

A Theoretical Framework for Customer Satisfaction and Customer Loyalty at Automobile After Sales Service Centres

Vigneshwaran SR and M. Mathirajan

Abstract—Customer Satisfaction has become a key to success for any automobile after sales service (AASS) business organizations and therefore AASS business organization (or centre) should never ignore the importance of customer satisfaction. So, it is essential for any AASS centre to track the factors and variables influencing the customer satisfaction and continuously work on improving the expectations of the customers on these factors and variables in order to make the customers more loyal. From the literature it is identified that many research studies considered only Service Quality as the factor influencing Customer Satisfaction (CS) and Customer Loyalty (CL). However, only a few studies have considered other factors such as Belief, Brand Awareness, Product Quality, Economic Service, Convenient service, Service Capability, and Warranty Handling, which are expected to influence the satisfaction of the customer for the service obtained from AASS centre. In addition, the analysis of the literature revealed that there is no study carried out considering all factors, which are considered in the earlier studies, simultaneously and their influences on CS and CL. Thus, in this paper we develop a theoretical framework, considering all the factors identified from the literature simultaneously along with required measurement variables for each of the factors, for obtaining customer satisfaction and customer loyalty. This proposed theoretical framework is expected to demonstrate the impact of CS and CL for AASS Centres (referred as CS-CL-AASS).

Index Terms—After sales service, automobile customer loyalty, customer satisfaction.

I. INTRODUCTION

In today's competitive market, no single business organisation can dictate market rules and operations. Every business organisation needs to adapt to the changing needs of its customers to sustain in the market. Catering to customer needs forms the core of every successful business organization. Business organizations that prioritize customer satisfaction (CS) grow quickly and generate high revenues. Additionally, customer satisfaction leads to customer retention which in turn brings repeat purchases to the business organisation.

Many researchers have investigated the importance of CS. However, the study [1] said that in addition to having satisfied customers, every satisfied customer should lead to customer loyalty (CL), as customer loyalty is the only way of building sustainable competitive advantage [2].

Furthermore, there are many benefits business organisation gains out of customer satisfaction. Some of them are, it acts as a point of differentiation, reduces customer churn, increases customer lifetime value, reduces negative word of mouth. Additionally, the recruiting cost of a new customer is five times higher than the cost of retaining an existing customer [3]. So, if any business organization does not care about customers satisfaction, then the customers do not care to come back again. Therefore, business organizations should never ignore to understand and meet the expectations of its customers to keep them satisfied.

Thus, in this present era, almost every business organization have already started making changes to improve customer satisfaction and customer loyalty, especially this is an essential activity in automobile industry particularly after sales service. Therefore, in the following section will discuss about CS and CL for after sales service at automobile industry (CS-CL-AASS).

A. CS and CL in ASS Automobile Industry

After Sales Service is being critical to all automobile business organizations as new car sales volume and profit being reduced. With this, After Sales Service has to turn into a significant source of profit for car manufacturers, dealers [4] and for original spare parts manufacturers [5]. Moreover, there are many players in the market today, therefore in order to stay ahead of the competition, every AASS Centre are undergoing a massive change.

In general, customers do not visit the authorized AASS centre after utilizing the free services given by the manufacturers [6], [7]. More than 70% of car owners tend to fall out of authorized AASS centres after a year, as per the report of Confederation of Indian Industry [8]. In addition, there could be various reasons for customers going to non-authorized AASS centres, which are cost wise affordable and responsive, and/or close to the customers location, etc., But losing out customers to non-authorized AASS centres, the authorized AASS centres loses its revenue along with brand image, purchase intention, and loyalty [9].

Another major concern of authorized AASS centres is that some customers do not reach out to them even if the vehicles are under warranty for various reasons, which again causes revenue losses. Based on the various problems that the authorized AASS centres face, it is important for the AASS centre to identify factors, which are making the customers satisfied and loyal due to various activities provided.

