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**Effect of After-Sale Services on  
Customer Satisfaction and Loyalty  
in Automation Company Case  
Cimcorp**

DEGREE PROGRAMME IN INTERNATIONAL BUSINESS  
2023

## ABSTRACT

Abdullah, Mohammed Ali: Effect of After-Sale Services on Customer Satisfaction and Loyalty in Automation Company case Cimcorp

Bachelor's thesis

Degree programme in International Business

Month, Year: May, 2023

Number of pages: 63

The aim of this thesis was to explore the impact of a helpline on customer contentment and fealty in one of Cimcorp's distributor companies. A company inside interview of three people and a comprehensive literature review of consumer happiness and devotion with the serving after purchase the device were used as data catering in this study. Statistics were examined by tenor scrutiny. The results of this thesis work demonstrated that client service influenced customer pleasure and customer allegiance when the layout procedure shares the acquaintance to make energetic instruct about how to appropriate supplies in a way that will enable the company to outreach its customer support goals. Because the product is characterized by accuracy and many details to the automatic electronic guidance, the focus of after-sale service is carried out by a specialized team sent to the location to guarantee the standard of the product's work. This is one of the most important services provided by Cimcorp. Customers with advanced levels have more options, including full-service and trained system operators. With lifecycle consulting, experts will plan to achieve optimal system uptime, resulting in customer satisfaction and loyalty. Experts from Cimcorp examine the current automation system to ensure the best cost-performance ratio and to provide a roadmap for future actions. Cimcorp provides after-sale services for upgrading equipment, which is one of the steps that the company considers appealing and guarantees customer loyalty. Consumers who are fearful about the long-term viability of their industrial robots obtain updates on a regular basis, allowing them to take advantage of the most recent software features. As a result, the thesis demonstrated that after-sales service had a circuitous influence on customer\_fealty via fulfilment. Based on interviews, the centric goal of this thesis was to evaluate Cimcorp's services after buying the product in terms of customer pleasure and allegiance and to propose new successful future after-sales services.

Keywords: Customer relationship, Customer loyalty, Customer Satisfaction, After-Sale Services

## FOREWORD

The variety of caring presented by Cimcorp to its clients and the range to which these services affect client satisfaction and devotion were the main topics of this thesis. We can see from the data and literature provided that there is a connection between the services offered, keeping clients, earning their loyalty, and profiting from them by contributing to favourable publicity. Because the company produces industrial robots, which require recommendations from individuals who have used the product, the verbal statements and recommendations made by customers to other potential customers who wish to do business with Cimcorp serve as a summary of this publicity for the company.

This thesis is the last academic procedure for me to obtain a bachelor's degree in international business. When I started my studies at Satakunta University of Applied Sciences, my expectations for the results were that I would obtain the certificate and attach it to my CV. However, when I completed the thesis, I had a passion for reading and self-development, which I consider the most important change that occurred as a result of my admission to the college, and as I finish my thesis and studies, I extend my thanks and appreciation to Satakunta University of Applied Sciences (Samk) for continuous support, and I would like to thank my thesis supervisor Pirita Ihamäki for supporting me in writing the thesis. Also, thanks for the managers of Cimcorp for accepting interviews with me and for their serious cooperation in that.

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## 1 INTRODUCTION

Customers are one of the crucial factors for companies' sustainability, they are the main key to profits. That's why companies should focus on improving products and services and get in a race to gain a competitive advantage by offering what customers' needs and demand (Chaithanapat & Rakthin 2021). Satisfying customer's need is the main target in rowing their loyalty (Segoro & Limakrisna, 2020, p. 167). Today companies operate in worldwide markets and therefore they are in win-or-lose situation. By delivering the correct product at the right time with higher value for money due to lower overall cost, Directing the international logistics enables the capability to develop and enter markets before rivals, this gives businesses a competitive advantage (Tien et al., 2019, p. 2). Customer satisfaction and loyalty are significant goals for every firm, where the level of competition between companies has become aggressive, companies must focus on the whole customer journey process, including client support after the sale (Morris & Honeycutt, 2001, p. 2).

Studies have shown that there is an intimacy between the services delivered by the firms and consumers' happiness (Kumar 2021). Putting the needs of the customer first is one of the company's priorities, then they will have his trust which brings his devotion (Callaway & Callaway, 2012, p. 88) When a firm offers its service after selling the items, it means that it takes care of its cherished clients with a powerful connection. Just thanking a consumer for their purchases after a sale will not result in them returning. A long-range interrelation is instead developed when a business improves customers' purchasing involvement after the sale. After-sale supports may help justify a higher product price by luring customers to buy the goods in the first place. Future sales may potentially suffer as a result, and it also affects the company's reputation over time. Customer satisfaction, retention, and brand perception are heavily dependent on after-sales services and customers since they require continuous engagement between the service provider and the customer (Saccani et al. 2006, p. 260). Satisfying the customer, a goal that must be realized by

providing after-sales services characterized by quality and speed. The result of this process is to form a valuable relationship with customers, thus retaining them, gaining their loyalty, and reaching the primary goals of the overall process, which is to increase the demand for the product or service and increase the company's commercial reputation, including its own brand (Choudhary et al. 2011, p. 360-361).

This thesis focuses on Cimcorp's client services, with a customer contentment and fidelity perspective. The customer management process has been excluded from this thesis work. In addition, this thesis work is based on an interview with managers from Cimcorp, who are responsible for sales and after-sales services in Cimcorp. The interviews have been conducted in a semi-structured manner and focus on customer pleasure and fealty a long with aftermarket services.

### 1.1 Objective of the Study

Services are so important that their neglect can lead to the company's bankruptcy. When companies sell a particular product, they are obliged to maintain it. Non-maintenance results in customers refraining from buying again, therefore, they must be convinced that this transaction is beneficial to both parties. Because the manufacturer knows the secrets of the output and how to keep it working. Consumer support management is optimally conducive to customers' satisfaction and thus the possibility of obtaining their loyalty. But on the other hand, the process of satisfying customers cannot be obtained free of charge and may even cost the company sometimes enormous sums to maintain its reputation and support its products, which may affect the level of profits planned for acquisition in the company's strategy. Therefore, companies are obliged to reconcile excess expenditure to satisfy customers and obtain their loyalty with maintaining the level of profits from selling the product, which is the company's goal. This thesis identifies helpline, customer fulfilment, and customer fealty in Cimcorp and how they manage this process effectively.

## 1.2 Statement of the Problem and Research Questions

In the new era of a competitive market, customer retention is a result of customer happiness. which gives a path to the repetition of purchases to the business organization. Several academics have scrutinized the momentousness of client contentment (Singh, 2006, p. 5). However, the research emphasized that in addition to having satisfied customers, every satisfied customer should ultimately steer to customer devotion, since maintaining a loyal customer base is the only way to gain a competitive advantage that will last. Hence, customer satisfaction plays a significant role in the prosperity and constant subsistence of the company (Singh, 2006, p. 2). As stated in the introduction part, after-sale service consists of three operational service sectors: backup service, client service, and supplement business (Dombrowski & Fochler 2017, p. 135, Hiltunen, 2017, p. 26). Customers' pleasure, customer retention, competitive advantage, source of income, and profit are all attributed to excellent helpline assistance (Kurata & Nam, 2010, p. 136). The business landscape in which services are allocated and expended is made more accessible by digitization, which also speeds up the development of new service stepping forward (Brown, 2017, p. 696). Customer loyalty may benefit from increasing customer contentment to the desired degree (Hiltunen, 2017, P. 28). Masterful customer service, therefore, can trigger repurchases. Product support can be a differentiating factor, producing a competitive advantage and creating a distinctive selling proposition (Dombrowski & Fochler, 2017, p. 133). The output support service aims at ensuring the smooth functioning of the production. The product content serves as the foundation for value. Yet, in order to tailor a service to a customer's primary activities, services supporting customer action need to have a thorough grasp of the client's operations. This suggests a closer connection with the business and activities of the client (Markeset & Kumar, 2004 p. 127).

When a service is delivered remotely, the physical distance between the employee of the company performing the service and the client has small-scale



ramifications on how well that service is delivered (Martin, 1989, p. 29). The service content is the foundation of value. For example, performance-based contracts, full-service contracts, or product-service systems are used to provide such helpline that support the client's actions. The customer uses the machinery in these systems without owning it. (Dombrowski & Fochler, 2017, p. 135). Thus, this study impact of the after purchasing aid has research with interviewing Cimcorp sales and after-sales managers, which are responsible Cimcorp customer gratification and fidelity with aftercare called the customer electromechanical maintenance services including helpdesk services, spare part services, consultation services, training services and retrofit services. Thus, this thesis examines how client service affect client happiness and his fealty in the automation industry case. Cimcorp is a global player and have customers in 6 continents and 40 countries. In order to solve the above-mentioned research difficulty together with the intended objective, the increase in data with the above statement with the following research questions.

The research questions are as follows:

1. How post-purchase care can affect client happiness and adherence?
2. How does Cimcorp manage customer satisfaction and loyalty with after-sale service and is there any gaps in the capacity of the firm to offer after-sale services especially the customers locations overseas?
3. What kind of services Cimcorp provide to customers?
4. What kind of after-sale services will be in the future?

The thesis work is focussing on Cimcorp's helpline, but the work is based on the author's own research interest, and it is done together with the Cimcorp company by having the agreement from them (mentioned below in the appendix). The thesis will be an overview of the company and an explanation of the client serving, fulfilment, and fidelity because they are all connected and work best together. This thesis work aim is to answer research questions about how to manage customer pleasure and devotion with customer support and is there any gaps in the ability of the company to offer troubleshooting, especially the customer's locations overseas. In this thesis work has interviewed Cimcorp

sales and after-sales managers online Teams, and the work is based on those interview materials and for literature review. In the attachment can find the questions about what the author has asked the Cimcorp managers who are responsible for customer relations. The thesis work is based on customer support from Cimcorp in three fields of industries (the food industry, the tire industry, and Distribution stores of all kinds).

### 1.3 Conceptual Framework

The extent of the company's management of its relationship with customers is the most focused measure in knowing the index of the company's effectiveness and performance, not in the short term, but for long periods (Laage-Hellman, 1997, p. 8).

