YANGON UNIVERSITY OF ECONOMICS

DEPARTMENT OF MANAGEMENT STUDIES

MBA PROGRAMME

THE EFFEECT OF PRODUCT SUPPORT ATTRIBUTES ON CUSTOMER SATISFACTION OF MYAN SHWE PYI TRACTORS LIMITED

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2017-19

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"This Thesis submitted to the Board of Examiners in partial fulfillment of the requirements for the Degree of Master of Business Administration (MBA)"

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ACCEPTANCE

This is to certify that the thesis prepared by Soe Oo Thaw, entitled "**The Effect of Product Support Attributes on Customer Satisfaction of Myan Shwe Pyi Tractors Limited**" has been accepted by the Examination Board for awarding Master of Business Administration (MBA) degree.

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ABSTRACT

This study aims to examine the effect of product support attributes on customer satisfaction and analyze the effect of customer satisfaction on customer loyalty of Myan Shwe Pyi Tractors Limited (MSPTL). The result of this study indicates that repair and maintenance attribute and customer support service attribute positively affect customer satisfaction. It is, however, found that the training attribute has a negative effect on customer satisfaction. The study also indicates that customer satisfaction on product support attributes has a strong positive effect on customer loyalty of MSPTL. The study highly recommends the company that they should focus on its repair & maintenance attributes and customer support attributes and update their training scheme to customers in order to satisfy them.

ACKNOWLEDEGMENTS

I would like to express my sincere thanks to Professor Dr. Tin Win, Rector of Yangon University of Economics and Professor Dr. Nilar Myint Htoo, Pro-Rector of Yangon University of Economics for their continuous support to Master of Business Administration Programme.

I am very grateful to Professor Dr. Nu Nu Lwin, Programme Director and Head of Department of Management Studies, Yangon University of Economics, for her invaluable comments, guidance and suggestions for this thesis. Moreover, I would like to express my great appreciation to Professor Dr. Myint Myint Kyi for her insightful comments and advices.

I would like to express my deepest gratitude to my supervisor, Dr. Yan Yan Myo Naing, Lecturer of Department of Management Studies, for valuable, patient guidance and suggestions to finish this study

Moreover, I feel grateful to all respectful teachers and faculty members of the Department of Management Studies, Yangon University of Economics for their valuable lectures, guidance and their kind support throughout the study.

I would like to deliver thanks to my friends who help and support me during the study. I would also like to thank the respondents who actively participated in the survey.

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LIST OF ABBREVIATIONS

ADC	Asia-Pacific Distribution Centre
B2B	Business to Business
CAT	Caterpillar
CSA	Customer Support Agreement
CSR	Customer Service Representative
GCI	Global Construction and Infrastructure
MSPTL	Myan Shwe Pyi Tractors Limited
PM Service	Preventive Maintenance Service
SERVQUAL	Service Quality

CHAPTER-1

INTRODUCTION

As a result of increased global competition, commoditization of primary products, and diminishing profit margins, the after-sales business has gained strategic importance for numerous companies across various industries. Accordingly, the perception of after-sales services has changed over the past few decades, from the traditional perspective of additional but necessary costs imposed exclusively by manufacturers (Lele, 1997) towards a potential source of competitive advantage and business opportunity (Jönke, 2012). Due to increased awareness of the strategic value of service, firms are beginning to shift focus to aftermarkets. The after-sales business has emerged as a major source of competitive maneuvering, so that firms strive for competitive advantages with their after-sales service offer. Consequently, more manufacturers are shifting their emphasis from original products sales to customer needs; customers find value in the trouble-free operation of products (Jönke, 2012).

After-sales services enhance product availability during the entire product life cycle and are key to long term company success. Users require after-sales services and assistance to help them gain maximum value from their purchases to the point that primary product purchase decisions may no longer be solely based on the product's value (performance relative to cost) but also on the service price, quality, and portfolio available to support the use of the product. Thus, after-sales services maximize the value extracted by customers over the entire product life cycle (Jönke, 2012).

Several definitions of after-sales services can be found and various terms are used throughout scientific literature. Synonyms for after-sales services include customer support, product support, technical support, and service. The definitions differ with respect to both the extension assigned to the concept of after-sales and the role within the firm’s value chain. (Jönke, 2012).

The heavy equipment machines have been widely used in Myanmar since1970s. Heavy equipment machines are very useful in infrastructure fields and more convenience, less cost for long time and rapidly accomplished for all of

activities than manual work done for very long ago. For using heavy equipment machines, customers need more services provided by supplier since machine down time is costly and interrupted to accomplishing the jobs in timely.

Heavy equipment is equipment that is capital-intensive, heavy, difficult to transport, has a longer life cycle and is technologically more complex and requires more intensive maintenance. This equipment utilized by many industries such as mining, construction, forestry, agriculture, energy and transportation. In these industries, heavy equipment requires high investment, thus, achieving an optimum return on assets (ROA) and capital velocity is of great importance. For this purpose, the provision of innovative services is very important for ensuring higher levels of asset availability and performance within acceptable cost. (Dewi & Van Voorthuysen, 2010).

Considering in the Heavy equipment industry, Spare parts are the primary profit driver and source of competitive advantage for manufacturers and its dealers. According to Essa (2011), improved customer satisfaction will lead to improved customer loyalty, which will eventually improve profit. In order to satisfy our customers, we have to focus on effective customer services to meet their needs. (Essa, 2011).

Customers satisfied by the product they purchased and by the service they got from sellers during and after they purchase the product. As Kotler (2002) stated, selling process should go beyond the delivery of goods and services and there should be "follow up" step that a company should apply to ensure customer satisfaction and repeat business to make sure that there was proper installation, instruction and service. (Essa, 2011).

The purpose of this study is to study the effect of product support attributes on customer satisfaction and loyalty as case study on Myan Shwe Pyi Tractors Limited (MSPTL), an authorized Caterpillar Dealer for Myanmar.

1.1 Rationale of the Study

According to Essa (2011), "a customer is the most important visitor on supplier's premises, customer is not dependent on supplier but supplier is dependent on customer. Customer is not an interruption in supplier's works and customer is the purpose of it. Supplier are not doing customer a favor by serving customer and customer is doing suppliers a favor by giving suppliers an opportunity to do so". In addition, Essa (2011),

stated that, it is no longer enough to satisfy customers. Suppliers must delight them. As Smith (2007) shows customer satisfaction is critical to any product or service, because it is a strong predictor of customer retention, customer loyalty and product repurchase. (Essa 2011).

Customer satisfaction, a term frequently used in marketing, is a measure of how products and services supplied by a company meet or surpass customer expectation. Customer satisfaction is defined as "the number of customers, or percentage of total customers, whose reported experience with an industry, its products, or its services (ratings) exceeds specified satisfaction goals." (Barnes, 2001)

A business ideally is continually seeking feedback to improve customer satisfaction. Customer satisfaction provides a leading indicator of consumer purchase intentions and loyalty. Customer satisfaction data are among the most frequently collected indicators of market perceptions. (Farris, Neil, Phillip & David, 2010).

After-sales services sometime called product support can create sustainable relationships with customers and contribute significantly to customer satisfaction (Jönke, 2012). By offering different after-sales services during the various stages of the primary product lifecycle, the provider can ensure product functionality and thereby customer satisfaction. This may lead to a fruitful relationship between the provider and the customer over time, allowing for more transactions (Ahn & Sohn, 2009). Returning customers are the most profitable ones as they require less marketing effort and relationship building (Hoffman & Bateson, 2010; Jacob & Ulaga, 2008). Therefore, after-sales services have acquired a critical role as a means to satisfy and retain customers (Jönke, 2012).

After-sales business provides a huge revenue source and has recently increased to offset profitability declines in primary product sales (Quinn, 1990; Wise & Baumgartner, 1999). The aftermarket can be four or five times larger than the primary product market over a product's full life cycle (Bundschuh & Dezvane, 2003; Knecht, 1993). Moreover, the after-sales business can contribute up to thirty percent of corporate revenue, and far exceeding the profit margins generating by the sale of original primary products particularly due to the lower price sensitivity of after-sales services (Alexander, 2002; Anderson, 1997; Craemer-Kühn, 2004). This is because downtime costs may be high and the replacement costs of a machine frequently exceed maintenance costs. Further, the market for after-sales services often runs countercyclical to the market for primary products

in many industries. During times of economic prosperity, customers purchase usually more new machines, and, in recessions, customers instead opt to buy parts and service to maintain existing equipment. Hence, services provide a buffer against fluctuations in the primary product market (Kurata & Nam, 2010).

Customer satisfaction is the key concept of today marketing in any industry. Customer satisfaction can make the success and failure of the organization. Heavy Equipment Machineries firm is very important to be grown the macro-economy, construction of infrastructure buildings for Myanmar. High-technologies used heavy equipment machines such as Caterpillar brand machines are well-known and widely used in Myanmar infrastructure fields.

Myan Shwe Pyi Tractors Limited(MSPTL) is an authorized dealer of Myanmar for Caterpillar Heavy Equipment Machines and Engines. Caterpillar offers a complete line of Global Construction and Infrastructure (GCI) equipment to meet the customer's application needs like as Road Construction, Hydropower Dam Construction, Rail Road Construction, Forestry, Plantation, Agriculture, Quarry & Aggregate, Building Construction and Paving Products.