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II. LITERATURE REVIEW

In the automobile industry particularly in India, after sales service plays an important role after buying the product or services. Many literatures found that quality, as a factor in after sales services, that frolic a momentous act in customer satisfaction. But in order to make customer satisfied, it's extremely vital for AASS centre to fulfil customer expectations and evaluate them periodically. Therefore, from the literature it is identified that one of the most used factors in India is service quality. Particularly, there are few Indian studies considered other factors, along with service quality, such as warranty handling [10], convenient service [11], and service capability [12], economic service [13], brand awareness [14], and product quality [15]. Further from the analysis of the literature, across the globe, indicated that there are various factors: Belief, Brand Awareness, Service quality, Product Quality, Economic Service, Convenient Service, Service Capability, and Warranty Handling influence the CS-CL-AASS. Apart from these factors identified from the literature, an additional two factors such as Service Contract and Insurance Handling have been introduced in this study, considering their importance for CS and CL.

With these, all the identified influencing factors to make customer satisfied and in turn be a loyal for AASS centre across the globe, particularly with respect to the earlier studies available in India is presented in Table I. Analysis of the Table I, to the best of our knowledge, indicates that there is no study addressing exhaustive list of possible factors, which could influence CS and CL at AASS centres in India, with a framework to help AASS centre to make customer be satisfied and in turn be a loyal customer.

Accordingly, an initial macro level conceptual framework is proposed, considering all the identified factor, to understand the CS-CL-AASS and presented the same in Fig. 1. This proposed framework will enable AASS centre to monitor the CS and CL continuously and meet the competition among the AASS centres. Further, to empirically evaluate the proposed conceptual framework, we need to have measurement variables for all the factors identified and considered in the proposed macro level conceptual framework. The measurement variables necessary for each of the factors considered for CS-CL-AASS Centre are identified based on the analysis of the literature and the same are discussed as follows:

A. Measurement Variables for Factor: Belief

The factor: Belief or Trust is an essential source of CS and CL. Study [16] pointed out belief is directly and positively related to CS, where morality and confidence are considered as two key variables to measure the factor Belief. By definition, confidence is the faith that customers have on service centres [17], whereas morality speaks about a system regarding standards of right or wrong at service centres [18]. Besides, these two variables many researchers have examined the factor: Belief by directly raising questions to the customers about the faith or trust they have towards the service centers. From this analysis, the set of variables identified for measuring factor: 'Belief' from the literature is listed in Table II.

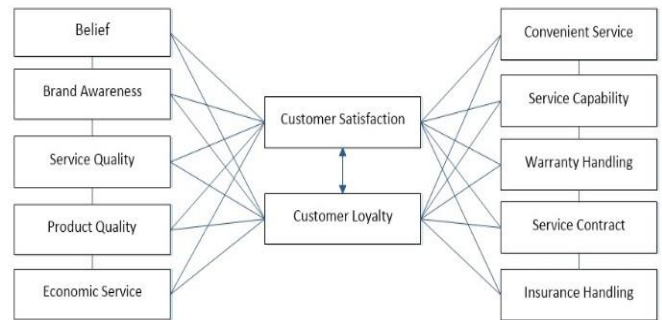


Fig. 1. A conceptual framework for CS-CL-AASS centre.

B. Measurement Variables for Factor: Brand Awareness

The factor: Brand Awareness is consumer's ability in identifying and memorizing the brand in various conditions. Consumers mainly make a decision based on brand awareness. From the literature, it is identified that many variables had been used to measure the factor: Brand Awareness and one among those variables is Word of Mouth (WoM). Word of Mouth is defined as an oral communication between speaker and receiver about the brand, product, or service without commercial purpose. The service experience is shared through WoM significantly affects brand awareness at automobile after sales service centres [19]. The other important variable used to measure the factor: Brand Awareness is brand image [20]. By definition, a brand image is how a brand is perceived by consumers and relates to the set of brand associations in consumers memories [21]. In automobile after sales service industry brand image plays a critical role in helping customers to decide whether or not go to the service centres and thereby influencing brand awareness [16]. Similarly, brand experience is another variable that plays a significant role in influencing the factor: Brand Awareness [22]. According to the study [23], the brand experience can be defined as the perception of the customers, at every moment of contact they have with the brand, whether it is the vehicle projected in advertising or during the technician contact at service centres. If a customer faces a terrible experience, then he is doubtful to visit or purchase from the same brand again. In addition, alternative attractiveness is another variable identified from the literature that is used to measure the factor: Brand Awareness. Alternative attractiveness refers to the positive characteristics or the attractiveness possessed by the competitors such as discounts, free service vouchers, and lucky draws that may influence the customer to terminate the existing relationship with the current service providers [20]. There are very few studies in the literature conceptually discussed the role of alternative attractiveness as the variable that influences the factor: Brand Awareness towards the automobile after sales service centres.

