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**COMMUNICATING VALUE DOWN-
STREAM IN A SUPPLY CHAIN USING
TRAINING MATERIAL**

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ABSTRACT

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The increasing number of products and services available has led to more complex supply chains. This has reduced the communication between suppliers and end customers since more communication is occurring between intermediaries and end customers. Therefore, companies need to find new ways of communicating their value to end customers.

The objective of this study is to discuss the use of training material to communicate value in a supply chain. Supply chains have an increasing number of intermediaries which leads to companies' value being communicated by an intermediary rather than the company itself. Therefore, it is important to provide training to intermediaries to make sure the company's value is being conveyed accurately to the end customer.

The key outcome of this study is the proposed framework to create training courses which increase the intermediary's loyalty to the supplier through customer satisfaction which leads to the supplier's value being communicated more effectively. Creating training to appeal to the participant is key in getting participants to accept the service and diffusing the company's value to the supply chain. The framework was used to identify key factors that need to be taken into consideration when creating training to make it appealing to the case company's audience.

Keywords: Training material, value communication, customer value, system integrators

PREFACE

This thesis discusses the importance of training material in communicating value in supply chains. Training material can be used to increase customers' understanding of a company's products and services and help them perceive more value. The research was conducted to a case company which wanted to identify key factors which affect training's effectiveness.

Tampere, 16.04.2019

Tuukka Olavi Nikkilä

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1. INTRODUCTION

1.1 Background

The technological revolution has created a demand for highly skilled employees with varying skills. Companies are investing in creating workforce with diverse skillsets and vast knowledge of different processes to ensure their competitive advantage in the market (Kulkarni 2013). Even though knowledge and skills give organizations a lead against their competition the more concerning aspect for a company's continuous survival is creating value to their customers. Many companies find it troublesome to connect with their customers to get an accurate depiction of their customers' true needs and this often leads to products and services being produced that do not fully accommodate the customer or do it so that the customer does not fully understand the true benefits of all the functions provided.

A company understanding a customer's expectations allows them to fulfil these needs and create satisfaction to their customers. Continuous satisfaction can be turned into customer loyalty through continuous satisfaction which can be beneficial in the long-run (Lam et al. 2004). Continuous customer satisfaction requires a thorough understanding of customer needs and processes to ensure customers understand the products' and services' true values. It can be difficult for companies to convey their benefits to end customers due to the increasing number of players in supply chains which has created a need to educate intermediaries on the value created. The increasing number of products and services available to customers has opened new opportunities to intermediaries to become experts in knowledge integration and handle communications between suppliers and end customers without direct communication (Koskinen 2012). These intermediaries often represent multiple companies and it has become important to make sure they are aware of the true values of a company's products and services in order to convey them to the end customer.

Educating individuals can be troublesome as different individuals respond to different types of learning. Training services can be disregarded due to the effects being difficult to link to the invested resources. Although the effects of training are difficult to measure

majority of companies accept the benefits (Zhang et al. 2004). For training to be effective it needs to produce positive reactions from its participants to motivate more people to engage in the training courses. Creating training courses which engage participants and cause high levels of satisfaction can be difficult to create and require planning and resources from companies (Welsh et al. 2003). With effective training courses, companies can aim to increase supply chain intermediaries' knowledge of their products and services in hopes of conveying higher value to the end customers. Identifying training topics, characteristics and distribution channels which communicate most value and are most demanded can help companies distribute their training courses thus increasing the value communicated about their products and services.

1.2 Objective

Companies rely on their customers' willingness to invest in procuring their products and services in order to gain differing benefits. A company's ability to evaluate customer value opens more strategic options for a company to impact their demand and competitive position (Oliver 1994). Creating value to customers is the first obstacle companies face which is followed by the need to communicate value to customers effectively. Getting customers to understand a company's products' and services' true value enables companies to fully utilise their created value. Training material can be used to educate employees and customers on different subjects to increase their knowledge and skills. By adjusting training material to focus on a company's created value it is possible for companies to make their customers more aware of their created value. Thus, the objective of this study is

... to discuss using training material to communicate value downstream a supply chain.

This thesis aims to introduce a theoretical framework that shows how customer value leads to customer loyalty and how training can be used as a tool to create additional value to customers in a supply chain. This thesis also identifies key training needs, channels and characteristics that enable organizations to create training material effective at communicating value. Creating training material costs organizations resources that could

be spent elsewhere which means organizations want to create training material that creates as much value to participants as possible.

The structure of the thesis is as follows. The second chapter discusses the concept of customer value and identifies different constructs of perceived customer value. Customer value's connection to customer loyalty is established and the process of communicating value is discussed. The third chapter discusses value in supply chains and the role of system integrators in supply chains as well as the value in their knowledge integration. The fourth chapter investigates training material and communicating value in a supply chain by using training material.

The fifth chapter introduces the case study and the current issue with the situation as well as the desired end result. The sixth chapter presents the gathered results and a short analysis. The seventh chapter discusses the implications of different possible scenarios for the case company and ends with a recommendation. The last chapter includes a conclusion.