As a Caterpillar dealer for Myanmar, MSPTL can provide all the services by following the Caterpillar company policies and instructions. MSPTL operates in B2B market, private and government industries. MSPTL customers are using the machines and engines at construction of infrastructure development projects, oil fields and mining projects in B2B market. The role of its product support center is significant in operating of these firms.

Organizational Customers are seeking for superior services easily available in local area and they expected fully satisfactions for what they bought from their suppliers. On the other hand without customer satisfaction, neither any business firm nor company can survive. Therefore customer satisfaction and loyalty on Myan Shwe Pyi Tractors Limited is urgently needed to examine and research to be developed.

1.2 Objectives of the Study

This study sets two main objectives

1. To examine the effect of product support attributes on customer satisfaction of MSPTL.
2. To analyze the effect of customer satisfaction on their loyalty of MSPTL.

1.3 Scope and Methods of the Study

This study was conducted in Myan Shwe Pyi Tractors Limited (MSPTL), heavy equipment machinery firm only. There are well-known many authorized dealers of heavy equipment machinery industry in Myanmar. They are Myan Shwe Pyi Tractors Limited (MSPTL), Myanmar Kaido Company, United Motors Works, United Machinery Group, and so on. But this study emphasized to product support on customer satisfaction and loyalty, provided by Myan Shwe Pyi Tractors Limited, authorized dealer of Caterpillar brand heavy equipment machines company in Myanmar. Myan Shwe Pyi Tractors Limited has currently over (2000) customers. Total one hundred customers were randomly selected and interviewed by using structured questionnaire.

Yamane's (1973) Formula is used to calculate sample size for this study with 90% confidence level;

$$n = \frac{N}{1+N\,e^2} = \frac{2000}{1+(2000)(0.1)^2} = \frac{2000}{21} = 95.24$$

Descriptive research method and multi linear regression model are conducted in this thesis. Primary data are collected from 100 respondents of MSPTL's customers by applying structured questionnaires and simple random sampling method. Secondary data are collected from relevant books, journals, previous research and internet web sites, MSPTL company plan and reports.

1.4 Organization of the Study

The study is divided into five chapters. Chapter one consists of rational of the study, objectives of the study, scope and method of the study and organization of the study. The chapter two presents theoretical background of product support, customer satisfaction and customer loyalty. Then this chapter includes about the previous studies and then conceptual framework of the study. The chapter three describes profile of the MSPTL and its product support attributes, research design, profile of the respondents and customer perception on MSPTL's product support attributes. The chapter four examines the effect of product support attributes on customer satisfaction and analyzes the influence of customer satisfaction on loyalty. Finally, chapter five is conclusion which consists of findings and discussions, suggestions and recommendations and needs for further research.

CHAPTER 2

THEORITICAL BACKGROUND

This chapter presents the theoretical background of the all the applied theories in this study. It describes the definition of product support and its attributes, followed by customer satisfaction, customer loyalty, and discussion on the relationship between each of variables. The concept of each variables will be reviewed by different authors' perspective. And then, conceptual framework of the study will be discussed at the end of the chapter.

2.1 Product Support

Keller & Kotler (2012), noted that no less important than service industries are product-based industries that must provide a service bundle. Manufacturers of equipment such as small appliances, office machines, tractors, mainframes, airplanes, all must provide product-support services. Product-support service is becoming a major battleground for competitive advantage.

According to Lele and Karmarkar (1983) in Harvard Business Review, product support can be as simple as a set of instructions and a throwaway wrench that comes with an assemble-it-yourself child's bicycle or as complicated as warranty programs, service contracts, parts depots, and equipment on loan to replace a defective machine while it is being repaired. All of these constitute product support; they are designed to ensure that customers obtain the most value from use of the product after the sale. Such factors as heightened customer awareness and higher expectations about support levels, reduced ability to perceive product differentiation through superior technology and/or features, and improvements in support methodology have greatly increased the importance of product support in company strategy (Lele and Karmarkar, 1983).

According to Kotler (2002), attracting a new customer is five times greater than the cost to keep a current customer happy. Gaiardelli (2007) define after sale service as those activities taking place after the purchase of the product and devoted to supporting customers in the usage and disposal of the goods to make them loyal. While according to Rigopoulou (2008), after-sales services are often referred to as "product support activities", meaning all activities that support the product-centric transaction. (Essa, 2011).

According to Markeset (2003), Product support can be defined as any form of assistance that companies offer their customers to gain maximum value from manufactured products. It commonly referred to as after sale service or simply as service. In general, it creates additional value or profit for the product owner as well as for the manufacturer. It can be broadly classified into two, namely, services to support product and services to support customers. Services to support the product are mainly dependent on the product's designed-in characteristics, operational environment, as well as on owner's operational, maintenance, and support strategies. Services to support the customer are influenced by customer characteristics related to operational and maintenance skills and capabilities (Markeset, 2003).

Services to support the products can be defined as services needed to ensure a products functional performance. These services are governed by the product's functional weaknesses. It includes support services such as maintenance, repairs, spare parts, expert advice, diagnostics, etc. Services to support the product are mainly dependent on the product's designed-in characteristics, operational environment, as well as on owner's operational, maintenance, and support strategies (Markeset, 2003).

Services to support the customers can be defined as services intended to support the client's actions in relation to the product. They include services such as advanced training, performance analysis, operations and maintenance strategy development, etc. This kind of service is governed by customer's and manufacturer's knowledge, expertise, as well as their wants, needs, and preferences. Services to support the customer are influenced by customer characteristics related to operational and maintenance skills and capabilities (Markeset, 2003).

Dimensioning of product support is influenced by the product's designed-in characteristics, especially those characteristics related to Reliability, Availability, Maintainability and Supportability (RAMS) (Markeset, 2003). According to Essa (2011), the main objective of the product support is to keep the customer satisfied through trust, credibility and sense of security conveyed by the organization, and building lasting relationships that contribute to increased performance for sustainable results. Rostamidehbaneh and Forooz (2006) have shown product support service advantages like:

a. Competitive advantage
b. Customer satisfaction

c. Long- term customer relationship , customer retention and loyalty
d. New product success and development
e. High profit
f. Differentiation
g. Branding

Gaiardelli (2007) said an effective after-sales service protocol is essential to streamline service management and meet customer's expectations, it can let you experience customer delight, while also saving on your bottom-line and it generates profit (Essa, 2011).

However, most of the business organizations are not aware about the after-sales service factors and its impact towards the customer satisfaction. Failing to realize the importance of the factors can lead to a disastrous and threatening business relationship. This may lead dissatisfied customers switch to a competitor or the company lose potential for new customers due to negative word-of-mouth effect. Hence, every business should know the objective and importance of having product support service and implement it to satisfy customers and make them loyal (Essa, 2011).

2.1.1. Components of Product Support

According to Kotler & Keller (2012), product support are the sum of activities taking place after the purchase of a product which:

a. Ensure that products are available for trouble-free use over its useful life span and guarantee the continuous availability of goods (preventive maintenance)
b. Replace failed products in a timely and cost-effective manner (reactive maintenance)
c. Create competitive advantage for the customer (value added services)

According to Essa (2011), Goffin (1999) explains seven elements of product support which must be provided to customers over the working lifetime of product as follows.

(1) **Installation**: - for many products the first element of product support following the sale is installation. This is usually performed for complex product or where personnel from the manufacturing company or their representatives involve safety issues.

(2) **User training**: - the complexity of some type equipment necessitates that manufacturers provide good training for users. Many computers based and complex products include functions that help users learn to use them more efficiently.

(3) **Documentation**: - most products have some form of documentation and industries such as medical electronics plays key role. Typical form of documentation covers equipment operation, installation, maintenance, and repair. Good documentation can lead to lower support cost.

(4) **Maintenance and repair**: - maintenance and repair are an important element of product support, which has required companies to invest significant resource. Preventive maintenance is undertaken to clean, refurbish or replace parts of equipment which otherwise would be liable to fail. Mechanical parts, for example, normally require regular maintenance as in the case of cars.

(5) **Online support**: - telephone advice on product is a major element of customer support in many industries. Product experts give online consulting to customers to help them use products more or, sometimes to trace the cause of fault (troubleshooting).

(6) **Warranties**: - manufacturers of most products offer warranty and, in some markets such as automobiles. Manufacturers try to gain a competitive advantage by offering longer warranty periods. Warranty reduces the financial risk of owning products and therefore it is an important element of customer support.

(7) **Upgrades**: - offering customer the chance to enhance the performance of the existing products can be an important aspect of support. For example, computer manufacturers offer upgrades, because they increase the working lifetime of products and can be a significant source of revenue. Original equipment manufacturers have a competitive advantage in this because they normally have records of where equipment has been sold which could benefit from upgrading.

As shown above, Goffin (1999) stated installation, user training, documentation, maintenance and repair, online support, warranty and upgrades as an element of after product support service (Essa, 2011).

2.2 Customer Satisfaction

Customer satisfaction is a well-known and established concept in several areas like marketing, consumer research, economic psychology, welfare-economics, and economics. The most common interpretations obtained from various authors reflect the notion that satisfaction is a feeling which results from a process of evaluating what has been received against what was expected, including the purchase decision itself and the needs and wants associated with the purchase (Kotler & Keller, 2012).

According to Tenkir (2018), stated that satisfaction is the customers' evaluation of a product or service in terms of whether that product or service has met their needs and expectations. Satisfaction is a positive, affective state resulting from the appraisal of all aspects of a party's working relationship with another.