From the analysis of the literature, particularly to understand the measurement variables required for the factor: Brand Awareness, we identified four variables: WoM, Brand Experience, Brand Image, and Alternative Attractiveness and the same are summarized in Table III.

TABLE I: A SUMMARY OF STUDIES W.R.T INDIA ON FACTORS INFLUENCING CS AND CL FOR AASS

Reference	Factor									
	Service Quality	Warranty Handling	Economic Service	Brand Awareness	Product Quality	Belief	Convenient Service	Service Capability	CS	CL
[10]	Y	Y	Y				Y	Y	Y	
[11]	Y		Y				Y		Y	
[12]	Y	Y	Y				Y	Y		Y
[13]	Y		Y					Y	Y	
[14]			Y	Y	Y				Y	Y
[15]	Y				Y				Y	Y
[24]	Y								Y	
[25]	Y								Y	
[26]	Y								Y	
[27]	Y		Y					Y	Y	
[28]	Y								Y	
[29]	Y						Y	Y	Y	
[30]	Y								Y	

TABLE II: A SUMMARY OF VARIABLES FOR MEASURING FACTOR: BELIEF

Reference	Country	Variables Considered in the Literature for Measuring the Factor: Belief	
		Confidence	Morality
[16]	Australia	Y	Y
[17]	USA	Y	
[18]	USA		Y
[31]	China	Y	
[32]	Taiwan	Y	
[33]	Netherland	Y	

TABLE III: A SUMMARY OF VARIABLES FOR MEASURING FACTOR: BRAND AWARENESS

Reference	Country	Variables Considered in the Literature for Measuring the Factor: Brand Awareness			
		WoM	Experience	Alternative Attractiveness	Image
[7]	Taiwan	Y	Y		
[14]	India				Y
[15]	India	Y			
[16]	Australia				Y
[17]	USA				Y
[19]	Thailand	Y			
[20]	Malaysia	Y		Y	Y
[22]	Poland		Y	Y	
[33]	Netherland		Y		
[34]	Italy	Y			
[35]	Spain				Y
[36]	NA				Y
[37]	NA				Y

C. Measurement Variables for Factor: Service Quality

The high quality of service is essential to attract more customers. Studies in an automobile after sales service have advocated that service quality as a crucial factor in influencing customer satisfaction and customer loyalty [24]. Relatedly, the measures for service quality are still debatable, and the researchers are not unanimously agreed on one common dimension as measures for service quality. However, the measurement scale developed by the study [38] has been accepted as the most popular measures of service quality. Their Service quality scale is also known as SERVQUAL, and it includes five service quality dimensions: Tangibility, Reliability, Responsiveness, Assurance, and Empathy. Further, there are many studies indicated that in addition to the five dimensions of SERVQUAL the dimension: Competence also impact the after sales service on customer satisfaction and customer loyalty. By definition, the quality dimension: Competence is defined as the ability to diagnose the problem and handle them in wide variety of situations [39]. With these, the summary of variables for measuring

factor: Service Quality, considered in the literature, is listed in Table IV.

D. Measurement Variables for Factor: Product Quality

The factor: Products Quality has a significant influence on the market success and profitability of automobile service centres. Additionally, this factor has a vital role in service centres competitiveness by affecting customer satisfaction and customer loyalty. If a product fulfils the customer's expectations, the customer will be pleased and consider that the product is acceptable or even high quality. This means that the quality of a product may be defined as “its ability to fulfil the customer's needs and expectations” [40].

From the analysis of the literature, it is observed that there are many studies considered different combinations of variables to measure the factor: product quality. Study [41] identified five variables to measure product quality such as Performance, Features, Durability, and Conformance to specification, and Serviceability. Also, [36] measured product quality using four variables, such as Features, Durability, Appearance, and Reliability. Further, from the

literature it is identified that many researchers studied the factor: Product Quality just by raising questions to the customers about quality of product. From these analyses a summary of variables considered in the literature to measure the factor: Product Quality is given in Table V.

