC	0.691	0.671	0.829	0.901		
SCM	0.666	0.668	0.851	0.882	0.901	
WOM	0.654	0.676	0.714	0.626	0.613	0.897

convergent validity. The AVE value which is greater than 0.50 indicates that more than half of the change on average is because of the latent variable. So, it is considered that this value of AVE is sufficient. Studies have stated that if the value of factor loading will be 0.708 then the square root of AVE will be equal to 0.5.

In PLS for the assessment of measurement model validity the second key criteria are discriminant validity. We have estimated this validity to examine the difference between two theoretically different concepts. As per the study of [33], it related with the situation when two different concepts are not related with each other.

For the assessment of discriminant validity, we have used two key measures that are cross loadings and, Fornell-Larcker criterion.

According to Fornell-Larcker criterion, the relation between construct must contrast with the AVE square root for the same construct and it's all diagonal values and must be higher than corresponding constructs [34].

Whereas cross loadings are the second criteria for the assessment of DV, which states loadings of every indicator must be greater as compare to other cross loadings for the determination of DV [13].

Additionally, we have used the structural model for testing the research hypotheses. After the confirmation of appropriate measures, it's important to give proofs which supports the theoretic model as shown the models structural portion. The structural model basically categorizes the relation among latent variables. Like the measurement model, researcher needs to comply with various criteria for examining the structural model.

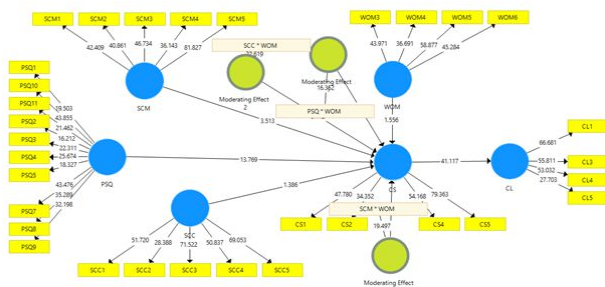


Figure 3. Structural model

Table 4. direct relationships

	(O)	(M)	(STDEV)	(O/STDEV)	P Values
CS -> CL	0.892	0.892	0.022	41.12	0
Moderating Effect 1 -> CS	0.026	0.013	0.075	4.348	0
Moderating Effect 2 -> CS	0.028	0.022	0.068	3.412	0
Moderating Effect 3 -> CS	-0.005	0.013	0.086	3.061	0
PSQ -> CL	1.093	1.055	0.088	12.45	0
PSQ -> CS	1.225	1.182	0.089	13.77	0
SCC -> CL	-0.094	0.073	0.068	3.384	0
SCC -> CS	-0.106	0.082	0.076	1.386	0.083
SCM -> CL	-0.274	0.255	0.079	3.489	0
SCM -> CS	-0.307	0.286	0.087	3.513	0
WOM -> CL	0.062	0.066	0.04	1.562	0.059

The determination coefficient (R2, pp.standard error, p-value, t value and the level of importance of the path coefficients, are the main criteria for the assessment structural model [28].

Table 5. Mediation

	(O)	(M)	(STDEV)	(O/STDEV)	P Values
PSQ -> CS -> CL	1.093	1.055	0.088	12.447	0.000
SCC -> CS -> CL	-0.094	0.073	0.068	1.384	0.083
SCM -> CS -> CL	-0.274	0.255	0.079	3.489	0.000

R square is known as coefficient of determination is an alternative mean for the assessment of structural model [35]. In research the value of R square plays an important role. Different perceptions are there about the minimum level of r square.

Studies have stated the value of R square is satisfied if it exceeds from 1.5%. Whereas, there are different ranges for the values of R square and suggested the range from 0.02 to 0.12 are known as weak, and if the value is 0.13 to 0.25 its moderate and 0.26 is known as substantial.

It is also stated that the value of r square depends on context of research, the value of R square is 31.5 percent whereas in some studies it is 19.7 percent.

Table 6. R-square

	R Square
CL	0.796
CS	0.864

5. Conclusion

It is very demanding for the organizations to retain its customers. This is the only way by which the organizations can remain in the market for the longer period of time. the effort made to acquire a new customer is far more than the retention of the old one. therefore, the organizations must focus on the efforts related to the retention of the customers. The perception of the customer is very important which is mainly dependent upon the strength of the ties among customer and the organization.

The results show that supply chain collaboration has no significant impact on customer satisfaction. As well WOM and customer loyalty are not significantly related to

each other. All the other proposed hypothesis has shown significant results.

As it is concluded that customer satisfaction and loyalty are related to each other, Thus, it is vital for the companies to understand the customers need and so that long term customer loyalty can be achieved.

From the research findings, it is clear that supply chain management practices, and perceived service quality have impact on satisfaction of customer ultimately enhancing customer loyalty. Thus, the study recommends that the procedures of supply chain management and service quality improvement should be emphasized, and organizations must work to develop the supply chain plans due to its importance for the loyalty and satisfaction of customers.

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