Customer satisfaction is a key factor in formation of customer's desires for future purchase. Furthermore, the satisfied customers will probably talk to others about their good experiences. (Raddats, 2011) elaborated hunt definition where they said, "customer satisfaction is a process of consumer's response to the evaluation of the perceived discrepancy between prior expectations and the actual performance of the product as perceived after its consumption" (Tenkir, 2018).

Customer satisfaction is a compelling issue because in the service industry customer retention is more important than attracting new customers. Retaining customers has a stronger impact on company profit than does attracting new customers. Therefore, companies, so as to maximize profits in the long term, should strive for zero defection through customer satisfaction. Customer satisfaction is an ambiguous state of satisfaction expressed differently in every personality to every product/service. Customers experience their conscious perception of products/services in many degrees of satisfaction. If companies provide products which is mismatch with the customer's expectations and desires, customers will be disappointed. If companies supply product meeting their desires, customers will be satisfied. If companies give a product surpassing their desires, customers will feel highly delighted and satisfied (Jalil, 2011).

Despite the variety of customer satisfaction measuring methods, this study will use the customer survey to measure customer satisfaction. Asking the right question is essential in customer satisfaction surveys (Reichheld, 2003). Customer satisfaction measurement involves the collection of data that provides information about how satisfied or dissatisfied

customers are with a service. This information can be collected and analyzed in many different ways. Many organizations regularly check the levels of customer satisfaction to monitor performance over time and measure the impact of service improvement.

According to Essa (2011), Henley center headlight vision states the research carried out in the UK with public sector organizations suggests that there are five themes that are likely to be relevant to all organizations in measuring customer satisfaction.

a. Delivery of the service (how problems were handled, reliability, outcome etc…)
b. Timeliness (waiting times, number of times contacted)
c. Information (accuracy, enough information, kept informed)
d. Professionalism (competent staff, fair treatment)
e. Staff attitude (friendly, polite, sympathetic)

According to Essa (2011), customer satisfaction measures should depend on the five following parameters.

1. Quality: - If defects are detected during the warranty period, the customer is happy. However, what is important is whether the defects fall into an acceptable range. Sometimes, customers specify what an acceptable defect is.

2. On-time delivery: - Nothing is more frustrating than not receiving a delivery on an agreed-upon day. This frustration may be eased if somebody calls to tell you that the delivery is going to be delayed, but the frustration is there just the same.

3. Money: - Obviously, no vendor can bill the customer for an amount that was not agreed to by the customer that is if the vendor expects his invoice to be respected in full and without issue. Whenever the customer has to pay more than the purchase order value, the customer is dissatisfied.

4. Issue factor: - Issues crop up during project execution mainly because of unclear specifications or a lack of understanding the specs. Issues may also occur because of a conflict or an error in the requirements. When the vendor raises an issue whose origin is attributable to the customer, the customer's satisfaction is not usually affected. However, the customer's satisfaction does become affected if the issues raised are due to the vendor's improper understanding of the requirements.

5. Accommodation and cooperation: - Most projects would not be complete without a few change requests from the customer software maintenance projects run on these. But since change requests are commonly implemented before delivery and it cause additional work for the vendor. Customer will be happy when change requests.

According to Singh (2006), customer satisfaction does have a positive effect on an organization's profitability. The consequences of not satisfying customers can be severe. Dissatisfied consumers can decide to discontinue purchasing the good or service and complain to the company or to a third party and perhaps return the item, or engage in negative word-of-mouth communication. On the other hand, Potluri and Hawariat (2010) stated as customer satisfaction is a direct determining factor in customer loyalty, which, in turn results; -

a. Increased purchases of the existing product
b. Cross-purchase of your other products
c. Price premium due to appreciation of your added-value services
d. Reduced operating cost because of familiarity with your service system.
e. Positive word-of-mouth in terms of referring other customers to your company.

2.3. Customer Loyalty

Oliver (1999) defined that customer loyalty is a deeply held commitment to repurchase or re-patronize preferred products, services, or brands consistently, which can cause repetitive purchasing in the same brands, despite situational influences and marketing effort shaving the potential to cause switching behavior.

Davis (2006) summarizes that loyalty can be defined in terms of repeat purchasing, a positive attitude, long-term commitment, intention to continue the relationship, expressing positive word-of-mouth, likelihood of not switching, or any combination of these.

According to Singh (2006), customer loyalty is the result of an organization creating a benefit for a customer so that they will maintain or increase their purchases. According to Essa (2011), customer loyalty has been described as customer's willingness to continue patronizing a firm over the long term, purchasing and using its goods and services on a repeated and preferably exclusive basis, and voluntarily recommending it to friends and associates.

Essa, (2011) stated that customer satisfaction has measurable impact on customer loyalty in that when satisfaction reaches a certain level; on the high side, loyalty increases dramatically; at the same time, when satisfaction falls to a certain point, loyalty reduces equally dramatically. Essa, (2011) proposed that link between satisfaction and loyalty can be classified into four different groups:-

1. Loyalist/apostle (high satisfaction, high loyalty)
2. Defector/ terrorist (low satisfaction, low loyalty)
3. Mercenary (high satisfaction, low loyalty), and
4. Hostage (low satisfaction, high loyalty).

As Sudharshan (2010) found, there is a positive relationship between customer satisfaction and customer loyalty but this connection is not always a linear relation. This relationship depends on factors such as market regulation, switching costs, brand equity, existence of loyalty programs, proprietary technology, and product differentiation at the industry level.

Essa (2011) shows that customer loyalty is the result of customer satisfaction on the service offered by the company, in addition Sudharshan (2010) found out that there is a positive relationship between customer satisfaction and customer loyalty but their connection is not always a linear relation. Sudharshan (2010) has shown different factors that affect the connection between customer satisfaction and loyalty.

2.4 Empirical Studies of Product Support Attributes on Customer Satisfaction

According to Ehinlanwo and Zairi (1996), Toyota describes its after sales objectives as customer satisfaction, customer retention, efficiency in work and job flow, both for the distributor and dealer, and high service absorption for dealers, while Ford describes its after-sales objectives as to make Ford the number one aftermarket operation by providing owners of Ford vehicles with an ownership experience. The after sale services given by those companies include: Maintenance service, original spare parts, warranties, washing, key-care service and training program.

There was a research conducted by Lin (2009) on electric power customer satisfaction using Kano model to evaluate the customer satisfaction, depending on the customers' satisfaction degree and importance degree corresponding to each service item

during the statistical work. On the other hand, Potluri and Hawariat (2010) conducted a study on assessment of after-sales service behaviors of Ethiopia Telecom customers to assess and review fixed-line telecom customers‟ perception of the quality of after-sales services provided by Ethiopian Telecom. It was conducted on 450 telecom customers who are in Addis Ababa using self-administered questionnaires. They use SERVQUAL measures in order to asses after sale service behavior Ethiopia telecom customers. Finally they get service provider is the most determinant for customer satisfaction and on an average 61.86 percent of customers responded positively to the after-sales service offered by the Ethiopian Telecom employees‟ on the dimensions of on responsiveness, reliability, assurance, empathy, and tangibility or appearance. Though the research was conducted in after sale service behavior of Ethiopia telecom customers using SERVEQUAL, the researcher doesn't see the effect using another model to prove the relationship.

Many empirical studies confirm that overall customer satisfaction with a product or service is strongly associated with the behavioral intention to return to the same service provider. Moreover, Shankar (2003) argue that when customers assess customer satisfaction to be high, they not only engage in repeat purchase but also reflect strong loyalty. It is clear that re-patronage behavior very depends on prior satisfaction.

Essa (2011) found that a positive relationship between customer satisfaction in the after sale service and rebuying behavior from the company or loyalty of customers. The challenges that automotive companies faced in implementing after sale service are: the customers lack understanding the contents of the company warranty, lack of customer handling and technical training, lack of having huge after sale service workshop, shortage of parking area, few customers cheat the company by giving false information about the problem of the vehicle, some customers feel nervous when they got problem in their vehicle and they need immediate solution for serious vehicle problems, and shortage of spare part access.

This study's conceptual model comes out from review on some conceptual models developed by previous researchers. This study's conceptual model is adapted to two previous researchers' models which are closely related to basic assumptions of this study. The first model is focus on automotive industry in Ethiopia. The second model is about the after sale services of Lifan Motors, in Ethiopia automotive industry.

The first model adapted by this study is developed by Essa (2011) and this model is shown in Figure (2.1).