E. Measurement Variables for Factor: Economic Service

The factor: Economic Service or Price or Cost, plays a vital role in shaping customers behavioral intentions, such as customer satisfaction and customer loyalty. As discussed by [42], the price for maintenance and parts replacement is considered as non-manufacturing costs and need to be borne by the customer. Additionally, customers also may need to take unexpected overhaul costs or damage repair costs due to accidents.

So, considering the importance given by customers for the economic service, many researchers have studied this factor along with many measurement variables for its impact on customer satisfaction and customer loyalty. Study [10] used three variables to measure the factor: Economic Service as the price of spare parts, price of maintenance, price of repair (labor). Similarly, the study [43] used three variables such as the price of repair (labor), maintenance, and parts to measure the factor: Economic Services.

Moreover, it is identified from the literature that various researchers measure the factor: Economic Service by directly asking customers about the charges for service at service centres. From these brief analyses the summary of variables considered in the literature to measure the factor: Economic Service is presented in Table VI.

F. Measurement Variables for Factor: Convenient Service

Most of the variables used to measure the factor: Convenience Service (simply Convenience) is surrounding around time and effort spent by a consumer in acquiring products and services [44]. Also, the factor: Convenience, by definition, is an element of customer experience that saves the customer time and effort. Study [29] measured the factor: Convenience using two variables, such as operating hours and convenient parking. Study [10] measured the factor: Convenience by using two variables, like the number of service points and proximity. The number of service points is the count of available service centres in the customers locality. Study [12] reported that nowadays in order to save time, customers look for technicians at a doorstep. So, Pickup/drop is being considered as an essential variable for measuring the factor: Convenience. Similarly, [45] measure the factor: Convenience by using the variable comfort level (that is, service given at longue like papers, drinks, etc.) Study [19] measured the factor: Convenience by closeness to home or workplace, proximity to others store, travel period, and ease of drive which includes access convenience like car parking as well as working hours and transaction convenience like payment method. However, due to change of socioeconomic, development of technology, and intensity of competition, the demand for the factor: Convenience is changing very frequently in an automobile after sales service centres. Based on the brief analyses on the literature regarding the measurement variables for the factor: Convenience, a summary of variables for measuring factor:

Convenient are listed in Table VII.

G. Measurement Variables for Factor: Service Capability

The factor: Service Capability is the ability to provide some special services to the customers at service centres. There are many alternative names given to the factor: Service capability, and there are plenty of variables used in the literature to measure it. Out of many variables identified from the literature, time taken for servicing is used as a variable by many researchers to measure service capability. In today's competitive environment, customers are becoming more time conscious. Although actual servicing of a vehicle takes around one hour, due to the long wait in a queue, it takes at least a half-day for regular service. If a waiting time for servicing is regarded as too long, many customers are not retained. Therefore, time taken for providing the required service plays an essential role to measure service capability [39]. Further, in many instances, when the vehicles face a mechanical failure, mechanics are not attending complaints or giving proper information about services to customers. So, attending complaints, along with providing adequate information, plays a vital variable influencing the factor: Service Capability [29].

Moreover, the service centres need to ensure availability of spare parts. Because no customer likes to wait in service centres due to lack of spare parts. Study [46] measured the factor: Service Capability using the variable easy availability of spares. In their research, they further reported that the measurement variable: easy availability of spares not only influences customers during service, but it also influences during a vehicle purchase. Besides everything, customers today look for variety in everything they purchase.

Even in automobile after sales service, they look for choices when they go for purchases like tires, seat covers, and batteries. So, providing customization in services acts as an essential variable to measure the factor: Service Capability [47]. With the above brief analysis, the measurement variables considered in the literature for the factor: Service Capability are summarized and presented in Table VIII.