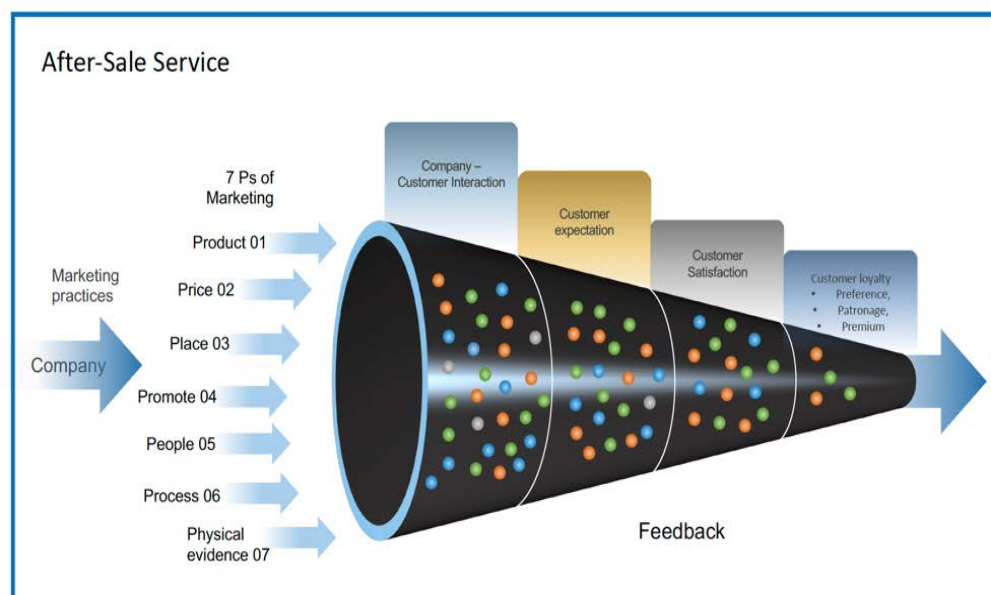


Figure 1: Thesis Conceptual Framework

As has been cleared in figure 1 any company should start with marketing practices to make its performance process arrive at a profitable situation after it ends with good after-sale services. Marketing practice contains 7 parts which are 7 PS of marketing as follows:

- ***The product.***

A product is a commodity or service provide for sale, it can be physical, electronic, or virtual. As long as there is a cost for production, there must be a payment for it, and this payment count on mainly on the quality of the item and the strength of its demand from the consumer. (Anjani Irham, & Waluyati, 2018, p. 263).

- ***The price.***

Determining the price is one of the most important decisions taken by the company and it is also more sensitive because it is related to profitability on the one hand and attracting buyers on the other hand. Therefore, excellence in pricing (providing suitable and competitive prices) is an added advantage to the company, which is the development in the high basic ability in pricing at the business level commercial (Baker, Marn, and Zawada, 2010, p. 3).

- ***The place.***

The literature indicates that the place is the distribution area and includes (allocation line, allocation insurance, vent positions, and fund standards) and that these elements directly affect customer happiness, but companies, to get rid of the customer's control over imposing the place absolutely, have enhanced the categorization of the score or helping hand to affect customer gratification more than Location (Mohammed, 2015, p. 73).

- ***The promote.***

It is the process of communicating with individuals, groups, and institutions within a group to be targeted, and this is done through a number of promotional methods for a particular product or service, and these methods are so important that they cause the failure of the product if the buyers' attention is not drawn to it through promotion, and it is linked to communications which it role comes after purchase and after-sales service (Ruskin-Brown, 2006, p. 136).

- ***The people.***

If they are not the deciding criteria, employees are seen to have the biggest influence on how well services are delivered. The employees' appearance, social proficiency, and technical proficiency are all crucial. These elements have an impact on how an offer is evaluated and consequently on how customers view the service or product (Soedijati & Pratminingsih, 2011, p. 21-26).

- ***The process.***

The track in which the item or assistance is presented, as well as the sequence in providing and creating future value for the customer, is called the process and includes establishments in buying and selling and swift reaction to requests and complaints submitted by customers at the same level (Anjani Irham, & Waluyati, 2018, p. 264).

- ***The physical evidence.***

Infrastructure, furniture, layout, noise level, supporting items, location, cleanliness, and equipment are all real physical components that the company offers to customers, and they convert a satisfied customer into a potential customer (Soedijati & Pratminingsih, 2011, p. 2126-2127).

### 1.3.1 Company Customer Interaction

Communication is a characteristic of the interplay amidst the company and customers, it takes on many aspects, starting with usage. The customer's use of the product is the first aspect of interaction, then the education that the company provides to the customer in understanding the product and its use, as well as cognition to know the details, and then providing the necessary assistance to the customer in anything related to the product in addition to providing the experience. It is important to show positive emotions to the customer, as experts recommend the need to establish an emotional connection with the client to gain his pleasure and fealty and finally support the consumer with the

company's specialist whenever he needs an expression from the company that it is the customer's partner and supports him even after the purchase.

Customer predictions have been significantly shaped by transactional and consultative marketing strategies. When susceptible to various collections of marketing segments from various sources, a customer processes the information using a variety of circumstantial and personal factors, including social background, educational attainment, cognitive mind processes, prior expending practices, passionate correlation, and knowledge and expertise to make a decision. These company and client-particular elements have a significant impact on the interlinkage between businesses and their clients. They also format each client's consumption experience, which in turn influences how the client evaluates the product and determines whether they are satisfied or dissatisfied (Srivastava & Rai, 2018, p. 209-210). Figure 1 describes this thesis conceptual framework as customer and company interaction and shows how consumer fidelity and happiness develop following a purchase.

### 1.3.2 Customer Expectation

The attitudes or procedures that the customer expects from the company, such as excellent service and reasonable prices. With the development of production and the distinction of goods, the expectations of the customer increased due to the increase in their aspirations, and this requires the company to study in depth the customers to know their expectations and meet them constantly to obtain their loyalty (Myllynen, 2021, p. 16). From the standpoint of the customer's expectations of the product and the experience of the benefit received, customer contentment or discontent is a cognitive appraisal that results from the interplay between the customer's personality and the company's marketing activities. Thus, Positive feedback from customers leads to contentment of how well a product would function in comparison to their expectations, and for a business to be profitable, client pleasure is crucial, because it strengthens the customers' intentions to return and purchase. As a result of food consumption, mentally, gratification is inevitably associated with the potential

for discontent when a customer's bad experience leads to frustration and disagreement (Srivastava & Rai, 2018, p. 210).

### 1.3.3 Customer Satisfaction and Loyalty

It is possible to describe satisfaction as its delight or contentment, which is primarily experienced as a mental process comprising the comparison of apparent performance to pre-existing expectations. According to the perspective of the expectations the customer had for the product or services, as well as their perception of the benefits received, customer happiness is the rational judgment made by the customer as a result of an interaction between their personality and the company's marketing strategies (Srivastava and Rai, 2018 p. 211). Fulfilment is the upshot of clients' appropriate illustrative judgments about the scope to which a product's performance could match reflections, and customer contentment is contemplated indispensable for the growth of the business as it strengthens the customers' inclinations to return and repurchase. The general firms endeavour to entice and retain customers through several marketing pursuits broadly enveloped around the key issue a business focuses into viz output, selling price, area, and fostering (Srivastava and Rai, 2018, p. 208). As Cimcorp's mandate is to be the best partner for the customers. The Cimcorp Group wants to do business responsibly regardless of location. This means actions such as protecting human rights, adhering to ethical business practices, taking responsibility for all the environmental impact of a business, extending responsibility to the supply chain, and promoting transparency (Cimcorp Sustainability and responsibility website, 12.12.2022).

Customer comprehension of the value of the service after the sale. The value of the customer can be positive or negative, as customer may realize the magnitude of output at the first impression, but the concept of magnitude may change according to the perception of customers and explore their possibilities to buy or use the product. Turnbull (2009, p. 2) have presented that customer faithfulness is seen as a double concept, the main dimensions of which were intent to make additional purchases and adequate client attitude. Customer

fealty, which is principally valued for the resultant character, customer fealty develops to its full strength when it fulfils three characteristics i.e., preference, patronage and premium towards the company. Predilection refers to the customer's choice to adopt a specific company over other alternatives. Srivastava & Rai (2018) pointed out that customer repurchase animus and impedance to turnover are worthy observable impacts of customer fidelity. Customers evaluate the quality of service by comparing what they feel the company should provide and the reality of the authentic service (Koskela, 2002, p. 17). Patronage is the affective synthesis of client fealty, which stimulate the sincere to patronize his relevance by dilating his full cooperation and obligation to the company. Customers with high sponsorship not only induce the company in their public caucuses but likewise upholding performance improvement by way of deductive finding, service collaboration and the induction of a welcoming setting for service because these customers accept as true that their service provisioner is superior to other businesses. Srivastava & Rai (2018, p. 214) emphasized recommendations as an outcome of fealty. Even at a greater cost or after a longer waiting period, superb stages are provided to help customers make an informed decision about their possibilities for a private company's products. In order to own the goods, the client must be willing to go above and beyond. Srivastava & Rai (2018) delineate price disregard or insensitive as a customer's unmoved way to the price difference between their service provisioner and other market performers and categorize it as the most important coherent consequence of client commitment. The customer's insistence on owning the product, even if it is of high price and requires a waiting period to obtain it, as an expression of the strength of loyalty to a particular company or brand (Zichermann & Linder, 2010, p. 14). The evaluation of the purchase value by customers begins with helpline, where it is noted that there is a frontal impact on customer pleasure and fealty. Therefore, consumer\_support can be considered the focal point in customer relationship management (Anisur Rahman, 2022, p. 14).

## 1.4 Scope and Limitation of the Study

There is a close relevance between client service and consumer contentment and customer fidelity. It is obvious that companies think about the means by which they obtain customer happiness and client fealty since the start of output, and this is another aspect, but the thesis will centre on the impact of after-care on customer gratification and fealty, as companies may obtain customer gratification and their fealty through product standards, industry development and customer relevance with the company and customer needs for the product specifically, but the results may be catastrophic if the company neglects after-care. Therefore, the limits of the thesis will be limited to the relevance between client support and their impact on customer contentment and fidelity because data have been collected by interviewing three persons who are accountable for vending and service after the sale and the former CEO. Therefore, results are based on Cimcorp personnel to the point of view of their product service which the theories of customer happiness, customer devotion, and aftercare are addressed.

## 1.5 Cimcorp Company Overview

Cimcorp is one of the large companies registered in Finland that works in the production of industrial robots, with branches in several countries, and it is affiliated with the Japanese parent company Murata, which occupies an important position in the global market. Cimcorp concentrates customers' material influx defiance by facilitating strategy with inventive resolutions. Cimcorp Head quarter situated in City of Ulvila, Satakunta Region in Finland.