Figure (2.1) Conceptual Framework of the Effect of Product Support Attributes (After Sale Services) on Customer Satisfaction (Essa, 2011)

Source: Essa (2011)

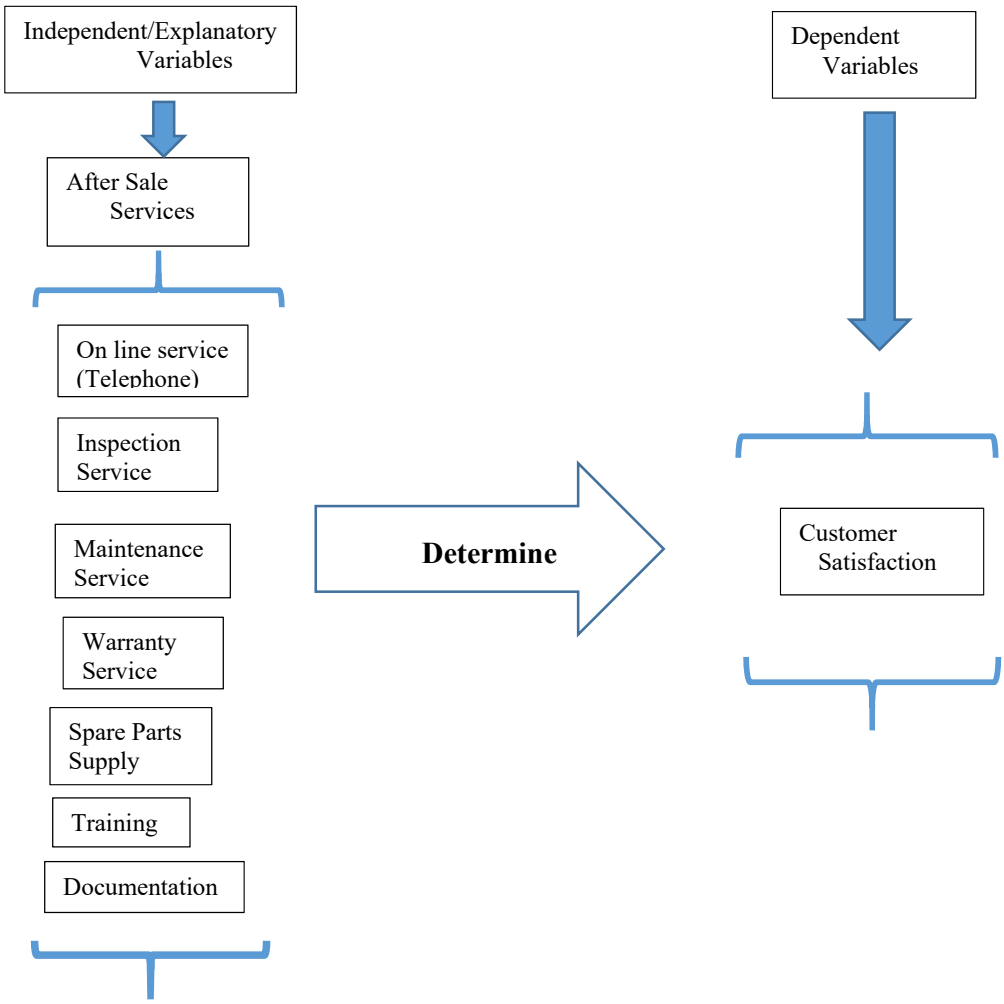
Figure (2.1) presents the effect of Product Support Attributes (after sale services) on customer satisfaction and loyalty in Ethiopia. Since the first part of their research focus is to analyze the effect of host country's after sale services factors on customer satisfaction, they accounted not only for the effect of company's after sale services factors such as maintenance and spare parts supply but also the effect of other after sale services factors such as warranty, inspection, on line service, training and documentation, on customer satisfaction of home country's companies.

Since this study focuses only on Myan Shwe Pyi Tractors Limited, one of heavy equipment machinery supplier, running in Yangon, some factors such as on line service (telephone) are neglected in this study. This previous research approached after sale services with seven elements such as maintenance, spare parts supply, warranty, inspection, on line service, training and documentation. The same approach is adapted by this study. In this study, the product support attributes (after sale services) of Myan Shwe Pyi Tractors Ltd is assessed with three main elements such as repair & maintenance, training and customer support and nine sub elements.

Tenkir (2018) found that the after-sales service plays a major role in satisfying customer and have significant effect on customer satisfaction. The study found that after sales service indices (maintenance service, spare part supply, installation and warranty) were significantly independent and joint predictors of customer satisfaction.

The second model considered in this study is the model developed by Tenkir (2018). This previous model is shown in Figure (2.2).

Figure (2.2) Conceptual Framework of the Effect of Product Support Attributes (After Sale Services) on Customer Satisfaction (Tenkir, 2018)



Source: Tenkir (2018)

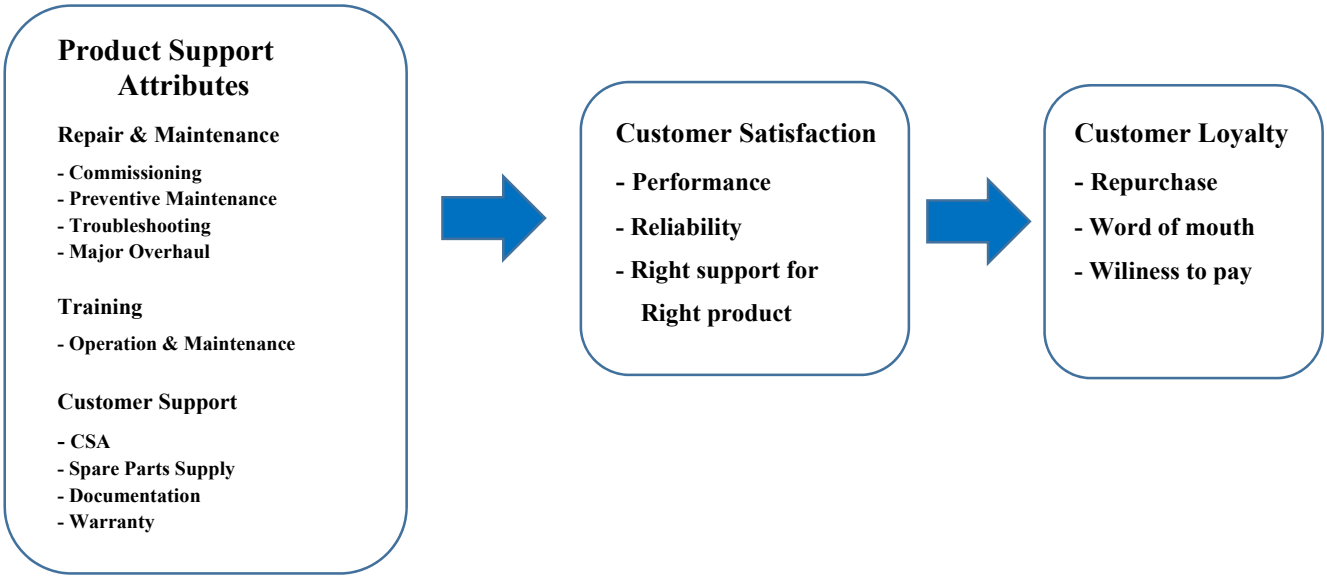
In previous study as shown in Figure (2.2), the Product Support Attributes (after sale services) factors are influencing on customer satisfaction. This previous research is limited to businesses running in the Lifan Motors, and it assumed that the perception on product support attributes (after sale services) will be varied with firms' capabilities. In this study, most respondents had at least one year experience as a customer of Lifan Motor, thus they have enough capabilities to rank service quality of Lifan Motor. Moreover, the focus of this study is only on the effect of Lifan Motor's characteristics on product support

attributes (after sale service) dimensions, and the effect of that dimensions on customer satisfaction. However, the relationship between product support attributes (after sale service) dimensions and customer satisfaction analyzed in previous research is considered in this study.

2.5 Conceptual Framework of the Study

The conceptual framework (Figure 2.3) of the study is adopted from Essa (2011)'s "Effect of product support attributes (after sale services) on customer satisfaction and loyalty in automotive industry of Ethiopia". The model is constructed to study how well the value delivery in MSPTL meets to product support attributes, and investigating its effects on customer satisfaction and loyalty.

Figure (2.3) Conceptual Framework of the Study



Source: Own Compilation (2019)

According to the business nature of product support service in MSPTL, Repair & Maintenance, Training and Customer Support activities are chosen as product support attributes and these are independent variables of the study. The model specifies the role of customer satisfaction as a relationship that product support attributes effect on customer loyalty.

CHAPTER 3

PROFILE AND PRODUCT SUPPORT ATTRIBUTES OF MYAN SHWE PYI TRACTORS LIMITED (MSPTL)

This chapter presents a description of MSPTL and its product support attributes, and then follows the research design, demographic profile of the respondents, and analyzes customer perception on product support attributes of MSPTL. The description of MSPTL included the overview of the company, company background, its structure.

3.1 Profile of Myan Shwe Pyi Tractors Limited (MSPTL)

MSPTL has been provided professional services to customer for CATERPILLAR heavy equipment machinery industry for twenty-four years ago. MSPTL is the successor of the previous company Myanmar Tractors Limited (MTL) since from July 1st, 2011. MTL was founded in 1995 at Yangon. Two years later MTL Mandalay branch is opened to be supply the heavy equipment machines, spare parts and service to upper Myanmar. In year 1998, MTL Pharkant branch is opened to give the more convenience and satisfaction to customers who are working in Pharkant Jade Mining area. Finally MTL Nay Pyi Taw Branch is opened in 2008 for better relationship with government customers. And Singapore logistic office and warehouse, MSP Tractors Pte Ltd., (MSPTPL) is opened in 2006, to be more effective in management for logistics from Singapore to Myanmar since all of Caterpillar products and spare parts are supplied from Caterpillar Asia-Pacific Distribution Centre (ADC), Singapore. And Singapore logistics office of MSPTPL sells the machines and spare parts to Myanmar customers by F.C.A SG (Singapore delivery) and C.I.F Yangon directly to customers.

In 1976, Tractors India Ltd. a Kolkata-based Caterpillar Dealer covering North-Eastern India since 1944, established a representative office in Myanmar to provide Caterpillar products. In 1995, Myanmar Tractors Ltd., a wholly-owned subsidiary of Tractors India Limited, was formed as a 100% foreign company and became a Caterpillar Dealer for Myanmar.