H. Measurement Variables for Factor: Warranty Handling

The factor: Warranty Handling is a mutual agreement between the manufacturer and the consumer by which the manufacturer is obligated to rectify, replace, or compensate the consumer in case of a product failure during a specific time [48]. Many automobile companies provide excellent benefits such as free services and up to five years warranty with a product. However, most of the customer is in a hurry do not continue services beyond the free services [12]. Also, customers are not aware of the process to claim the warranty and they feel that service centres take a lot of time for processing the warranty. So, considering all issues mentioned above, study [39] emphasize three variables for measuring the factor: Warranty Handling and they are Warranty information, Warranty length, and Warranty processing. Most of the prior literature reports that these three variables are used in different combinations to measure the factor: Warranty Handling and few researches measure the factor: Warranty Handling directly by asking questions to the customers about warranty provided. Accordingly, the Table

IX indicates the list of variables used in the literature for measuring factor: ‘Warranty Handling’.

TABLE IV: A SUMMARY OF VARIABLES FOR MEASURING FACTOR: SERVICE QUALITY

Reference	Country	Variables Considered in the Literature for Measuring the Factor: Service Quality					
		Tangibility	Responsiveness	Reliability	Assurance	Empathy	Competence
[10]	India						Y
[11]	India		Y				
[12]	India		Y			Y	
[13]	India	Y	Y				Y
[16]	Australia	Y	Y	Y	Y	Y	
[18]	USA		Y	Y		Y	
[19]	Thailand					Y	Y
[20]	Malaysia	Y	Y	Y	Y	Y	
[22]	Poland	Y	Y	Y	Y	Y	
[24]	India	Y	Y	Y	Y	Y	
[25]	India	Y	Y	Y	Y	Y	
[26]	India	Y	Y	Y	Y	Y	
[27]	India		Y				
[28]	India	Y	Y	Y	Y	Y	
[29]	India	Y	Y	Y	Y	Y	Y
[30]	India	Y	Y	Y	Y	Y	
[31]	China		Y	Y		Y	
[32]	Taiwan	Y	Y			Y	
[33]	Netherland	Y	Y	Y	Y	Y	
[34]	Italy			Y	Y		
[35]	Spain	Y	Y	Y	Y	Y	Y
[36]	NA	Y	Y	Y	Y	Y	Y
[37]	NA	Y	Y	Y	Y	Y	
[39]	Ghana		Y				Y
[41]	Malaysia	Y	Y	Y	Y	Y	Y
[42]	USA	Y	Y		Y		
[43]	Taiwan	Y	Y	Y	Y	Y	
[46]	Pakistan						Y
[47]	Malaysia	Y	Y	Y	Y	Y	Y
[49]	Taiwan	Y	Y	Y	Y	Y	
[50]	South Africa	Y	Y	Y	Y	Y	
[51]	Brazil	Y	Y			Y	Y
[52]	USA	Y		Y		Y	
[53]	USA	Y	Y	Y	Y	Y	
[54]	Pakistan						Y
[55]	Poland	Y	Y	Y	Y	Y	
[56]	SA	Y	Y	Y	Y	Y	
[57]	China	Y	Y			Y	
[58]	Brazil	Y	Y	Y	Y		

TABLE V: A SUMMARY OF VARIABLES FOR MEASURING FACTOR: PRODUCT QUALITY

Reference	Country	Variables Considered in the Literature for Measuring the Factor: Product Quality						
		Performance	Features	Durability	Conformance to Specification	Serviceability	Appearance	Reliability
[14]	India			Y				
[15]	India		Y	Y				
[17]	USA			Y				
[32]	Taiwan	Y						
[36]	USA		Y	Y			Y	Y
[40]	Malaysia	Y		Y		Y	Y	
[41]	Malaysia	Y	Y	Y	Y	Y		Y
[43]	Taiwan			Y				
[52]	USA	Y	Y	Y				
[54]	Pakistan			Y	Y			

TABLE VI: A SUMMARY OF VARIABLES FOR MEASURING FACTOR: ECONOMIC SERVICE

Reference	Country	Variables Considered in the Literature for Measuring the Factor: Economic Service		
		Repair	Parts	Maintenance
[10]	India	Y	Y	Y
[11]	India	Y	Y	
[12]	India	Y		
[13]	India	Y		
[14]	India	Y		
[17]	USA	Y	Y	
[18]	USA	Y	Y	
[20]	Malaysia			Y
[22]	Poland	Y		Y
[32]	Taiwan	Y	Y	
[36]	USA		Y	
[39]	Ghana		Y	Y
[40]	Malaysia		Y	
[41]	Malaysia	Y		
[42]	USA		Y	Y
[43]	Taiwan	Y	Y	Y
[47]	Malaysia		Y	
[51]	Brazil	Y	Y	
[54]	Pakistan		Y	
[57]	China			Y
[58]	Brazil			Y