### 1.5.1 Murata the Parent's Company

Murata, with headquarter in Kyoto, Japan, has grown in several business domains in logistics automation after starting operations in 1935. The company is Japanese family-owned company Murata Machinery Ltd. The company



Murata began to expand and open its headquarters in the world until it had 24 subsidiaries in 2013 and purchased Cimcorp and its subsidiaries in 2014. Cimcorp Group retained its own brand and solutions, but together we strive to expand the boundaries of technological advancement to provide meaningful solutions for intralogistics automation customers. Murata is the world's leading logistics solutions providers. Cimcorp as part of Murata gives the possibility to widen the range of products and services even further it gives better options for intralogistics and automation solutions (Cimcorp website, 15.12.2022). Murata group Ltd. is Avant-grade and global chief in clean workshop automation, altitude-velocity automated streaming and manufacturing, masterminding and material handling automation, and knitting machinery. To help international manufacturing and logistics organizations gain a competitive edge through integrated automation, Murata is the unique builder of its trademark instruments and regulation. guidance universal brands and purveyor counting: Ford, Fastenal, Boeing, Linamar, Coke, and many more rely on Murata because of its manufacturing experience spanning more than 50 years, thousands of installations worldwide, and incipient-to-market innovations. Every resolution makes use of tried-and-true technology, is tailored to the demands of the customer specifically, and offers elasticity and individualized prop throughout the duration of the framework (DC velocity, 17.12.2022).

### 1.5.2 Cimcorp Company

Cimcorp was founded in 1975 as a part of the Finnish Rosenlew Corporation and joined to the Japanese Murata group of companies in 2014. The company started manufacturing industrial robots since its inception within the Rosenlew company. Currently, Cimcorp has branches in Finland (3 branches), Canada, the United States, India, and Spain. The company's specialty is the manufacture of industrial robots for tires factories, food and beverage stores, and distribution industries. Cimcorp presents provides solutions to customers to enable them to move into a more profitable entity through intelligent automation of internal supply. Cimcorp's specialization is summarized in the manufacture of industrial robots for the sectors, tire factories, food stores frozen and

distribution stores of all kinds (Cimcorp website, 17.12.2022). Cimcorp mission is to be system integrator that simplifies and increases the efficiency of material flows in intralogistics.

Cimcorp based on four core values as called four C's, which are caring, creative, credible and community oriented. Caring means that Cimcorp are genuine interest in the wellbeing of Cimcorpers, customers and communities and working together as best possible outcomes. Creative means that Cimcorpers want to think outside of the box and be brave enough to challenge their selves and try new ideas with can-do attitude. Credible means for Cimcorp being a trustworthy and believe companion for our customers, Cimcorpers and partners around the world. Community oriented means to active and responsible participation in society by supporting culture and awareness of today's world (Cimcorp website, 17.12.2022).

## 2 CUSTOMER SATISFACTION AND CUSTOMER LOYALTY WITH AFTER-SALE SERVICES

This section will start with a definition, models (including the Swedish model, the American sample, and the European sample), and a summary of the samples for customer satisfaction before moving on to a definition and models for customer loyalty.

## 2.1 Definition of Customer Satisfaction

The literature has devoted plenty of time to discussing client contentment. Customers' rapprochement of the outcomes to their expectancy forgoing to buy or expending, the real test, and any disagreement that will push to contradiction in this case, positive contradiction is all considered to be parts of the numerous definitions of customer pleasure. The conjecture of advance purchase and after buying evaluations interact to specify in case they are satisfied or dissatisfied with a output or helping hand. Being satisfied or unsatisfied with the brand decision made during the purchase event is expressed through the emotion of satisfaction. Customers' pre-purchase hopefulness has a direct influence on fulfilment. The buyer establishes his hopefulness before to making a purchase, and this hopefulness are subsequently validated because of utilizing the goods and gaining experience. When a client is confident that his requirements and expectations have been fully met and acknowledged, that client is said to be satisfied. Achieving complete satisfaction requires a subjective emotional response. Thus, customer satisfaction is closely associated with positive perceptions (Rudzewicz & Strychalska-Rudzewicz, 2021, p. 458) The worth of product offers in differentiation to the client's perceptions influences whether the consumer feels satisfied or disappointed because they are human sensations that the customer experiences. Customers are what give a business its life and value without their presence and that of their future clients, the business would not exist. The secret to businesses' survival is their consumers (Kotler et al. 2019 p. 4). The consumer develops a stronger sense of loyalty and is more inclined to buy the product or service again (Adamska, 2022, p. 3).

Therefore, it is a condition that produces in the customer's conscience because of his wishes. Either matching his expectations and getting the satisfaction that develops into loyalty and positivity and these transformations going to translate by the customer through buying the product again and extracting the loyalty card, as well as speaking positively about the company and the product or a violation of his desires and expectations, which generates a negative feeling that reflects negatively on his satisfaction, loyalty, and positive propaganda for the company. In the process of manufacturing industrial robots, customer

happiness is influenced by a variety of features, comprising the fundamental components of the output and basic support services, as well as by extraordinary services and previous negative experiences.

The customer is accustomed to the fact that the expectations he built on the standard of the production have been met, or that the product has exceeded his expectations. From this belief, the customer's behaviour in buying becomes more entrenched and the recommendation to others to buy the product and vice versa happens in the event of disappointment of the customer in his expectations that may lead to another seller to buy from him. So, it is a direct process. The increasing of satisfaction, the more purchases, and recommendations to others to buy, and on the other hand, the sales increase with the seller (McColl-Kennedy & Schneider, 2000, p. 888). According to buyer perceptions, industry standards, the ratio of costs incurred to benefits received or quality, the level of accompanying service, and the relationship with the sales staff, satisfaction measures how well a company's product subtends or override the hopefulness of its customers. It also refers to how well a product is technically sound and usable (Rauyrue & Miller, 2007, p. 8). The actual product features and the business's integrated marketing communication strategy, beside the clients' prior experiment and product requirements, all impact the stage of consumer gratification. These elements form the customer's expectations, affect the way he views the goods, and ultimately decide how satisfied he is. Customers who actively participate in information exchange, have a tendency to accept product development strategies and product lines more quickly, have less price sensitivity, are positive about new products, and have lower actual customer service costs all reflect the high level of satisfaction with the company's relationship with them (Adamska, 2022, p. 4). Consumers are more inclined to provide details about their requirements, expectations, and preferences when they show commitment to a business relationship. Also, they are more likely to endorse the brand, which has a big impact on how much prospective consumer capital is created (Adamska, 2022, p. 4).

## 2.2 Customer Satisfaction Measures

Measuring client happiness is covered in the following section. The interplay amidst a firm and its consumers is significantly impacted by these company- and customer-specific factors, which also shape each customer's individual consumption experience and influence how they evaluate the product, which ultimately determines their standard of customer delight (Srivastava & Rai, 2018, p. 209). Measuring customer fulfilment is gathering data that shows how satisfied or dissatisfied customers are, after-sale services are included (Tenkir, 2018, p. 14). The activities that try to maintain and manage relationships to keep customers satisfied are related to the customer's perspective. In contrast to the retail or manufacturing sectors, product data management is different in after-sales services. In standard trading or industrialization, upshot awareness ends at the point of sale, which is when the main difference begins. The goal of process particulars administration is to collect the data produced during diverse serving procedures. The many categories of figures that are recorded and later utilised during client support functioning are arranged in Table 2 (Jalil 2011, p. 44).

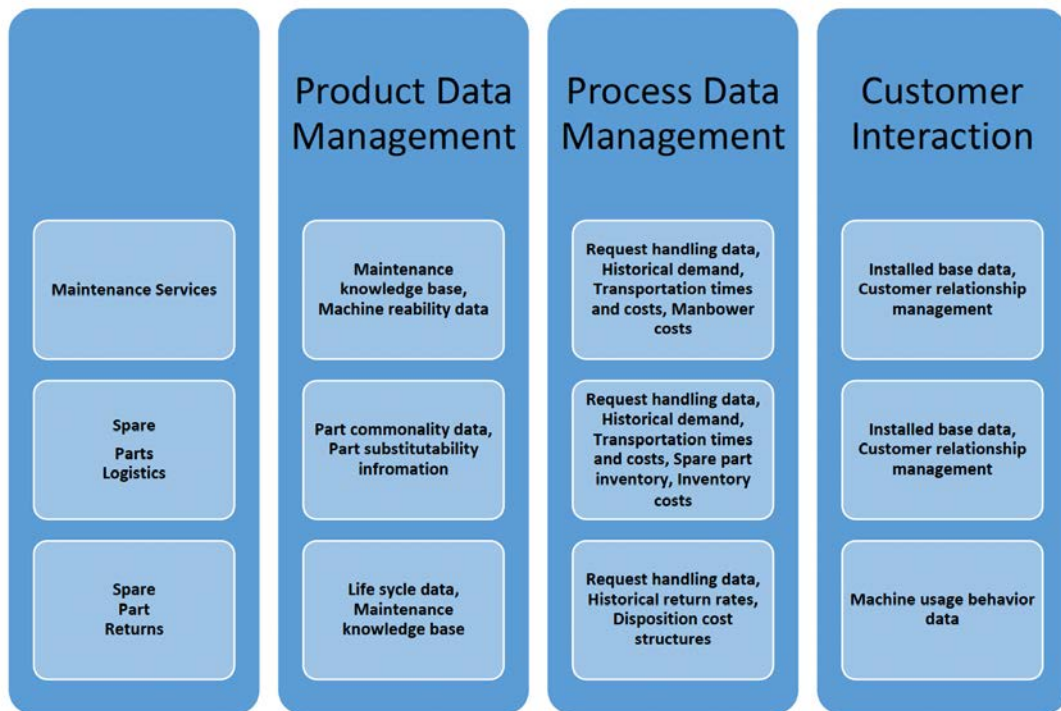


Figure 2. Product, Process, Customer – Three Sources of Information with After-sales operations (Jalil 2011, p. 45).

The management of process data includes all the data produced by after-sale service operations. Additionally, this information is used to plan and carry out the operations for the post-sale service. For instance, "The historical demand information is utilized to determine future network designs, maintenance staffing levels, and spare parts inventories. Similar to this, best trade-offs for conservation, helping hand instrument, or replacement logistics actions are determined using the cost accounting data obtained throughout various procedures". The after-sales service provider can learn about the needs of a diverse customer base and tailor its services as a result of ongoing customer contact. By using this data, maintenance plans tailored to individual customers might be evaluated and created. The substantial production, process, and client statistics can modify into valuable acquaintance to plan and carry out customer-concentrate support procedure, which means to monitor customer satisfaction throughout the entire process, by applying sophisticated analytics and optimization models, one such instance is the robotic conclusion mechanism for network inventory forethought (Jalil 2011, p. 45). Many methods exist for gathering and analysing this data. To track performance by degrees and gauge the

effects of assistance amelioration, many firms routinely map the levels of client contentment using data they collect. According to (Jalil 2011), customer pleasure research manner in the UK with widespread sector firms points to five topics that are probable to be applicable to all establishments, these five topics are: service delivery (how issues were resolved, dependability of results, etc.), suitable time (period of waiting, frequency of contact), information (rigor, sufficient knowledge kept in the picture), competence (efficient employees, honest conduct toward), and crew style (cordial, well mannered, commiserative).