Caterpillar has appointed a new dealer to take over the MTL business in Myanmar. Myan Shwe Pyi Tractors Limited., (MSPTL), being led by U Khin Maung Win is the newly appointed Caterpillar dealer for Myanmar effective July 1, 2011. MSPTL is a wholly owned Myanmar Company and their Caterpillar dealership will be known as “MSP Cat”.

With a dedicated workforce of over 800 employees, MSP Cat is providing complete product distribution and comprehensive product support through its branches and facilities located in Yangon, Mandalay, Naypyitaw, Pharkant, Myitkyina and other cities.

3.1.1 Vision and Mission Statement of the MSPTL

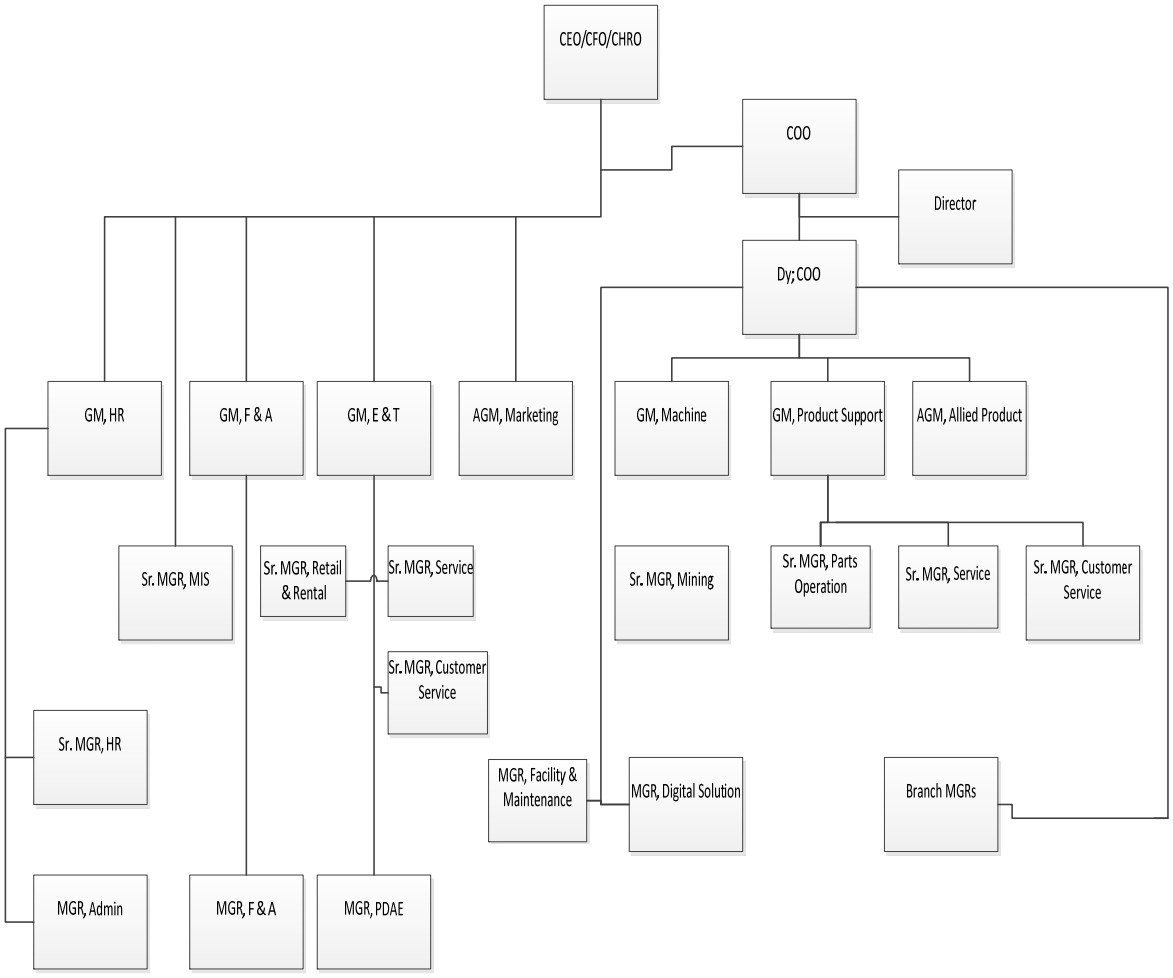
A vision statement is a declaration of an organization’s objectives, intended to guide its internal decision making. MSPTL has its own vision for its future prospective which is **“**Leading customer solution provider and world-class Caterpillar dealer”. A mission statement is a short statement of an organization’s purpose. Mission of MSPTL is **“**Create exceptional value for our customers and communities by providing quality power systems, machines and services and meeting the highest international accepted health & safety standards through our proud, knowledgeable and engaged team, who are known as leaders of service excellence and integrity, and consistently delivering our customers expectation-exceeding experience”.

3.1.2 Organization Structure of the MSPTL

In MSPTL organization, matrix functional and divisional chains of command are implemented simultaneously and overlay one another in the same departments. Two chains of command exist, and some employees report to two bosses. Direct support to customer services departments are Parts, Services, Engines and Machines. Every department heads are also taking care of their concerned department activities in branches. Branches employees are needed to report through their immediate supervisors to branch managers for administrative activities and concerned department heads for operational activities report as well.

MSPTL approaching matrix structure provides excellent coordination simultaneously for each geographic region and each product line. And two bosses can be made joint decisions if problems are complex.

Figure (3.1) Organization Chart of MSPTL



Source: MSPTL internal announcement, January, 2019

MSPTL is providing the customer services and relationships with three main operational divisions and other supporting departments such as Finance & Account Department, Human Resource Department, Parts Operation Department. MSPTL has over 800 employees and two third of employees are performing product support activities.

3.2 Product Support Attributes of the MSPTL

MSPTL is providing Product Support Services to its customers through the concerned departments and teams at branch offices.

3.2.1 Repair & Maintenance Services

MSPTL provides Repair & Maintenance Services to its customers through its field service team and workshop service team which includes Commissioning/Installation services for Caterpillar Machines and Engines, Preventive Maintenance (PM) Services for Caterpillar Machines and Engines such as 250 hours PM, 500 hours PM, 1000 hours PM, 3000 hours PM, 6000 hours PM, Troubleshooting Services for Caterpillar Machines and Engines and Major Over-Haul Services for Caterpillar Machines and Engines.

3.2.2 Training

MSPTL provides Operation & Maintenance Training for Caterpillar Machines and Engines to its customers with Free of Charge arranged by unit sale team with the help of training department. Training department has enough Caterpillar certified training instructors who can provide training for customers not only Free of Charge training but also paid training for other courses such as paid Trouble Shooting course and paid Operation & Maintenance Training course.

3.2.3 Customer Support Services

MSPTL provides Customer Support Services to its customers through Customer Service team which includes Contract Services or Customer Support Agreements (CSA) Services such as Inspection Service CSA, Preventive Maintenance Service CSA for every (250 / 500 hours/ 1000) hours, Preventive Maintenance Service CSA for every 3000 hours and CSA with specific scope of parts and service supply, Spare Parts Supply Services, Documentation Service and Warranty Service.

3.3 Research Design

The research design identifies the methods of the data gathering, in which instruments are used, how they are dealt with and how the gathered information is arranged and analyzed. Furthermore, the design, data analysis method, the statistical techniques and the different instruments used for collecting data in this study. In this study, quantitative method is undertaken. Both of primary and secondary data are applied in this study. Secondary data are collected from the previous studies, company websites, text books and related sources from internet.

A structural questionnaire is constructed for primary data acquiring. Questionnaire is derived from the literature review based on previous studies. There are altogether four parts to specifically address each variable applied in the study. Part I is for demographic data of the respondent, Part II is to explore customer perception on product support attributes of MSPTL, Part III is questions for customer satisfaction, and Part IV is to examine customer loyalty. Five points Likert scale is used to measure positive and negative perception of respondents to each statement. Questionnaire is dispatched among customers of MSPTL by means of printed questions papers, email and sharing through the social application. After conducting survey, gathered data is summarized and then analyzed with descriptive and regression methods by using SPSS software.

Almost all the business transactions are B2B and there are over 2000 customers for the MSPTL. Sample size of the survey is calculated by the Yamane's formula (1973) and it is 100 of respondents needed to be conducted. Calculation is done at 90% of the confidence level and 10% of acceptance margin error.

3.3.1 Reliability Test

The reliability test is conducted in order to ensure consistent measurement through different statements in the questionnaire set. A qualitative pilot survey is carried out to identify and eliminate possible problems in the questionnaire. Consequently, this method indicates reliability through examining the internal consistency of the research questionnaire which are posed in Likert scale.

Table (3.1) Reliability Test

Variable	Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	Numbers of Items
Repair & Maintenance	.874	.872	6
Training	.906	.916	4
Customer Support	.826	.820	9
Customer Satisfaction	.880	.885	4
Customer Loyalty	.940	.940	4

Source: Survey Data (2019)

Reliability is determined by the Cronbach's alpha coefficient, which is one of the popular criteria of reliability in quantitative studies. Cronbach's alpha value should have in the range of 0.0 to 1.0 but for research purpose, some researcher suggested that the minimum standard for reliability should be 0.70 or higher. Table (3.1) presents the analysis result of Cronbach's alpha for each variable whereas overall variable of the questionnaires have accomplished with consistency and stability.