I. Measurement Variables for the Factor: Service Contract

Many researchers have been already highlighting the importance of the factor: Service Contract that manufacturers and service centres should concentrate on to enhance customer satisfaction and loyalty [35]. A service contract is a promise to perform (or pay for) certain repairs or services. Sometimes called as "extended warranty," but is not a warranty. Service centres nowadays takes the chance to sell these products together with the vehicle, shifting from offering a physical product (the car) to selling a bundle of services and products, including service contract and extended warranty. So, in this study to measure the factor: Service Contract will introduce three variables such as Information, Length, and Processing. Where information is the details provided by service centres regarding the service contract whenever you give your car for services, the length is the time taken to process your service contract under which vehicle spare parts or its accessories could be replaced. Processing is the ease of claiming the service contract.

J. Measurement Variables for the Factor: Insurance Handling

Vehicle insurance is essential because it covers your expenses in the event of vehicle damage. All vehicles must be insured, and it is mandatory according to the law. However, in many service centres the processes of the insurance are not handled properly, and customers are not happy with that. Though filing a car insurance claim is a simple and easy process, there are times when the claims get denied by the company, or they do take a lot of time to process the insurance claim. So, keeping the issues mentioned here for the factor: Insurance Handling, two variables: Information

and Processing [59] along with the additional variable Length is introduced for measuring it. Where information is the details provided by service centres regarding the insurance whenever you give your car for services, the length is the time taken to process your insurance under which vehicle spare parts or its accessories could be replaced. Processing is the ease of claiming the insurance.

K. Additional Measurement Variables for Factors from Researcher Perspective

The Internet has radically changed the way customers shop for almost everything today. It is rare to see a customer blindly make a purchase decision without reading through several online reviews. With the emergence of digital and social media, the reviews and rating have become an authoritative source of information, which are influencing the purchasing decision and in turn affects customer loyalty [60]. So, in this research the variable: online presence is considered. Moreover, nowadays, in order to save time, customers look for technicians on spot. Particularly during the break down of the vehicle, customers wanted the technician to reach the spot and help them immediately. So, in this research we will introduce a variable: Roadside assistance.

In addition to the process of identification of measurement variables for all the factors: Belief, Brand Awareness, Service quality, Product Quality, Economic Service, Convenient Service, Service Capability, Warranty Handling, Service Contract, and Insurance Handling as well as some variables based our own perceptions, which are expected to influence the factors: Customer Satisfaction and Customer Loyalty, we identified the measurement variables for both factors: Customer Satisfaction and Customer Loyalty by analyzing the literature and the same are discussed in the following sections;

L. Measurement Variables for the Factor: Customer Satisfaction

For more than fifty years the dependent factor: Customer Satisfaction has become a critical issue in the Marketing. Customer satisfaction has been the subject of much attention in the literature. There are many ways to measure customer satisfaction like Customer Satisfaction Score (CSAT), Customer Effort Score (CES), Net Promoter Score (NPS). While there are a variety of approaches to the explanation of consumer satisfaction, the most widely used in the literature is the expectancy disconfirmation theory. According to this theory, consumers purchase goods and services with pre purchase expectations about anticipated performance. Once the product or service has been purchased and used, outcomes are compared against expectations. When outcome matches expectations, confirmation occurs. Disconfirmations occur when there are differences between expectations and outcomes. From the analysis of the available literature, it appears that most of the researchers tried to measure customer satisfaction in automobile after sales service centres using the variable disconfirmations and few researches measure directly by asking questions to customers about the satisfaction [24], [39].

Further, from these brief analyses the summary of variables considered in the literature to measure the factor: Customer Satisfaction is presented in Table X.