The five factors that are used to establish customer fulfilment metrics are: effectiveness, on-schedule freightage, critique, problem-solving element, bargaining and client assistance (Nivethika & Yoganathan, 2015, p. 7). Sales and after-sales managers should be sensible of how clients support affect customer contentment and post-purchase behaviour intentions because doing so enables them to significantly differentiate their product offering and thereby deepen both the short- and long-term bonds with their customers (Rigopoulou et al. 2008, p. 517).

In this regard, Rigopoulou explore the connection between the after-sales assistance strategy and consumer pleasure. Appertaining to the major conclusion of the literature study, she made the decision to scrutinize all the correlations mentioned previously by developing a conduct style that includes the following inherent mutable: "*Delivery*" service status\_points to the caliber of all actions taken to guarantee that goods are provided from the store to the client's location safely, reliably, and on time. These actions should be characterized by traits like courtesy, accuracy, flexibility, and general customer-centered behaviour (Rigopoulou et al. 2008).

Seven indicators are used to measure this variable as a latent variable: "reliability in consignment period" (D1), "condition of the goods wrapping when delivered" (D2), "transmitting of shipment" (D3), "standard of the production\_when delivered" (D4), "recepting of the suitable bill/consignment documents" (D5), "compassion and goodwill of the delivery staff" (D6), and "semblance of the shipment" (D7). The standard of all these actions and demeanours leading up

to and throughout the investiture stage of the output is mentioned to as the "installation" serving status (Rigopoulou et al. 2008 p. 518).

Suitable communication and flexibility regarding the appointment's time and date, a sensible window of time between the item's purchase and the installation date, correctness, and other such actions are examples of these activities and behaviours. Also, during the installation operations, measurements should be taken to ensure that the company and its representatives are reliable and amiable. These measurements include being attentive, correct, polite, and knowledgeable about technical requirements. Six indicators, including ("Detailed information on installation time" I1), ("Elapsed time between delivery and installation time" I2), ("Attention of the installation staff to avoid damage" I3), ("Flawless installation" I4), ("affability of the installation staff" I5), and ("guidance and direction given by the technic experts," are used to latently measure this variable I6) (Rigopoulou et al. 2008, p. 518-519).

The pattern also takes the measurement statistics into account as follow:

- "aggregate, Satisfaction" refers to the degree of consumer gratification with the shop in the case of the certain purchase.
- "Notion of buying again," which describes a consumer's intention to go back to the same shop to buy a brand-new electric item.
- "A positive sentence," which relates to client's intentions to promote the retailer to friends and relatives (Rigopoulou et al. 2008, p. 519).

The research's findings also reflect the relative significance of the various components of the whole offering in creating differentiation and generating value. Since there has been a considerable headed of research on the impact of client happiness on consumer behaviour, it was important to preferable comprehend the prorated importance of various client support in determining consumers' contentment and future intentions (Rigopoulou et al. 2008, p. 520).



### 2.3 Customer Satisfaction Models

The next section goes through how to drive customer contentment and customer intentions to keep on with using services and consumer support, and gratification models can show a statistically considerable bonding between these aspects has been found in theory.

#### **The Swedish customer satisfaction barometer (SCSB) model:**

The two main antecedents of fulfilment in the original SCSB model, which is depicted in Figure 3, are the customer's predictions of how well a product or service will perform in the future and how they perceive their most recent performance experience with it. To put it another way, perceived performance and perceived value are synonymous, or Physical score for quality delivery in relation to the financial propulsion. Consumers assess brands and categories based on quality for the price as a common denominator (Somervuori 2012 p. 18). The effects of pleasure in the first SCSB model are taken from Hirschman's exit-voice theory (1970, p. 4) the idea outlines events in which a consumer is disgruntled with the products or helpline that an organization delivers. Organization discovers via two feedback systems, departure and voice, the business learns that it hasn't been able to satisfy customers. The client either leaves the business and ceases doing business with it or complains to the business to get anything back. Accordingly, customer grievance and extreme customer fidelity are hence the direct effects of decreased grievance and increased customer fidelity.

Customer contentment ought to rise as a result of the decline in complaints. (Bloemer & Kasper, 1995) in page 316 assert that more customer fealty, which is characterized as a consumer's psychological predisposition to make more purchases from a certain source of goods or services, should also raise customer pleasure. Allegiance is the most crucial reliant changeable in the model because of its usefulness as a substitute for actual customer retention and future profitability. The Swedish system for calculating customer happiness is displayed in Figure 3 (Hirschman 1970, p. 3).

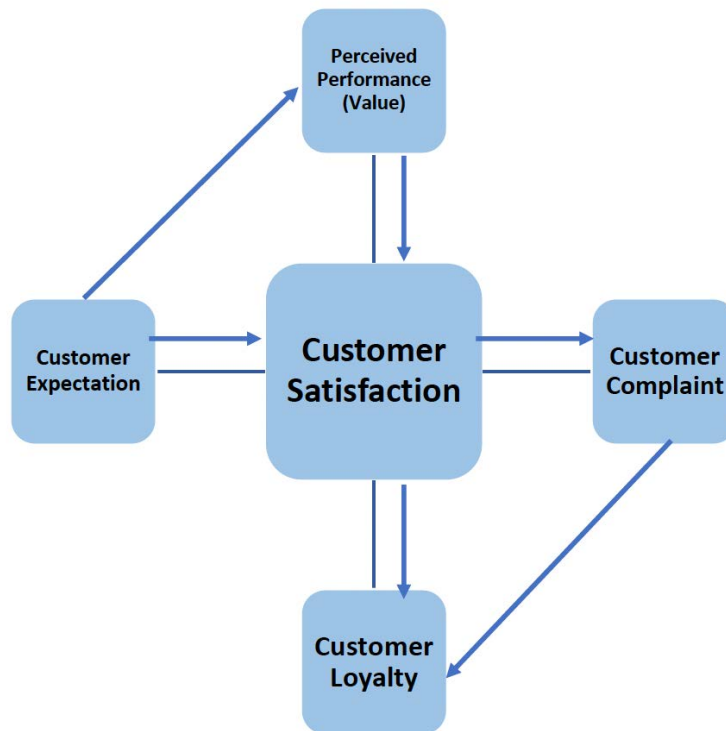


Figure 3. Swedish customer satisfaction model (SCSB) (According to Hirschman 1970).

#### **The American customer satisfaction index (ACSI) model:**

The developed and depicted American Consumer contentment indicator (ACSI) sample expands onto the authentic SCSB sample identification (see figure 3) The primary variations midst the original SCSB type and the ACSI type are the addendum of metrics for customer expectations and the substitution of a perceived value ingredient for a perceived quality component. (The reader can easily understand the authentic SCSB sample definition in figure 3 by eliminating the perceived quality component and its interactions from figure 4). Corresponding to the standard of proficiency, the (degree of adaptability) and (dependability with which a product or service satisfies important consumer requirements), are the two main aspects of the quality expertise (Juran and Gryna, 1988, p. 1228).

The ACSI mopping and sample were enhanced in 1996 to distinguish between the two primary categories of perceived quality, namely product (physical good) benchmark and service benchmark (Fornell et al. 1996, p. 9). Because of durables having jointly a substantial product and a sizable service element, it was just for their manufacture that this change was made, considering that they have both a sizable output and a sizable helping hand part. Figure 4 shows the American model (ACSI), the extension of a tangible standard element, as in the other side of tangible usefulness part, and the addition of measurements for client expectation mark the prime differences amidst the original SCCB type and the ACSI type (Fornell et al. 1996 p. 9).

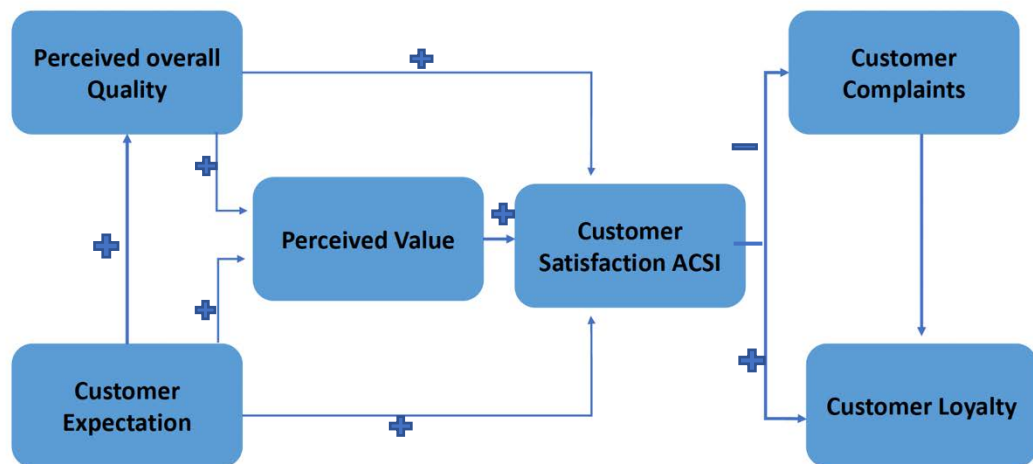


Figure 4: The American customer satisfaction index model (ACSI) (According to Fornell et al. 1996, p. 8).

### The European customer satisfaction index model (ECSI):

Another version of the ACSI sample is the ECSI (Cassel and Eklöf 2001). The consumer reliance, tangible standard, tangible usefulness, customer fulfillment, and customer fidelity modules are styled similarly to those in the ACSI (Check figure 5 for further information). The ECSI's loyalty measurements take into account the possibility of keeping forward the probability of promoting the firm or trademark, and the chances that consumers will make bigger

purchases. On two further fundamental levels, the ACSI and ECSI models are different from one another. First, the ECSI sample does not account for the frequency of remonstrate attitude because of contentment.

Research shows a clear link between business image and customer expectations, happiness, and loyalty. The indicator is now known as EPSI, which represents European staging contentment indicator. This has been accomplished to make place for additional execution mensuration such as worker satisfaction and social trust. European staging contentment Index, formerly known as ECSI, has been changed to EPSI. This has been done to allow for the inclusion of other performance indicators like staff happiness and public faith. The EFQM (European Foundation for Quality Management), EOQ (European Organization for Quality), and IFCF are the three prominent European quality organizations that the EPSI sorting is administered by under the auspices of a European non-profit organization (International Foundation for Customer Focus) (Haafte 2023).