3.4 Profile of the Respondents

Profile of respondents include such questions as gender, age group, designation, Caterpillar machine or engine population, types of contracts and frequencies of product support services of the customers. Table (3.2) presents the demographic data summary of the respondents. There are total of 100 respondents to the survey.

Table (3.2) Profile of the Respondents

Description		**No. of Respondents**	**Percentage (%)**
Total		**100**	**100**
Gender	Male	88	88
	Female	12	12
Age Group	26 - 40 years old	62	62
	41 - 60 years old	32	32

Source: Survey Data (2019)

Table (3.2) Profile of the Respondents

	61 years old and above	6	6
Designations	Operator	6	6
	Supervisor	30	30
	Manager	52	52
	Owner	12	12
Type of Products	Oil & Gas application Engines	94	94
	Marine Engines	4	4
	Industrial Engines	2	2
Caterpillar Machine or Engine Population	1 to 5 Units	32	32
	6 to 10 Units	23	23
	11 to 25 Units	23	23
	Over 25 Units	22	22
Type of Contracts	Inspection Services	10	10
	PM Services (Every 250 / 500 hours)	18	18
	PM Services (Every 3000 hours)	21	21
	Agreement with specific scope of parts and service supply	51	51
Service Times	1 to 5 times	32	32
	6 to 10 times	8	8
	Over 10 times	60	60

Source: Survey Data (2019)

Majority of the respondents is male and this is because of the nature of the job which is more related to the male workers. Dominant age group of the respondent is between 26 to 40 years old and they are managers and supervisors position holders in their respective organizations. Most of authorized persons are middle management level in the organization or company to call product support service and they used to direct contact to Product Support Service Company for their machines or engines' maintenance or required service.

Regarding types of products, most of respondents own oil and gas application engines and they have agreement with specific scope of parts and service supply. Regarding

servicing times, most of respondents have called MSPTL product support service over ten times and so measuring the customer satisfaction on MSPTL's product support attributes is possible.

3.5 Customer Perception on Product Support Attributes of MSPTL

Customer perception reflects the trade-off between quality and benefits that they perceive in product relative to the sacrifice that they perceive paying the price. MSPTL provides its product support attributes through its concerned departments and teams. It includes Repair & Maintenance Services, Training, and Customer Support Services.

3.5.1 Repair & Maintenance Services

Repair & Maintenance Services fills an important role of MSPTL's product support attributes because its' value satisfies the most basic need of the customer. Customer perception plays a vital role in a company's ability to attract new customers.

Table (3.3) Repair & Maintenance Services

No.	Repair & Maintenance Services	Mean	Standard Deviation
1	Commissioning/Installation service	3.850	.7703
2	Hourly Preventive Maintenance service	3.840	.5453
3	Troubleshooting service	3.920	.8725
4	Major Overhaul service	3.870	.8950
5	Servicing hours	3.940	.7497
6	Service charges	3.390	.7900
Overall Mean		3.802	

Source: Survey Data (2019)

Table (3.3) describes on the customers' perception for Repair & Maintenance Services of MSPTL. The customers rated a high overall mean score with less standard deviation values for each statement. Which is indicating that respondents' perceptions are inclined to use Repair & Maintenance services of MSPTL for their Caterpillar machines or engines. Majority of the customers think that Repair & Maintenance services of MSPTL is

always the best in quality and technically strong. Respondents have unconstructive perception on the pricing because most of them rated less score for the statements regarding with the service charges. The overall mean score for servicing hours and troubleshooting service are highest among six parameters of Repair & Maintenance services of MSPTL.

3.5.2 Training

Customers' perception of training quality has an effect on reputation of company. Poor training quality leads to customer dissatisfaction and may be a hump of company business growth. Providing training is one of product support attributes that is different with other business service. Training instructors are vital in product support attributes regarding training. They always keep in touch with customers all the time during training period.

Table (3.4) Training

No.	Training	Mean	Standard Deviation
1	Free of Charge for Operating & Maintenance training	3.100	.8103
2	Quality of training instructors	3.490	.5945
3	Effectiveness of training contents	3.340	.6547
4	Training durations	3.270	.6333
Overall Mean		3.300	

Source: Survey Data (2019)

Mean values of training service attribute of MSPTL are described in Table (3.4). According to the result, the respondents seem to be reluctant to agree with the training scheme of the company. The customers are prone to say neither agree nor disagree on the statement of training attributes such as free of charge on training, effectiveness and duration of the training, as their mean values are just over 3. The respondents, however, have some positive perception on the quality of training instructors. Overall, customers seem to be neutral to agree with the training scheme of the company.

3.5.3 Customer Support Services

Services to support the customers can be defined as services intended to support the client's actions in relation to the product. MSPTL's customer support functions includes Customer Support Agreements (contracts), spare parts supply, documentation and warranty. MSPTL provides its customer support services through its customer service representatives who have enough competencies in product knowledge and service experiences for Caterpillar products.

Table (3.5) Customer Support Services

No.	Customer Support Service	Mean	Standard Deviation
1	Benefits of CSA services	3.700	.6890
2	Quality of customer service representatives in right parts	4.130	.6460
3	Quality of customer service representatives in right quantity	3.920	.6769
4	Speeds of spare parts supply	3.780	.6289
5	Spare parts pricing	3.140	.5689
6	Documentation for products	4.070	.4976
7	Documentation for history of customer's machines	3.480	1.0198
8	Warranty statements	3.700	.7588
9	Warranty claiming	3.710	.7148
Overall Mean		3.737	

Source: Survey Data (2019)

Table (3.5) presents customer perception on customer support service delivered by MSPTL. The result revealed that there is a positive discernment of customers on perceived service value of MSTPL's product support attributes regarding customer support.

The customers agreed that the company has the competent customer service representatives and the responsiveness of the company on inquires is relatively high. There is a good collaboration between clients' staffs and MSPTL's customer service representatives in the customer support service operations. Customer scored the least mean

value on the spare parts pricing.

Customer perception is a marketing concept that encompasses a customer's impression, awareness and/or consciousness about a company or its offerings. Customer perception is typically affected by advertising, reviews, public relations, social media, personal experiences and other channels.

Table (3.6) Product Support Attributes

No.	Product Support Attributes	Overall Mean
1	Repair & Maintenance	3.802
2	Training	3.300
3	Customer Support Service	3.737

Source: Survey Data (2019)

In this study, there are three dimensions to determine product support attributes of MSPTL. They are Repair & Maintenance, Training and Customer Support. Each attributes affect to customer satisfaction of product support attributes of MSPTL. Table (3.6) shows the comparison of product support attributes for the three different dimensions.

Overall mean value of Repair & Maintenance is largest among the three dimensions and then followed by customer support service value because customer are more concern and prefer Repair & Maintenance value. The customers seem to be reluctant to agree with the training value.

CHAPTER 4

ANALYSIS ON EFFECT OF PRODUCT SUPPORT ATTRIBUTES ON CUSTOMER SATISFACTION OF MSPTL

This chapter presents analytical analysis and discussion of the study. The first part is discussion on customer satisfaction and customer loyalty of product support attributes of MSPTL. The second part is the regression analysis of the effect of product support attributes on customer satisfaction, and the effect of customer satisfaction on their loyalty of MSTPL.

4.1 Analysis on the Effect of Product Support Attributes on Customer Satisfaction

Heavy Equipment Industry is trending upward in all region of the world. In today's competitive market, it is more important than ever to stay focused on customer satisfaction. Heavy Equipment Companies should always keep in mind that customer perception of company's product support attributes is a reality. It is easier to keep a current customer happy than to attract a new one. Thus, it's imperative that Heavy Equipment companies focus on an amazing customer experience.

4.1.1 Customer Satisfaction

To explore customer satisfactions on product support attributes of MSPTL, four structural questions are constructed and data are collected from 100 respondents of MSPTL's customers.

Table (4.1) Customer Satisfaction

No.	Customer Satisfaction	Mean	Standard Deviation
1	Overall product support service	4.040	.6182
2	Decision to use product support service	3.820	.6873
3	Service is better than expected	3.600	.8762
4	Delighted with the quality of service	3.890	.6948
Overall Mean		3.838	

Source: Survey Data (2019)

Customer satisfaction on product support attributes of MSPTL is described in Table (4.1). According to the survey result, there is a higher customer satisfaction level on product support attributes of MSPTL because respondents scored a great overall mean value (3.838). As per mean scores to each statements, the product support attributes already received customer's trust and reliability. The service seems to be able to accomplish the task with the timeframe. And also, there is a higher level of customer satisfaction on product support attributes.

4.1.2 The Effect of Product Support Attributes on Customer Satisfaction

To analyze the effect of product support attributes on customer satisfaction, linear regression model is applied for analyzing the data of 100 respondents. The result of the analysis is shown in Table (4.2).

Table (4.2) The Effect of Product Support Attributes on Customer Satisfaction

Variable	Unstandardized		Standardized	t	Sig.	VIF
	B	Std. Error	Beta			
(Constant)	-.192	.275		-.697	.488	
Repair & Maintenance	.318***	.092	.312	3.459	.001	3.029
Training	-.152**	.072	-.147	-2.128	.036	1.775
Customer Support	.890***	.141	.649	6.306	.000	3.957
R Square	.743					
Adjusted R Square	.735					
F Value	92.368***					
Durbin-Watson	1.790					

Source: Survey Data (2019)

*** Significant at 1% level, **Significant at 5% level, *Significant at 10% level

According to analysis result, the specified model could explain very well about the variation of the customer satisfaction of the respondents on product support attributes of MSPTL, since the value of R^2 is about 74.3 percent. The model can explain 73.5 percent about the variance of the independent variable (Customer perceived values) and dependent

variable (Customer Satisfaction) because Adjusted R square is 0.735. The value of F test, the overall significance of the model, is highly significant at 1 percent level. This specified model can be said valid.