TABLE VII: A SUMMARY OF VARIABLES FOR MEASURING FACTOR: CONVENIENT SERVICE

Reference	Country	Variables Considered in the Literature for Measuring the Factor: Convenience Service						
		Comfort	Operating Hours	Proximity	No. of Workshop	Pay	Parking Space	Pickup/drop
[10]	India			Y	Y			
[11]	India			Y				
[12]	India		Y	Y				Y
[18]	USA		Y	Y				
[19]	Thailand	Y	Y	Y		Y	Y	
[22]	Poland	Y						
[29]	India		Y				Y	
[31]	China			Y				
[33]	Netherland	Y	Y				Y	
[34]	Italy	Y						
[35]	Spain	Y	Y	Y			Y	
[36]	USA			Y				
[41]	Malaysia			Y				
[45]	Malaysia	Y						
[47]	Malaysia		Y					
[51]	Brazil	Y						
[52]	USA			Y				
[54]	Pakistan				Y			
[57]	China			Y				

TABLE VIII: A SUMMARY OF VARIABLES FOR MEASURING FACTOR: SERVICE CAPABILITY

Reference	Country	Variables Considered in the Literature for Measuring the Factor: Service Capability				
		Customize	Time Taken	AoS	C.Info	Att.C
[10]	India		Y	Y		Y
[11]	India		Y			
[12]	India		Y			
[13]	India		Y	Y		
[22]	Poland			Y	Y	
[23]	Taiwan	Y				
[27]	India		Y			Y
[29]	India				Y	Y
[30]	India		Y	Y		
[33]	Netherland				Y	Y
[34]	Italy		Y		Y	
[35]	Spain		Y	Y	Y	Y
[39]	Ghana		Y	Y		Y
[46]	Pakistan			Y		
[47]	Malaysia				Y	
[54]	Pakistan	Y		Y		
[57]	China		Y			
[61]	Iran		Y			

AoS- Availability of Spares, C.Info- Clear Information, Att.C- Attending Complaint

TABLE IX: A SUMMARY OF VARIABLES FOR MEASURING FACTOR: WARRANTY HANDLING

Reference	Country	Variables Considered in the Literature for Measuring the Factor: Warranty Handling		
		Information	Length	Processing
[12]	India	Y		
[17]	USA		Y	
[35]	Spain		Y	
[39]	Ghana	Y	Y	Y
[41]	Malaysia		Y	
[51]	Brazil			Y
[52]	USA		Y	
[54]	Pakistan			Y

M. Measurement variables for the Factor: Customer Loyalty

Customer loyalty is probably one of the best measures of success in any organization. Loyal customers help firms indirectly to lower the marketing costs, solicit more customers, effectively increase market share and they are willing to pay premium prices [3], [21]. However, there are three variables: repurchase intention, buy addition and recommendation are identified from the literature to measure customer loyalty. Repurchase intention is defined as the customers decision to engage in future activities with the same service centres. Buy addition is making customers to buy more of the same products or services who is already getting serviced from the service centres. Recommending is

defined as supporting the services received at the service centres to friends and associates [50].

All these measurement variables will increase sales volume without much effort. Further, from the analysis of literature, the customer loyalty is measured by different combinations of these variables. Accordingly, the summary of these combinations for measuring the dependent factor: Customer Loyalty is presented in Table XI.

From the analysis of the literature on measurement variables for each the factors (as discussed in sections A to M respectively and as presented in Tables II to XI) considered for proposing a conceptual model for CS-CL-AASS Centre, it appears that by and large all the identified measurement variables for each of the factors not

considered to measure the respective factor in early studies. So, in this study, we considered all the measurement variables identified for each of the factors to measure the

respective factors and proposed a micro level conceptual framework for CS-CL-AASS Centre and presented in Fig. 2.