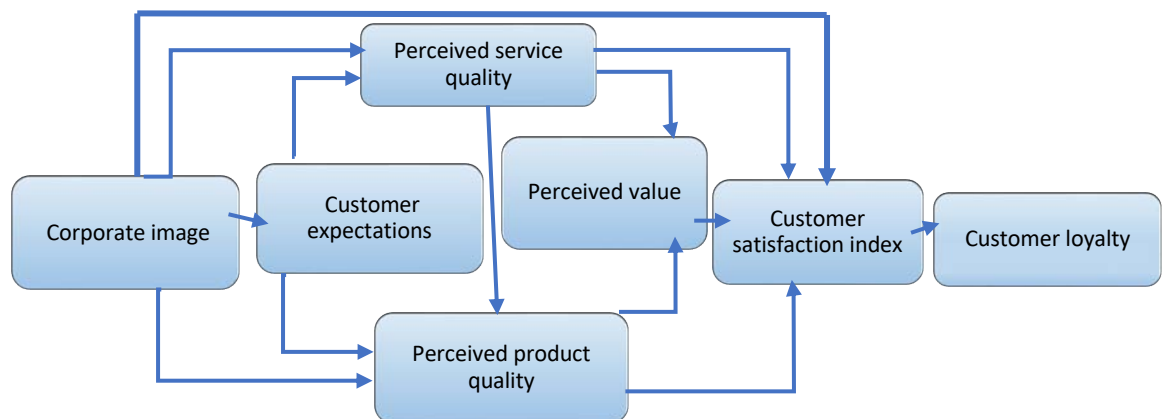


Figure 5: The European customer satisfaction index model (ECSI) (according to Haafte, Rovaha website 2023)

### The summary of the models

The look at these three models for measuring customer satisfaction (Swedish, American, and European models). Although the measurement models (i.e., causal models) of the three CSI models are basically identical, there are certain glaring differences in the models' structures and variable choices that prevent results from being compared. Every model has a scientific or academic

causal construct. Each CSI construct serves as an analysis of customer satisfaction using a systemic equilibrium sample with a set of implicit mutable selected from a variety of manifest components and accepted metrics. The necessary connections between the latent variables are created, and the strength of those connections is estimated. It measures and estimates the level of each hidden variable. All CSI models are created with the potential to anticipate financial outcomes and to produce findings that are accurate, valid, and dependable (Haaften 2023).

#### 2.4 Definition of Customer Loyalty

In accordance with (Hellier et al. 2003, p. 3), the frequency of a customer's recent use of a particular company's services and the proportion of that expense to the client's overall spending on that service category are the two key metrics for determining customer loyalty. In a single product category, the majority of consumers continue to be polygamous, devoted to a number of different brands, according to (Uncles et al. 2003, p. 8). Utilizing this information, they defined customer loyalty as a continuous preference for one brand over others while shopping. According to (Pfeifer 2005, p. 179), it is much less expensive to retain a client who already exists than to create a new one. (Walsh et al. 2005, p. 426) the point that it rational to give a care to the current client before one can lay plans on creating new ones, notwithstanding Sterne's opinion (2002) that the delicate credit rate is a debatable matter. According to Dick and Basu (1994) p. 103, a more detailed examination of the factors affecting client fealty is required. Gee et al. (2008 p. 360) claim that the academic research conducted to identify the crucial factors that promote customer loyalty is manifestly lacking in a consistent definition of what constitutes customer loyalty. To fully increase consumer loyalty, Terblanche & Boshoff (2006, p. 34) agreed that understanding the factors that influence loyalty is essential.

## 2.5 Customer Loyalty Models

Agrawal et al. (2012, p. 276) begin with a presentation of their research on the factors that influence customer loyalty (satisfaction) before moving on to additional factors including commitment, trust, feelings, and quality. According to several research (Booertmanich 2019, p. 280, Kandampully & Suhartanto 2000, p. 347). Satisfaction has an immediate action on loyalty. However, studies confirmed that satisfaction and loyalty do have a circumstantial relationship (Jones & Sasser 1995, p. 91)

According to several academics, satisfaction first improves reliance which then causes credence to raise dedication (Bloemer & Schroder 2002, p. 70). Customers are loyal because of commitment in the end. Comparable to how few researchers have discovered that quality, image, and value have an unbroken leverage on loyalty, other studies have discovered that same factors only have a circuitous influence on loyalty through satisfaction such as (Jones & Sasser 1995, p. 91). This might be the case since, as we all know, the desired clients service is determined by comparing expectations with actual accomplishments (Zeithaml et al., 1990, p. 16). For all that, the clients' expectations are based on the company's image, the perceived performance is based on the customer's perceived quality assessment. Agrawal et al. (2012, p. 282-283) present a conceptual model of customer loyalty figure 6.

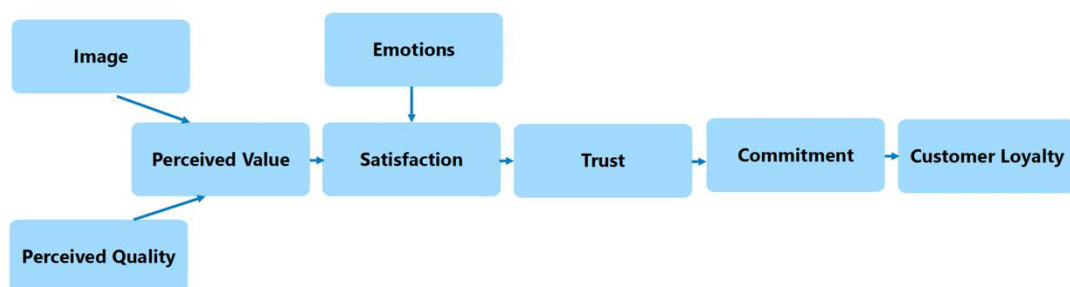


Figure 6. Customer loyalty model (according to Agrawal et al. 2012)

Cognitive and emotional factors were identified by Yu and Dean (2001) as two parts of consumer happiness. Emotions, particularly unfavourable ones, are a significant component of satisfaction, according to research (Liljander & Strandvik, 1997). Thus, it has been recommended that a distinct sentimental part should also be considered in the investigation of contentment (Wong, 2004, p. 365). Strong customer-company relationships serve as visual representations of loyalty in all three of its manifestations (preference, patronage and premium).

## 2.6 Definition of After-Sale Service

Gaining a client's loyalty, after-sale service, as defined by (Gaiardelli et al. 2007, p. 698), involves providing assistance to customers after they purchase a product to ensure proper usage and disposal. According to a survey of the literature on after-sale services, there are five conditions that must be made to meet the customer's desire for an adequate helping hand standard, these five criteria relate to price flexibility, warranty coverage, quantity and caliber of technical support, replacement parts, and any necessary technical assistance. (Ahmad & Mohsin Butt, 2012, p. 313). With variation in the notion of consumption and an intensifying level of market rivalry, consumers now worry more about the product's after-sales service in addition to the actual goods. The key to manufacturing hit is now frequent consumer purchases, which is made possible by outstanding after-sales support (Zhou 2014, p. 233).

As it symbolizes ongoing communication between manufacturer and clients by a network of licensed traders, client support becomes a crucial component of trademark constructing in an intralogistics automation setting. That these overlaps serve as the foundation for brand value is a plausible assumption. Among the most reliable exporters for establishing trademark equity is through client interactions with after-sale service providers (Keller, 1993, p.14).

After-sale services are excellent strategies to keep customers and demonstrate that they are a top concern. While purchasing an automated intralogistics system, it is substantial to consider the client supports usability because

the feedback provided seeks to raise the standard of services. The educational institution in the automation of logistics and other industries long ago changed its career model from being a dominant control of manufacturing to a service-focused one. These companies use a direct strategy to integrate their goods and services to provide customers with the best possible value creation experience. Companies also focus on customer participation in value creation, and therefore value creation is no longer just an offer to the customer, but rather an independent activity for the client benefit on one hand and merging with him on the other hand (Grönroos 2008, p. 306). The main participation of this thesis is the empirical interviewing of corporate salespeople who oversee after-sales support to look into customer\_loyalty and satisfaction in the intralogistics automation industry.

## 2.7 Components of After-Sale Service

Businesses increasingly rely on consumer fulfilment to boost productivity because failing to do so could result in their losing market share. The concept of after-sale service is growing more widespread across a range of industries. Client support include prompt shipping, client product installation, fair guarantee conditions and durations, enhanced service quality, and enough consumer returns regarding the whole service, product, and task in accord with the plurality of consumer suggestions (Choudhary, 2011, p.361). The services provided by one company as a point of after-sale service are the focus of this thesis. The business offers the following various services:

### ***Planning and Remote service***

The planning process gives you the knowledge you need to make wise decisions about how to deploy your resources so that you may accomplish your goals. Because the product is distinguished by accuracy and numerous details to blend the autonomous electronic guidance, the focus of the after-sale service is carried out by a specialist team assigned to the area to ensure the quality of the product's work. One of the crucial services provided by Cimcorp is this one. Cimcorp is dedicated to delivering the product in its entirety and



prepared to work on the location, and the company is doing this for free and considers it to be one of the contract stipulations. On the other side, Cimcorp has a knowledgeable individual who is on call around-the-clock to provide customer assistance (remote service) and who can provide a monitoring system and preventive action with a three-level, knowledgeable, and pre-planned integration (Website for Cimcorp Success Services, 2022).

### ***Modification and Upgrade services***

Sometimes there's a need to do a modification for older systems. The reasons might be a retrofit to the project or simply changes in production. Sometimes customer hardware or software might be obsolete, and their capacity does not meet modern requirements. Cimcorp offers upgrading services in which companies can improve capacity, widen their product portfolio and benefit from system audits and improvement proposals. Cimcorp provides after-sale services regarding upgrading the equipment is one of the steps that the company considers attractive side and guarantees customer loyalty who are keen on the sustainability of the work of their industrial robots receive updates on a regular basis and it gives the customer utilize the latest software features (Cimcorp success services website 2022).

### ***On-site service and Lifecycle consulting***

This service takes two parts into action first is on-site service (predictive maintenance service) and the second part is lifecycle consulting. *"A carefully planned and executed maintenance schedule (based on your system's needs and supplier recommendations) provides a solid foundation for equipment care. Routine inspections (**warranty service**), parts replacement, and other regular maintenance tasks enable you to monitor machine wear, prevent any small issues to escalate bigger problems down the road and keep your equipment in peak condition"* (Nummelin, Cimcorp website, 2022). A local Cimcorp maintenance technician is at the site taking care of preventive and predictive maintenance of your automation system. Advanced level provides customers more selectable with full service and trained system operators. This service leads to customer satisfaction and loyalty to have with lifecycle consulting, where experts will plan to achieve optimal system uptime. Cimcorp experts

review the current automation system to ensure the best cost-performance ratio and provide a road map for further actions. Cimcorp's after-sale service takes care of customer product lifecycle with predictive maintenance service and lifecycle consulting (Cimcorp success services website 2022).

### ***Training service***

Cimcorp offers one of the after-sale service personnel tailor-made training packages, depending on your team's tasks. Training service helps staff to keep their knowledge of managing with the complex systems update (Cimcorp success services website 2022).