The value of Durbin-Watson is closed to 2.0, which is 1.790. Therefore it indicates that there is no auto correlation in sample. In respect to potential problems relating to multicollinearity, variance inflation factors (VIF) were used to provide information on the extent to which non-orthogonality among independent variables inflates standard errors. All the VIF values as shown in Table 4.1 are lower than 10, recommended by Neter, Wasserman and Kutner (1985), meaning that the independent variables are not correlated with each other. Therefore, there are no substantial multicollinearity problems encountered in this study. This means that there is no correlation among independent variables.

All of three variables are significant as stated by regression analysis Table. The results indicate the Repair & Maintenance and Customer Support have positively significant effect on customer satisfaction but the Training have negatively significant effect.

Relating to Repair & Maintenance, it has the expected positive sign and highly significant coefficient value at 1 percent level. The positive relationship indicates that the increase in Repair & Maintenance lead to the effect on customer satisfaction of MSPTL. The increase in Repair & Maintenance by 1 unit will also raise the effect on customers' satisfaction by 0.318 units.

In terms of training attribute, it is found that the customer satisfaction is negatively significant with the training. Although the customers want free of charge for training whenever they buy products from the company, they prefer the better training programs and schedule to free of charge training program. Not only the qualified training instructors but also the other attributes such as training contents and duration play a pivotal role and they enable the customer satisfaction. Moreover, there is also a paid training program for those customers who do not want to wait for a certain amount of time and who want to get special features of the training. In this regard, the customers who take free-of-charge training scheme feel that they are discriminated and they are not trained in a qualified training program. This in turn leads to the negative impact on customer satisfaction.

Regarding with customer support service, the respondents of the study tend to have a positive perception on the manner of product support attributes of MSPTL. Customer

support variable has the expected positive sign and highly significant coefficient value at 1 percent level. The positive relationship indicates that the increase in customer support service lead to the effect on customer satisfaction of MSPTL. The increase in customer support by 1 unit will also raise the effect on customer satisfaction by 0.890 units. The standardized coefficient (Beta) of customer support has the largest value 0.890 among three explanatory variables indicating that customer support has the greatest contribution to the effect on customer satisfaction.

4.2 Analysis on the Influence of Customer Satisfaction on Customer Loyalty

Three determinants of customer loyalty examined in this study namely repurchase intentions, willingness to pay and positive word-of-mouth communication. Customer Loyalty expressed by consumers depend on their levels of satisfaction. Hence, the company might maintain their existing customers and attract new consumers to achieve better financial performance.

4.2.1 Customer Loyalty

Customer Loyalty is defined as a person's perceived likelihood or subjective probability that customer will not switching on repetitive purchasing in the same brands, despite situational influences and marketing effort shaving the potential to cause switching behavior. To explore customer loyalty of product support attributes of MSPTL, four structural questions are constructed and collected data from 100 respondents of MSPTL's customers. Table (4.3) presents the measuring results of customer loyalty of MSPTL.

Table (4.3) Customer Loyalty

No.	Customer Loyalty	Mean	Standard Deviation
1	Continue to use product support service and Caterpillar products	3.910	.7926
2	Recommend product support service and Caterpillar products	3.600	. 8165
3	Encourage friends and relatives to use product support service and Caterpillar products	3.630	. 7740
4	Continue to use product support service and Caterpillar products although other's prices were cheaper	3.460	. 7577
Overall Mean		3.650	

Source: Survey Data (2019)

A significant level of customer loyalty is being maintained by product support attributes of MSPTL. According to the Table (4.3), the respondents agree with all the statements in loyalty as the mean values of all the statements are more than 3.4. The overall mean value of loyalty is 3.65 which represents the respondents' loyal on MSPTL. Respondents tend to have willingness to recommend about the product support attributes of MSPTL and its Caterpillar products to their company's management and to friends. The customers answered that they likely to use product support attributes of MSPTL and its Caterpillar products again in near future and they also have more positive feelings on the product support attributes of MSTPL.

4.2.2 The Influence of Customer Satisfaction on Customer Loyalty

Customer satisfaction is a metric used to quantify the degree to which a customer is happy with a product, service or experience. High customer satisfaction lead to customer loyalty. To examine the influence of customer satisfaction on customer loyalty, a regression analysis is undertaken and the result is shown in Table (4.4).

Table (4.4) The Influence of Customer Satisfaction on Customer Loyalty

Variable	Unstandardized		Standardized	t	Sig.	VIF
	B	Std. Error	Beta			
(Constant)	-.133	.242		-.549	.585	
Customer Satisfaction	.986***	.062	.848	15.837	.000	1.000
R Square	.719					
Adjusted R Square	.716					
F Value	250.819***					

Source: Survey Data (2019)

*** Significant at 1% level, **Significant at 5% level, *Significant at 10% level

The specified model could explain very well about the variation of the customer loyalty of the respondents since the value of R^2 is about 71.9 percent. The model can explain 71.6 percent about the variance of the independent variable (customer satisfaction) and dependent variable (customer loyalty) because Adjusted R square is 0.716. The value of F test, the overall significance of the model, is highly significant at 1 percent level. This specified model can be said valid.

Customer satisfaction variable has the expected positive sign and highly significant coefficient value at 1 percent level. The positive relationship indicates that the increase in customer satisfaction lead to the effect on customer loyalty of product support attributes of MSPTL and its Caterpillar products. The increase in customer satisfaction by 1 unit also raise the effect on customer loyalty by 0.986 units.

The standardized coefficient (Beta) of customer satisfaction has the value (.848) indicating that customer satisfaction has the contribution to increase the customer loyalty of product support attributes of MSPTL and its Caterpillar products. The overall evaluation reveals that the model explain the customer loyalty stage well because the estimation produced expected signs and significant coefficients for customer satisfaction. The increases of customer satisfaction have the positive effects on customer loyalty of product support attributes of MSTPL and its Caterpillar products.

In summary, the results show that customer satisfaction has significance. According to the survey findings, customer satisfaction of product support attributes of MSPTL could significantly raise the customer loyalty of product support attributes of MSPTL and its Caterpillar products.

CHAPTER 5

CONCLUSION

Based on the analysis from chapter 3 and chapter 4, this chapter consists of three main sections: (1) findings and discussions, (2) suggestions and recommendations, and (3) needs for further study, for those who are interested in better understanding of the products and its product support attributes and willing to prepare on delivering quality services on customers.

5.1 Findings and Discussions

According to the data of MSPTL's customers, it has been studied to evaluate the customers' perceptions on product support attributes, their satisfaction and their loyalty of MSPTL. The study examined the effect of product support attributes on customer satisfaction and their loyalty of product support attributes of MSPTL. The target respondents are the regular customers from the different sectors. Respondents actively participated by answering the structural questionnaire. Data are analyzed by using SPSS software.

The results of this study indicate that MSPTL uses high value and professional quality product support attributes on their product support operation. Majority of the customers believe that CAT products are always in the best quality and the dealers will provide professional product support attributes for CAT products. MSPTL should maintain these positive perceptions of their customers on their brand image and professional product support attributes. However, respondents have unconstructive perception on the pricing because most of them are reluctant to agree the statements regarding with the prices for parts and services.

In terms of repair & maintenance service, the customers have a positive perception on the manner of product support attributes of MSPTL and the professional services of its staff. The service engineers are able to perform their job functions such as commissioning services, preventive maintenance services, troubleshooting services and major overhaul services. However, according to the descriptive result, most of the respondents have unconstructive perception on pricing and they want service charges be competitive with

other companies.

According to the result, the respondents seem to be reluctant to agree with the training scheme of the company. The customers are prone to say neither agree nor disagree on the statement of training attributes such as free of charge on training, effectiveness and duration of the training. The respondents, however, have some positive perception on the quality of training instructors. The result suggests that MSPTL should update their training scheme to customers in order to satisfy them.

According to the mean values of customer support, most of the respondents have a positive perception on the manner of product support attributes of MSPTL and the professional services of its customer service representatives. Customer service representatives are able to perform their job functions such as providing the right spare-parts and the right quantity for customer's Caterpillar products. Most of the respondents are prone to rely on MSPTL's product support attributes as they agree with the statements regarding CSA services, delivery lead time for spare parts, warranty statements and warranty claiming. Most of the respondents, however, have an unconstructive perception on the spare parts pricing according to their disagreement on the statements regarding with the spare parts prices and they suggest that the parts pricing should reduce to be competitive with other companies.

The analysis for the effect of product support attributes on customer satisfaction indicates that the attributes such as repair & maintenance service, and customer support service have a positive significant impact on customer satisfaction and highly contributes to customer satisfaction on product support attributes of MSPTL whilst the training attribute has a negative significant impact on customer satisfaction. Furthermore, the result of the study indicates that there is a positively significant effect of customer satisfaction on customer loyalty. Therefore, it can be concluded that the product support attributes have the effect on customer satisfaction and customer loyalty in the context of this study.