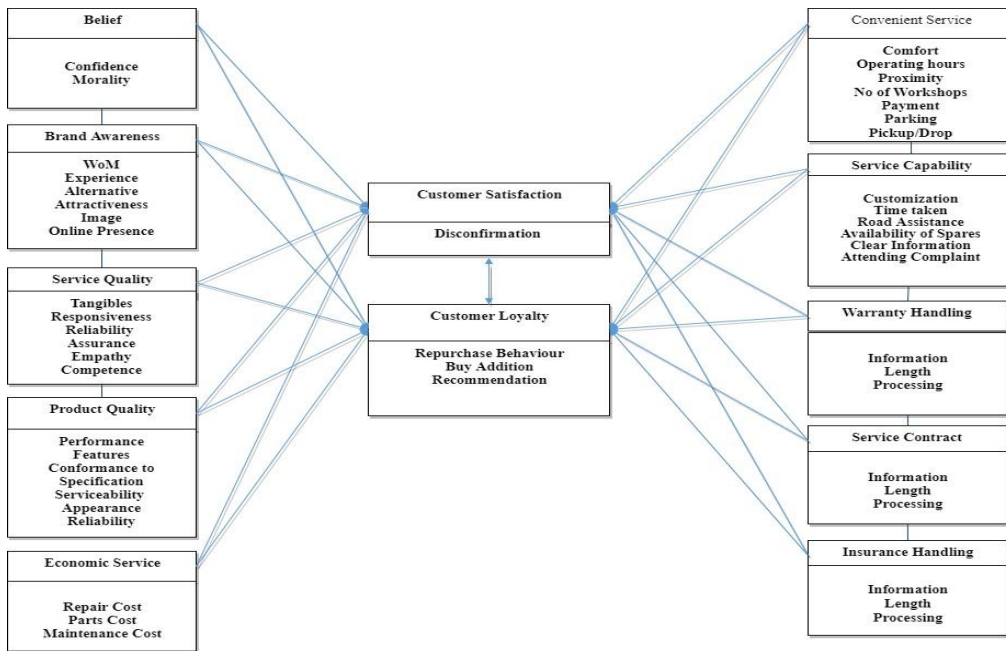


Fig. 2. A micro level conceptual framework for CS-CL-AASS centre.

TABLE X: A SUMMARY OF VARIABLES FOR MEASURING FACTOR: CUSTOMER SATISFACTION

Reference	Country	Variables Considered for the measuring factor: Customer Satisfaction
		Disconfirmations
[7]	Taiwan	Y
[10]	India	Y
[11]	India	Y
[14]	India	Y
[15]	India	Y
[16]	Australia	Y
[17]	USA	Y
[25]	India	Y
[27]	India	Y
[28]	India	Y
[30]	India	Y
[31]	China	Y
[32]	Taiwan	Y
[34]	Italy	Y
[35]	Spain	Y
[36]	Germany	Y
[37]	NA	Y
[39]	Ghana	Y
[40]	Malaysia	Y
[41]	Malaysia	Y
[42]	USA	Y
[43]	Taiwan	Y
[45]	Malaysia	Y
[47]	Malaysia	Y
[50]	South Africa	Y
[51]	USA	Y
[53]	USA	Y
[55]	Poland	Y
[61]	Iran	Y

TABLE XI: A SUMMARY OF VARIABLES FOR MEASURING FACTOR: CUSTOMER LOYALTY

Reference	Country	Variables Considered in the Literature for Measuring the Factor: Customer Loyalty		
		RI	BA	Rec
[15]	India	Y		Y
[16]	Australia			Y
[17]	USA			
[18]	USA	Y		Y
[20]	Malaysia			Y
[22]	Poland	Y		Y
[23]	Taiwan	Y	Y	Y
[27]	India			Y
[32]	Taiwan	Y		Y
[35]	Spain	Y		
[36]	NA	Y		Y
[40]	Malaysia	Y		
[42]	USA	Y		Y
[43]	Taiwan	Y		Y
[49]	Taiwan			Y
[50]	South Africa	Y		Y
[53]	USA	Y		Y

RI-Repurchase Intention, BA- Buy Addition, Rec- Recommendation

III. CONCLUSION

In this paper, we have collected many variables from the literature for measuring these factors Belief, Brand Awareness, Service Quality, Product Quality, Economic Service, Convenient service, Service Capability, Warranty Handling, Service Contract, and Insurance Handling. In addition, few other variables are defined by self, considering their importance in affecting customer satisfaction and customer loyalty at AASS centres. These various factors and their respective variables used to measure them have been combined to develop a theoretical framework. This theoretical framework should be empirically tested to understand the interrelationship between these factors and

their impact on CS-CL-AASS centre.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

AUTHOR CONTRIBUTIONS

Both authors have contributed equally in all the activities towards developing the paper. Both authors approved this final version.

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