### ***Certified spare parts service***

Cimcorp offers certified spare parts to maximize systems' updates and capacity for the whole lifecycle of the system. Systems availability is critical to achieving planned performance. Cimcorp has separate spare parts as one is a start-up spare part, which means that the company can get a start-up kit to keep operations running smoothly and get an initial spare parts kit for a new investment. The second one is the lifecycle spare part, where the system is up and running and Cimcorp keeps spare parts inventory available. With Cimcorp's certificate spare parts, Cimcorp makes sure that they will fit customers' systems perfectly (Cimcorp success services website 2022).

## 2.8 Smart and Connected After-Sale Service Increasing Customer Satisfaction and Loyalty

Due in part to the intrinsic inefficiency of conventional service delivery, smart serving after the sale can produce historic incomes and earning for manufacturers of durable items, particularly industrial equipment. Before going back to finish the repair, professionals frequently need to analyse an outcome to characterize the root of a malfunction and the fractions prerequisite to fix it. Smart connected items make it possible for a significant transmission from reactive service to preventative, proactive, and remote service, which boosts efficiency and customer satisfaction (Porter & Heppelmann 2015, p. 11).

***A one-stop shop Service.***

As a result of their ability to diagnose problems remotely, professionals can travel to the customer's location and arrive with all the necessary parts already in their cars. Also, they may be in possession of the data needed to do the repairs. Indeed, Excel index will jump if just single visit substantial (Porter & Heppelmann, 2015, p.11).

***Remote Service.***

Services can now be delivered via connectivity thanks to smart, connected gadgets. In many instances, products can be fixed remotely by technicians, much as computers are now frequently fixed. A notable example is the Sysmex blood and urine analysis equipment. Initially adding connectivity to its equipment to enable remote observation, Sysmex is now also using it to offer service. Service specialists have entrance to the same amount of data about a machine whether they are on-site or off-site. Frequently, they may resolve the issue by restarting it, offering a software upgrade, or training a medical technician who is already on the scene to perform the treatment. Because of this, service expenditures, supply failure, and customer contentment have all greatly decreased (Porter & Heppelmann, 2015, p. 11-12).

***Preventative maintenance.***

Organizations can foresee issues with linked, smart items using predictive analytics and take appropriate action. Diebold, for instance, keeps an eye on any potential problems with its automated teller machines. If remote maintenance is feasible, it does so; otherwise, a professional is sent to make adjustments or swap out parts. As new updates are added, the provider can also remotely upgrade a computer with preventative repairs (Porter & Heppelmann, 2015, p. 12).

***Augmented-reality-supported service.***

Service providers now have new opportunities to engage with customers and one another thanks to the massive amounts of data that smart, connected devices generate. One new method makes use of augmented reality overlays.

Service effectiveness and efficiency can significantly increase when these contain details regarding a product's servicing requirements and detailed repair instructions (Porter & Heppelmann, 2015, p. 12).

### ***Next smart after-sale services***

By making data, connections, and analytics readily available, smart, connected gadgets are dilating the traditional share of the service mission and making new goods. In actuality, service organizations have become a significant force behind corporate innovation in the manufacturing sector, increasing income and dividend through creative value-added services like prolonged warranties and sector-specific benchmarking for a client's fleet of cars or equipment. Caterpillar's wide range of solutions to help clients manage their mining and construction equipment are a great paradigm. After assembling and scrutinize data for every instrument located at a job place, Caterpillar's service squads provide clients with guidance on where to place tools when not many machines may be required, when to introduce new tools to remove bottlenecks, and how to increase fuel capacity all around a company fleet (Porter & Heppelmann, 2015, p. 12-13).

### ***Human resources and new expertise***

An intelligent, connected product manufacturer is a combination between an operating system company and a classical product company. This combination calls for new value chain-wide competencies likewise new working procedures and cultural criterions. The layout, sales, and maintenance of connected smart devices are in great request but are difficult to find. Getting the right personnel is becoming further imperative for industry magnates as their cleverness requests change from technician engineering to operating system engineering, from marketing products to marketing helping hand, and from fixing things to ensure product readiness on time. To put the data from manufacturers into action, it will be necessary to hire experts in user interface design, systems integration, applications engineering, and, most critically, data science (Porter & Heppelmann, 2015, p.13). The conventional business analyst or data analyst is being replaced by a new type of professional. This new employee must be technically and commercially savvy and be able to communicate analytics-

based conclusions to business and IT management. The lack of these new competencies in traditional manufacturing locations, many of which are not technological hubs, is particularly apparent.

***New compensation models.***

Fresh approaches to attracting and motivating people will be needed by manufacturers as well. Computerised businesses that put in the payroll the type of people manufacturing companies will progressively need typically provide perks like flexible work schedules, reception services, leave of absence, and extra time to work on personal incidental ventures (Porter & Heppelmann, 2015, p. 14).

***Cybersecurity service.***

Providing customers or users the freedom to decide what information is collected by the manufacturer and when it is sent to the cloud might assist increase security. In a smart, connected society, security knowledge and best practices are generally evolving swiftly. Consumers are more concerned about protecting their privacy online and receiving a fair price for their data. A growing number of departments, including legal, marketing, sales, and service, are concentrating on originate data outlines and formatting them to clients. Consumer privacy concerns must be addressed, data outlines must mirror ever-stricter regulatory planning, and they must clearly interpret the types of data collected and how they will be used both inwardly and by third parties (Porter & Heppelmann, 2015, p. 12-13).

## 2.9 Summary of Customer Satisfaction and Customer Loyalty with After-Sale Services

According to the findings of this assessment of the literature, there is a strong bind between brand fealty and consumer happiness, particularly when it comes to major industrial goods and the creation of the entire intralogistics system. According to the literature, attracting brand-loyal customers is largely

dependent on customer happiness (Bloemer and Odekerken-Schroder, 2002 p. 72). These devoted (loyal) customers may go on to promote the firm positively, make larger or more frequent purchases, try out new products, and provide meaningful improvement suggestions to the company. Manufacturing companies should make an effort to satisfy customers because it is believed that doing so will influence their repurchase intentions and behaviour, which will ultimately affect their future revenue and profitability. Client supports are those that are supplied to clients after their goods have been drop-ship (Sugianto, 2020 p. 765)

"After-sales services" in the literature, known as "after-sales support," "technical support," "product support," and used sometimes just "services (Goffin and New, 2001, p. 3). "After-sales services" are all actions that backing the product-centric operation, according to (Gaiardelli et al. 2007, p. 698). The definition of customer support activities are any efforts taken to make certain that an upshot is obtainable to customers "through its salutary lifespan for trouble-free use" (Goffin, 1999, p .3). The phrase "after-sales services" has been debated in the literature in two main ways as well.

One of the numerous additional service components that organizations that provide services offer are after-sales services (Olivia and Kallenberg 2003, p. 163). Contrarily, tangible things are often regarded as being generated by some or all the distributors when talking about them (Gaiardelli et al. 2007, p. 700). Transportation and dispatch to clients, setup, product-related practicing, online Upholding via the help desk, repair services, and even recovering are all included. The findings of that perceptions of total service standard influence word-of-mouth (WOM) intercourse, recommendations, and loyalty are supported by a fundamental form of research (Boulding et al. 1999).

Customer pleasure has produced a great number of research in this area because of how it affects consumer behaviour-related goals and viewpoints (Rust & Oliver 1993, p. 74). From the standpoint of Cimcorp, consumer support is an axial component of the deals process, and constant service development with clients is one of the cornerstones. Future smart and connected after-sale services may have a gap in which real-time data is required from the client through subcontractors to Cimcorp. To examine after-sales services customer

satisfaction and loyalty from Cimcorp personnel perspective and to provide some suggestions for future after-sale services, the author of this thesis conducted interviews with sales and after-sales personnel.

### 3 METHODOLOGIES OF THE STUDY

Several things can be meant when a segment of function is referred to as a case study: (a) it utilize a specific, small-N methodology; (b) it is ethnographic, clinical, contributor-perception, or otherwise "in the field"; (c) it is characterized by procedure tracking; (d) it examines the characteristics of a particular instance (Tellis, 1997, p. 4), (Eckstein, 1992, p. 120-121), (the most common usage). The case study research is based on a thorough comprehension of the case (Fetters et al. 2013 p. 5). A case study is shoring by a variety of sources of data (Yin 2011). And the realistic problem is examined from a variety of aspects while using assortment of data gathering techniques (Sekaran & Bougie 2013). To fully understand the intricacy of the case situation, it is advised that several types of data be collected for this fact-finding. Although case studies can include a combination of quantitative and qualitative data, case study research design does not always entail qualitative research only, but quantitative research as well (Yin 2011).

This thesis work concentrates on one case study Cimcorp after-sale services inside of the company and this thesis work has used semi-structured open interviews for data collection. Like all other widely used methods of data collection, expert interviews conducted for this purpose need to be well-validated and have a strong theoretical foundation. The skilled meeting has also gained a lot of popularity as a "regulated" approach (Bogner and Menz, 2002, p. 9–10) since it manifests to be "fast, simple, and secure" to employ in its implementation and has the potential to be highly useful in practice.

### 3.1 Data Collection Procedures

This thesis work collected the primary data form of expert interviews with sales and after-sales managers in Cimcorp who are in charge of the company's interrelation with clients. In-depth interviews and discussions of this relevant data are used with information collected from other sources related to the same purpose. The analysis of the available information gives an overview of the range to which the firm is qualified for achieve customer contentment and gain their loyalty by understanding the company's environment in a more in-depth way, in addition to the researcher's notes and the company's website page. The research articles expanded the data set. Secondary data includes an inclusive exploration of the literary texts, including books, articles, and webpage material, and avails to comprehend the notional background of the case. Furthermore, secondary data is collated from the case company's public statements as well as the Cimcorp website's available documents.

### 3.2 Interviews

Unrestricted questions enable participants to respond directly from them rather than providing predetermined responses, which reveals the participant's culture and ability to react unexpectedly to the author. This is one advantage of using qualitative methods in empirical evaluation with expert interviews with small sides of data. By asking questions regarding the same subject, it is possible to study the responses and clarify the picture. Structured, semi-structured, and narrative interviewing techniques (Diefenbach, 2009, p. 880). Both the interviewees and the interviewers engage in social and interactive activities during interviews (Roulston, 2019, p. 272). However, when it comes to interviewing managers at Cimcorp, it is one of the approaches that enable the thesis author to receive relevant responses to questions he raises linked to the research topic (Lehane et al. 2021, p. 2).

The thesis work interview persons have three and they are the sales manager, one is the after-sales manager, and the director who left the company to work



in the parent company Murata in Japan subjects of the interviews were conducted and included in the thesis. The interviews took place online Teams Meeting and included a presentation by the author to the managers about the goals of a thesis, and how to construct it of writing. Following the submission of the presentation, questions regarding customer satisfaction, customer loyalty, and after-sales services were addressed.