5.2 Suggestions and Recommendations

With a rise of intense global competition and prices of heavy equipment and engines, product support plays a pivotal role for companies and corporations. Product support is indispensable for heavy equipment industry and others. Therefore, it is important to know the effect of product support attributes on customer satisfaction in

order to survive in the highly competitive Heavy Equipment Industry in Myanmar.

Among the product support attributes of MSPTL, the study is also found that the most important dimension of product support attributes is customer support service activities. Among them management should emphasize the performance of customer service representative and spare parts pricing. It has no doubt that the reliability of MSPTL's product support attributes. However, some customers concern on price because of job nature, economic environment of related industry and also their business conditions. It is suggested that MSPTL should explore the price elasticity of demand for the spare parts because the study result reveals that customers have unconstructive perception on spare parts pricing. Regarding the benefits of CSA service, customer service representatives should try to explain their customers about the advantages of CSA services. Regarding delivery lead time of spare parts, MSPTL's management should review inventory management and delivery process of spare parts from company to customer. Although there are three main dimensions for product support attributes, customer support service is the most important factor of product support attributes. Therefore, company's management should emphasize maintaining on current performance of customer service representatives and improving their performance by providing required training, exposures and facilities because the greater capability of customer service representatives offers the greater the chance of building customer satisfaction and customer loyalty.

The study also points out that Repair & Maintenance service is also important to increase customer satisfaction and customer loyalty. It is also found that management should emphasize the performance of service engineers but this study points out to explore the price elasticity of demand for the service charges because the study result reveals that customers have unconstructive perception on service charges although they satisfy the performance of service engineers. Therefore, company's management should emphasize keeping current performance of service engineers and to improve their performance by providing required training and facilities because the greater capability of service engineers offers the greater the chance of building customer satisfaction and customer loyalty.

Regarding the training service, the study suggests that company's management should emphasize the decision on whether they should maintain the free-of-charge trainings for the customers or not, because the customers have different points of views on the two different training programs, unpaid and paid. This study highly recommends the company that they should keep only one system of the training service so that the customer perception

will increase and they will satisfy to the company.

5.3 Needs for Further Research

This study assesses the effect of product support attributes on customer satisfaction of MSPTL. Some product support dimensions which may influence on product support attributes are not included in this study. The main problem of this research is the small amount of sample size and limitation of time and resources as the survey results were conducted base on 100 respondents and most of them are oil & gas customers. Therefore, this survey does not cover all types of MSPTL's customers and their satisfaction. The interpretation cannot be generalized for other heavy machinery equipment companies. Therefore it would be great if a larger sample size should be used and if some product support dimensions would be included to carry out for any further research study in this field to better understand the effect of product support attributes on customer satisfaction and customer loyalty. This study will serve as a baseline for those who are eager to expand the topic, and do similar study who interest to study the whole industry of heavy machinery equipment and engines.

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APPENDIX I

Questionnaire for Myan Shwe Pyi Tractors Ltd's (MSPTL) Customers.

Yangon University of Economics

Master of Business Administration Programme

Online MBA

This questionnaire is prepared by Soe Oo Thaw, who is Master of Business Administration student at Yangon University of Economics. The purpose of this questionnaire is to gather data in order to study effect of after sale services on customers' satisfaction and loyalty. Please co-operate by filling the questionnaire, because your genuine, frank and on time response is vital for the success of my study. Besides, the data gathered by this questionnaire is purely for academic purpose and your response will be secured anonymously. Thus, I kindly request you to respond each item carefully.

Please note that:

1. No need of writing your name.
2. Please fill the answer by putting "√" mark.
3. Please give more attention and return the completed as fast as possible.
4. If you need further explanation, you can contact me on through the address sown below.

Soe Oo Thaw
Phone : 09 45210 8584
E-mail: thaw.soeoo@gmail.com

Thank you in advance, for your cooperation

Part I : Demographic Characteristics of Respondents

1. Gender

☐ Male

☐ Female

2. Age

☐ Less than or equal 25 years old

☐ 26 to 40 years old

☐ 41 to 60 years old

☐ 61 years old and above

3. Position

☐ Operator

☐ Supervisor

☐ Manager

☐ Owner

4. How many units of Caterpillar products do you have purchased?

Excavator _____ units

Dozer _____ units

Dump Truck _____ units

Wheel Loader _____ units

Generator-sets _____ units

Oil & Gas application Engines _____ units

Marine Engines _____ units

Locomotive Engines _____ units

Industrial Engines (Compressor Engines /

Other Machines with Caterpillar Engines) _____ units

5. Do you have any types of contract?

If yes, please answer question no (6) and skip question no (7).

If no, skip question no (6) and answer question no (7).

☐ Yes

☐ No

6. Which types of Service Contracts (Customer Support Agreement) do you have?

☐ Inspection Services (Monthly / Bi-monthly)

☐ Preventive Maintenance Service (Every 250 / 500 hours/ 1000 hours)

☐ Preventive Maintenance Service (Every 3000 hours)

☐ Agreement with specific scope of parts and service supply

7. How many times of product support (parts or services or parts & services) have you been provided by MSPTL?

☐ 1 to 5 times

☐ 6 to 10 times

☐ Over 10 times

Part II : Product Support Attributes

Please indicate the degree that best describe you are agree or disagree with the statements of perceived values in the following, based on MSPTL's product support services. There is no right or wrong answer. What you think is the most important.

1. Strongly Disagree

2. Disagree

3. Neutral

4. Agree

5. Strongly Agree

Repair & Maintenance (Commissioning / Installation, Maintenance)

Sr	**Commissioning(first usage) / Installation Maintenance**	1	2	3	4	5
1	Service engineers can perform, well for the first usage (Commissioning / Installation) service of Caterpillar products					
2	Service engineers can perform well for the hourly preventive maintenance service of Caterpillar products					
3	Service engineers can perform well for troubleshooting jobs of Caterpillar products					
4	Service engineers can perform well for the major overhaul service of Caterpillar products					
5	Servicing hours for the respective jobs is acceptable					
6	Service charges are fair prices and acceptable					

Training (Operation & Maintenance)

Sr	**Training (Operation & Maintenance)**	1	2	3	4	5
1	MSPTL provides Operation and Maintenance training for its customers with **free of charge** after selling Caterpillar products					
2	Training instructors have enough skill to provide training for customers					
3	Training contents are effective for customers					
4	Training durations are acceptable					

Customer Support (Spare Parts Supply and Documentation)

Sr	**Customer Support Agreement (Contract)** **Spare Parts Supply** **Documentation** **Warranty**	1	2	3	4	5
1	Customer can get benefits by contracting any types of agreement(CSA) with MSPTL					
2	Customer Service Representatives can provide the right spare parts for customer's Caterpillar products					
3	Customer Service Representatives can provide the right quantity for customer's Caterpillar products					
4	Delivery lead time for the spare parts of Caterpillar products are acceptable					
5	Caterpillar spare parts pricing provided by MSPTL is not expensive					
6	MSPTL can provide related documents of Caterpillar products					
7	MSPTL can provide the documents that the history files of customer's machines or engines					
8	Warranty statements of Caterpillar products that provided by MSPTL are clear to understand					
9	MSPTL's warranty implementation for Caterpillar products is same as promised					

Part III: Customer Satisfaction

Sr	**Customer Satisfaction**	1	2	3	4	5
1	In general I am very happy with my overall product support service experiences provided by MSPTL					
2	I feel pleased with my decision to use the product support services of MSPTL					
3	MSPTL's product support service is better than expected					
4	Overall, I feel delighted with the quality of product support service provided by MSPTL					

Part IV: Customer Loyalty

Sr	**Customer Loyalty**	1	2	3	4	5
1	I will continue to use MSPTL product support service and Caterpillar products					
2	I will recommend MSPTL product support service and Caterpillar products to anyone who seeks my advice					
3	I will encourage my friends and relatives to use MSPTL product support service and Caterpillar products					
4	Although the other service provider's price were cheaper, I will continue to use MSPTL's product support and Caterpillar products					

Thank you very much!!!

APPENDIX II

Regression Analysis Model 1: The Effect of Product Support Attributes on Customer Satisfaction

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.862[a]	.743	.735	.32038	1.790

a. Predictors: (Constant), Customer_Sup_Mean, Training_Mean, RM_Mean

b. Dependent Variable: Customer_Satis_Mean

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	28.443	3	9.481	92.368	.000[b]
	Residual	9.854	96	.103		
	Total	38.297	99			

a. Dependent Variable: Customer_Satis_Mean

b. Predictors: (Constant), Customer_Sup_Mean, Training_Mean, RM_Mean

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.192	.275		-.697	.488
	RM_Mean	.318	.092	.312	3.459	.001
	Training_Mean	-.152	.072	-.147	-2.128	.036
	Customer_Sup_Mean	.890	.141	.649	6.306	.000

a. Dependent Variable: Customer_Satis_Mean

Regression Analysis Model 2: The Effect of Customer Satisfaction on Customer Loyalty

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.848[a]	.719	.716	.38517	2.225

a. Predictors: (Constant), Customer_Satis_Mean

b. Dependent Variable: Customer_Loyal_Mean

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	37.211	1	37.211	250.819	.000[b]
	Residual	14.539	98	.148		
	Total	51.750	99			

a. Dependent Variable: Customer_Loyal_Mean

b. Predictors: (Constant), Customer_Satis_Mean

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.133	.242		-.549	.585
	Customer_Satis_Mean	.986	.062	.848	15.837	.000

a. Dependent Variable: Customer_Loyal_Mean