### 3.3. Data analysis

Tracking the directives provided by (Krippendorff 2003), this thesis work has identified sampling and used content scanning. The units designated for content analysis are called assortment units (Krippendorff 2003, p. 98). These units must be separate from one another. Finite part units are referred to as surveillance in theoretical statistics. This thesis work picked three people as assortment units: examine status one company client services, sales, and after-sales persons are the units that can ensure the self-sufficiency among spotted fluctuations since persons' works are partly freelance of one another the customers are different. Context units are interview material with the textual matter (Krippendorff 2003, p. 101), this thesis turn interview material into text and groups text into themes. Interviews happen in the English language, which is the second language both informant and interviewer. The first data is empirical material with three-person interviews. Secondary data is a literature review of client gratification and fidelity in after-sale services. These materials have been used to give results of the after-sale services in the case company Cimcorp and make more understanding of the after-sale service current situation and how can evolve the current after-sales services and get them smarter. The thesis work was done on how after-sales services will affect customer loyalty and satisfaction both now and in the future. The literature review goes through the three terms after-sales services, satisfaction, and loyalty, their models, the types of after-sales services offered to customers by Cimcorp, along with how the company manages after-sales services and obtains customer satisfaction and customer loyalty, all necessary to understand this effect.

## 4 RESULTS OF THE THESIS

### 4.1 Analysis of After-Sale Service Case Cimcorp

The concept of after-sale service is becoming more prevalent across a variety of industries, and businesses increasingly rely on customer satisfaction to enhance productivity or risk losing market share. In accordance with many client references, the client support line contains quick shipping, output fitting for the customer, favourable assurance terms and period, enhanced service quality, and appropriate customer returns evaluating the complete service, product, and labour. By successfully leveraging these after-sale value lines, which are all recognized as crucial elements of after-sale service, a business can improve customer satisfaction and boost output (Shaharudin et. al., 2010 p. 12). Cimcorp has provided for example maintenance services, spare parts, a 24/7 helpdesk, and upgrade services. They are developing services all the time. Examples of developed services are preventive maintenance based on data analysis and active IT systems monitoring/maintenance. Cimcorp salesperson comments that their offer service from the list is *"1-pre-installation service 2-Upgrade services. 3-Lifecycle consulting (Planning, Training) 4-Warranty service 5-Online support 6-Return/replacement 7-Certified spare parts"*. As sale manager describe *"I would say that online service (24/7 helpdesk) is mandatory for customers. Systems are very complicated and problem solving requires in many cases very deep and special technical knowledge. Overall, I would say that customers are very satisfied to this service. However, we are also developing this service all the time, for example preventive analysis and VR/AR systems."*

As Cimcorp has described their predictive maintenance services. Cimcorp's director mention that, *"we do preventive maintenance services to check up and replace worn parts beforehand. We will also educate customers if customers want to take some part. We will also set up a team at the customer's site to keep up the system with the agreement with customers. There are trained local partners in certain countries, too. The whole idea is planning and prevention."*

*The reactive approach is the last thing to do, and we will if necessary". After-Sale services Cimcorp's After-Sale Manager comments that they provide "the customer electromechanical repairs services, helpdesk services, replacement parts services, consultation services, practicing services, and retrofit services. Often these services are agreed upon with the customer at the time when the project contract is made. The customers are not just interested in the price of the system but also in the cost to operate the system. Having these values, the customer can estimate the Return on Investment (ROI) and this way compares the suppliers".*

Cimcorp director describes the customer process as follows *"Customer satisfaction is important at all steps between the customer and Cimcorp. It starts from the sales process where we try to satisfy the solutions customer wants and improve their return on investment. Good response during the sales process is important, too. Customers will buy from us if they trust us. After receiving the order, we will then deliver the system as agreed. There all aspects of the project are important, including good quality, no delays, no accidents, and good communication with customers. The project manager is to communicate with customers all the time and control the delivery to make sure we deliver what we committed. We sometimes need to change the delivery according to the customer's change request, and we shall handle it well and fairly. There are many functions working behind the project manager. After delivery, customer support will take a role. It is to ensure the system is running, and over time to enhance the system according to customer's business change. This means that all steps from sales, project delivery, and customer support shall be good to satisfy the customer and have his loyalty."*

#### 4.2 Effect of After-Sale Services of Cimcorp on Customer Satisfaction and Customer Loyalty

Customer satisfaction is a function of consumers' expectancy and perceptions, and its value is calculated as the variance between customers' expectations and perceptions as measured by a weighted average (Rai & Srivastava 2018

p. 209). Customer happiness, according to (Oliver 1999, p. 34) is a general psychological condition characterized by the correlation between feelings surrounding unfulfilled expectations and consumers' prior assessments of the purchasing experience. Cimcorp is measuring the effectiveness of after-sale services as After-Sales Manager mentions *"We measure our performance with certain key performance indicators (KPI). Typically, there are agreed maximum (sanctioned) response times with the customer to secure fast troubleshooting and recovery from any problem. These indicators are regularly reviewed with our customer and the target is to improve the performance all the time."*

The after-sales services provided by Cimcorp are crucial in retaining clients and winning their loyalty. The company raised the slogan "Partners in the production process" in an effort to set up a long-term partnership with the customer should he decide to buy the product from them. This signifies that Cimcorp has the capacity of offering supports after the deal and developing together with customers helpline, which include (Pre-installation services, upgrade services, life cycle consulting which is divided into two parts planning and training, warranty service, online support, return and replacement service, and certified spare parts provision service). The promise to display these services timely and continuously is advantageous to the company since it will result in client satisfaction and win their loyalty.

This thesis work describes that the managers' descriptions of the after-sale services they stated in their interviews covered every facet of customer support, even though the company is constantly updating and trying to improve its services to give customers the best possible ones. After-Sales Manager describes that Cimcorp serves to customer's whole product life cycle process *"Typically, we are dealing with our customers very intensively throughout the whole lifetime of the system. The aim is of course to make a comprehensive service contract, which includes as many of those services stated above as possible. The life cycle of the systems of course depends on the profitability it can create for the owner. Therefore, it's difficult to predict the exact lifetime for each system, but typically it's around 20 years. The target is to keep the*

*customer's system profitable all the time by making the needed changes as soon as the risks that can jeopardize the profitability are identified".*

Cimcorp has many ways to effectively offer its after-sale services the customers around the world. One goal is to be near customers and meet them at retail exhibitions around the world. As Cimcorp specializes in automation solutions for the grocery sector in the retail industry, we are always looking for new ways to connect with our customers and partners. At these exhibitions, customers have the opportunity to meet the Cimcorp team and learn more about how we can help your business grow and future-proof your intralogistics. It's also a good opportunity to impart about the newest trends and developments in the grocery retail industry, and how our solutions might solve one or two of customers' everyday problems (Cimcorp website 27.2.2023).

Another way of effectively satisfying customers around the world is offering remote service. This service is provided by Cimcorp out of the presence of specialists in the company who carry out the after-sales service process remotely 24/7, where the specialist monitors and applies preventive measures to prevent the dysfunction of industrial robots, which is crucial to keep the process all the time in operation without interruptions, which in itself brings savings. "The services play a very important role. Most of our customers buy continuously systems or services from us. The bad aftersales service can cut this relationship and in the worst case weaken our reputation on the whole market". (After-Sales Manager) Online service and predictive maintenance services are important for Cimcorp as After-Sales Manager describe "*as mentioned before, we feel that online services are currently extremely important for the customer. This is because nowadays the systems are so complicated, that the customers have no possibility to keep up the high performance of the system by themselves. And as mentioned, the variety of services is growing all the time. One of the most complicated issues nowadays is cyber security. The companies are very cautious in granting access to their system to external players*".

### 4.3 Summary of Customer Satisfaction and Customer Loyalty with After-Sale Services case Cimcorp

When customers exhibit the three characteristics of preference, patronage, and premium for the company, which are primarily valued for the reluctant personality, customer fealty develops to its maximum potential (Rai & Srivastava 2018, p. 214). Cimcorp usually sells services separately as After-Sales Manager describes "*Typically, the services are sold separately after the project is handed over. This is because the customers separate their budgets the capital expenditure (Capex) and operational expenditure (Opex).*

*Sometimes the project can include also spare parts or some bundled services for a limited time, for example over the warranty period".* This can see that Cimcorp has brought *preferences* for customers. *Patronage* can be seen for Cimcorp as "*a partnership for the whole life cycle of the system.*", which describe long relationship for customer and loyalty with customers. Cimcorp sees the maintenance of the system as a *premium* for customers by implementing value-added services and systematically analysing and planning change and modernization measures together with the customers. To achieve the results offered to the client as a result of the service, the value of the external after-sale service must be equal to (service quality/cost to the customer). The outcomes show how satisfied customers are, followed by how loyal they are. Customer loyalty is measured using four factors, which are (Recency, frequency, amount, and referrals). These result in two portions of the outcome (revenue growth and profitability). Therefore, as long as the company is in existence and continues to grow, revenue growth will be attributed to the connecting between the handling planning, the service delivery framework, and the notion of customer service. The value of internal service will then be related to this relationship in a continuous production cycle (As depicted in figure 7 below).

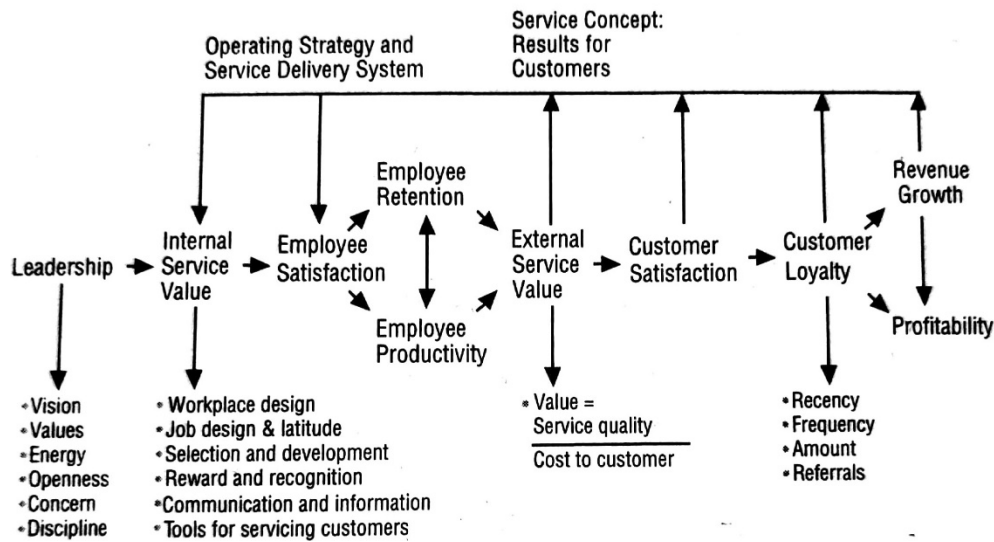


Figure 7. Service-profit chain (Hunter & Tietyen, 1997)

(Kumar & Reinartz, 2018, p. 26) describe incoherently three Rs components Retention, Repeat and Referrals. Customer relationship building means satisfaction and repeated customer buying experiences, customer retention and referrals with customer experiences. Building successful and constantly changing businesses starts with the right tools, procedures, and human skills. It is not just a sale; it is a relationship that continues after the purchase, taking care of the breadth and depth of the relationship between Cimcorp and its clients and then using this relationship to open up new sales opportunities. This relationship is advantageous to the company because it gives it low-cost access to buyers if they are nearby and have a similar specialty. When companies listen to their customers, they learn more about their needs and wants, which helps them develop and improve their product offers. To enhance sales, it is crucial to pay attention to what the customer has to say. Another key factor is figuring out which clients the company wishes to maintain since they are loyal to it.

This is so because not all clients who are pleased with the serving offer are also loyal to the company. However, how can this be quantified? The concentrate must be placed on the client's behavioural metrics and desire to make referrals, as these are connected to the primary customer loyalty measures

and provide useful information: recency, frequency, number of purchases, and referrals (Kumar & Reinartz, 2018, p. 26).

#### 4.4 Suggestion of After-Sale Services case Cimcorp

##### 4.4.1 Smart and Connected After-Sales Services

Opportunities for value generation in the economy are drastically shifting because of smart and connected after-sales services. Smart and connected products alter not just the competitive landscape but also the fundamental essence of the manufacturing company, its operations, and its organizational structure. By giving a service professional a smartphone and an augmented reality program, they may do a difficult repair even with no training, generating the first significant disruption in the way manufacturing organizations are organized. Experts can coach and direct less skilled individuals significantly more readily. Imagine how an engineering job could change when factories are equipped with detectors that transmit information about energy, production history, robot functions and problem locations. Manufacturers direct the issue to reach this reality in the coming time (Porter & Heppelmann, 2015, p. 14). There are five categories in which other industries can find organizational lessons in software:

##### **1 Shorter development cycle**

The operating system business has switched from making significant new releases on a regular basis to making smaller, more gradual updates and improvements. As a result, businesses may respond to client needs and advertise new items more swiftly (Porter & Heppelmann, 2015, p. 13). Agile product-development methodologies are best practices in the software industry because they place an affirmation on daily engagement in the midst originators and salespersons, weekly providing of improvements, ongoing assessment of customer satisfaction, continual path rectifications, and occurring try-outs of client contentment which are superior practices in operating system vastness (Porter & Heppelmann, 2015 p. 13).



## **2 Business models for product-as-a-service**

Service-oriented line of work pattern are becoming more prevalent in the software industry as a whole. Instead of buying "shelfware" that remains unused, customers acquire operating system on a registration basis, pay for specific requirements when urgently needed. This greatly simplifies deployment and converts the product into a utilizing expense sort of than a funds outlay (which happens via the cloud). Software firms have literate to closely monitor client utilization and satisfaction to support this new paradigm (Porter & Heppelmann, 2015, p. 13).

## **3 Aim for customer success**

Customer success organizations have become more prevalent within software firms as a result of the move toward software-as-a-service models. It is crucial to make sure that clients continue to receive superior value from products given how simple it is for them to switch vendors. These days, a lot of software businesses have departments devoted to client interaction (Porter & Heppelmann, 2015, p. 13).

## **4 Product parts of broader systems**

Most of the business software is implemented as a component of a broader "stack" of instruments whose worth is increased by merging. Application platform interfaces and other instruments are frequently made available by prosperous software firms to make it simple for their products to be integrated with software from other companies. In order to develop new applications for their goods, software corporations frequently support the establishment of developer communities as Cimcorp can make smart augmented-reality-supported predictive maintenance services (Porter & Heppelmann, 2015, p. 13).

## **5 The competitive advantages of analytics**

Software firms, particularly those involved in cybercommerce, have deep recognized the value that data analytics can provide to the user experience. Businesses with an advertising income model use analytics to provide customers with the appropriate ads at the correct times when they are obvious to observe

and respond to advertisements. Software businesses are increasingly collecting usage data to find vulnerabilities that have the biggest negative effects on customers (Porter & Heppelmann, 2015, p. 13). The management of the consumer involvement and making sure that consumers benefit best results from the merchandise is under the purview of the software industry. With smart, connected items, this activity is essential, mostly to guarantee regenerations in output-as-a-service types. The customer prosperity administration unit takes on major responsibility for client connections after the sale, however, there is no need to change the vending or favour units. Customers usually contact businesses the most when matter goes erroneous and frequently not until it is already tardy (Porter & Heppelmann, 2015, p. 17).

The output itself becomes a tracer that measures the value consumers are obtaining while using smart, connected devices. An output may converse businesses considerably about the client experiment, including output use and purchase, consumer predilection, and consumer happiness, through the data it generates. These insights can stop customers from leaving a company and show where a client might profit from supplemental output capacities or services (Porter & Heppelmann, 2015, p. 19).

#### 4.4.2 Arab Gulf Countries Business Opportunities

As the results showed there is no gap in the services chain and Cimcorp can manage the distance without problems, so the opportunity of opening new marketing is always exist, one of these opportunities is in the Arab gulf area. The Arab Gulf countries are experiencing a broad economic renaissance, which has made them a location with many business opportunities. The economy's wheel is constantly expanding and requires speed in production and sales growth, so it is only natural that the Gulf countries have already started this matter in cooperation with America or China, but there are still plenty of opportunities. The Kingdom of Saudi Arabia, which is implementing a vast economic plan that lasts through 2030, is at the vanguard of these nations. The United Arab Emirates are followed by Qatar, Kuwait, Bahrain, and Oman.

These countries are producing a lot of oil and gas and have a high gross domestic product in comparison to other countries. The author advises Cimcorp to consider making an effort to find business opportunities in that area.

## 5 CONCLUSIONS

The thesis goes through a comprehensive literature review on customer satisfaction and loyalty to after-sales services. In its simplest form, loyalty encourages repeat purchases and long-term commitment. Consumer happiness and emotional attachment to a company or brand are the two main components of client loyalty. The way a business views its customers and the sincerity with which it treats them are major factors in each of the aspects of customer loyalty (Srivastava and Rai, 2018, p. 212). This thesis investigates one company Cimcorp, which is a global player and have customers in 6 continent and 40 countries. Cimcorp concentrates on clients' artifacts flow confrontations by clarifying intralogistics with contrivance resolving. The research questions looked at what kind of after-sales services Cimcorp has and what kind of effect they have on customer satisfaction and loyalty. Instead, what kind of clients supporting do they offer to their customers abroad? In addition, future after-sales services were examined. The thesis comprehensively reviewed Cimcorp's after-sales services and their importance from the standpoint of customer satisfaction and customer loyalty. The next step was the increasing in improvement of future after-sales services, which Cimcorp had already started. The theoretical framework of the thesis includes the 7P model of marketing (Product, Price, Place, Promote, People, Process, and Physical Evidence), and after that, it follows the interaction between the company and customers. Customer relationships to win customer satisfaction and loyalty and finally support the consumer with company's experts whenever they need an expression from the company that it is the customer's partner and supports the even after the purchase. The next step with theoretical frameworks is customer

expectation when the customer expects the company, such as excellent service and reasonable prices.

Thus, satisfaction is the outcome of customers' favourable assessments of the range to which a product's implementing could satisfy the criteria, and customer satisfaction is carefully thought about as fundamental to lucrative business because it raises the strength of customers' review and purchase inclination. The last part of the theoretical framework describes client fealty. Customer fidelity, which is fundamentally predestined for the eventual persona, consumer fealty improves to its thorough power when it fulfils three characteristics i.e., preference, patronage and premium on behalf of the company. Although Cimcorp already provided a comprehensive range of after-sales services, this thesis identified a few gaps. Predictive maintenance services will be among the most crucial post-sale services in future, and various remote work tools will continue to be useful. For example, augmented reality for remote maintenance services, which is used in both remote maintenance and training and sales support. Furthermore, data, data analytics, and connections will become central to future predictive maintenance services, with data collected both offline and in real-time. In this case, care should be taken to emphasize that the data is of top standard and that it is standardized so that it can be used most effectively in client support. Furthermore, due to changes in the environment and maintenance measures, the machines themselves will teach other machines, i.e., the interaction will change, and it will no longer be only between people and machines, but also between machines. Because data will become increasingly important in after-sales services, cyber security will become increasingly important. In this case, customer data becomes critical and must be protected, making cyber security one of the most important factors in the future's after-sales services. The central thematic of this thesis to evaluate the level of client satisfaction and loyalty with Cimcorp's helping hand and to propose new successful future customer serving based on interviews.

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## 7 APPENDIX

### APPENDIX 1: Interview with Sales Project Manager from Cimcorp Oy

The questions:

1. What types of services does the company provide to customers after the sale?
2. Does the manager believe the services are adequate for customers currently, or is there an ambition to develop them?
3. In the case of buying a product and repeated the deal after 10 years, am I considered a partner forever, or treated as a customer with one deal?
4. Do the services come with a separate invoice, are included in the product's price, or are they provided for free?
5. Do you think that the online services achieve its intended objectives, or are there still issues?
6. How does Cimcorp gauge the effectiveness of its after-sale services?
7. What do the services of Cimcorp signify in terms of customer retention?
8. What is meant by the words (partners forever)?
9. How important do you think the company's services are to their success and reputation?
10. What the services you offer from this list? 1-pre-installation service 2- Upgrade services. 3- Lifecycle consulting (Planning, Training) 4-Warranty service 5-Online support 6- Return/replacement 7-Certified spare parts

## APPENDIX 2: Interview with After-Sale Manager from Cimcorp

1. What types of services does the company provide to customers after the sale?
2. Does the manager believe the services are adequate for customers currently, or is there an ambition to develop them?
3. In the case of buying a product and repeated the deal after 10 years, am I considered a partner forever, or treated as a customer with one deal?
4. Do the services come with a separate invoice, are included in the product's price, or are they provided for free?
5. Do you think that the online services achieve its intended objectives, or are there still issues?
6. How does Cimcorp gauge the effectiveness of its after-sale services?
7. What do the services of Cimcorp signify in terms of customer retention?
8. What is meant by the words (partners forever)?
9. How important do you think the company's services are to their success and reputation?

### APPENDIX 3: Interview with the Director of Cimcorp and board member, general advisor from Cimcorp

1. What are the countries you deal with?
2. Is there service after sale?
3. If there is big problem in faraway country which they deal with Cimcorp, are you able to send whole team to stay whatever there to fix the problem?
4. Is there case study relative with service after sale to study it?
5. What are the principles you follow with the customers to keep the sustainability with them?
6. What is the nearest and farthest countries you deal with?
7. What is the steps you take to have customer satisfaction and customer loyalty.