1.3 Methodology

In order to study an area, it is necessary to analyse data from that field. There are numerous ways of acquiring data and the most useful form of data is unique to the study at hand. These methods of gathering data can be categorized into two larger groups: primary data and secondary data. Primary data aims to create new data by recording new data. Secondary data, on the other hand, aims to explore data which already exists. These two data gathering methods can be divided into qualitative and quantitative data which considers the characteristics of the data. Qualitative data aims to collect quality data whereas quantitative data is more about analysis based on quantity. Both forms of data have their advantages and numerous ways of carrying them out but ultimately it depends on the research question what one is trying to figure out. Table 1 shows the different data collection methods explored by Gummesson (1993) and their most common data type. The methods used in this study are shown numbered in Table 1.

Table 1. Data collection methods.

Primary data methods	Secondary data methods
Survey questionnaire (Quantitative) 3 Interviews (Qualitative) 2 Observation (Qualitative) Action science (Qualitative)	Existing data 1

Firstly, existing data can be any source of information which is already existing, such as articles, reports and studies. This form of data is frequently used by everyone since it is easily accessible, has a wide range of data and can give a snapshot at a certain time through knowledge (Ritchie et al. 2013). Existing data can also be utilised when it is not possible to collect new data. However, existing data usually does not directly apply to one's own study and is based on past events which might not reflect the future accurately. This is because existing data might not contain full details of decisions made and certain details which could have significant impact on the overall meaning of the data. Gummesson (1993) also argues that even though existing data is an important source it can be misused. Existing data can be unreliable as the environment in which the data was recorded and organised cannot be assured to be ideal.

Secondly, interviews are a common way of acquiring qualitative data by discussing topics or asking questions from selected people. This usually allows the researcher to guide the conversation towards his topic of interest and is easily relatable to their study. Interviews are a common method for gathering empirical data in case study research. Interviews allow the interviewer to go into more depth about certain answers if an opportunity comes forth. This method is very time consuming and one needs to be careful not to contaminate the data by guiding the interviewee's answers towards one way. Constructing interviews also takes time as the interview structure usually develops over the course of time and interviews carried out. The quality of the data that is acquired from interviews depends on the abilities of the interviewer. Gummesson (1993) identified that the interviewer needs a certain type of personality to be able to carry out interviews effectively. In addition, the interviewer needs knowledge of interviewing techniques and of scientific inquiry techniques.

Thirdly, survey questionnaires can be used to formalize interviews and acquire quantitative data for analysis. Survey questionnaires can be used to turn opinions and views into numbers and figures making them more scientifically relevant. Survey questionnaires ability to quantify results makes a good tool for scientific research as well as repeatability of survey questionnaires (Gummesson 1993). They are easy to repeat if the research needs to be replicated and allows for future research to take place to record times effect on responses. However, survey questionnaires do not guarantee high-quality results and

often gives no feedback on the respondent's background. Survey questionnaires need to be designed carefully to make sure they provide answers to the wanted questions since carrying out another survey questionnaire can be troublesome and time-consuming (Gummesson 1993). This makes survey questionnaires exceptional at answering clearly defined problems. The interaction between the respondent and the researcher is restricted as survey questionnaires are not ideal for recording complex responses to complex problems.

Observation can be used to gather information about a group's or individual's behaviour and actions. In observation the observer studies the focus group's verbal and non-verbal behaviour to collect data (Gummesson 1993). Observation can consist of interviews where the interviewer is also able to observe the interviewee's body language and record what they are communicating non-verbally. Non-verbal communication can be anything from facial expressions to posture which can reflect the participant's living or working environment. Observation can require the observer to get personal with the participants which might not be suitable for everyone (Gummesson 1993). Direct observation requires less involvement as the observer tries to avoid interaction with the observing group. If there is interaction between the researcher and the focus group, the data would be affected by the researcher's obstructive behaviour.

Action science consists of the researcher becoming fully involved in the process which is being researched. The researcher becomes invested into the process and continuously affects the process throughout the research process (Gummesson 1993). Action science is seen as contributing to a client as well as to science. Researchers can run into a problem with being refused access to information, but in action science researchers have greater access to information by being a part of the client's processes, for example in a business organization. Action science allows researchers to integrate them into different situations to gain insight information which they would be unlikely to gain otherwise (Gummesson 1993). Action science does not guarantee the gathered information to be more accurate but does allow for greater access to the information. Action science often puts researchers in positions where events cannot be foreseen and requires flexibility from the researcher. Gummesson (1993) states that researchers need preparedness to adjust to changing events.

This thesis started off with interviews to get an idea of the current situation and the current issues. From these interviews, a survey questionnaire was created to get quantitative data onto the current situation. The research process is described in further detail in section 6.1. A theoretical framework was created, and the results and the framework

were utilised to create a recommendation for the company. Figure 1 portrays the re-search process.

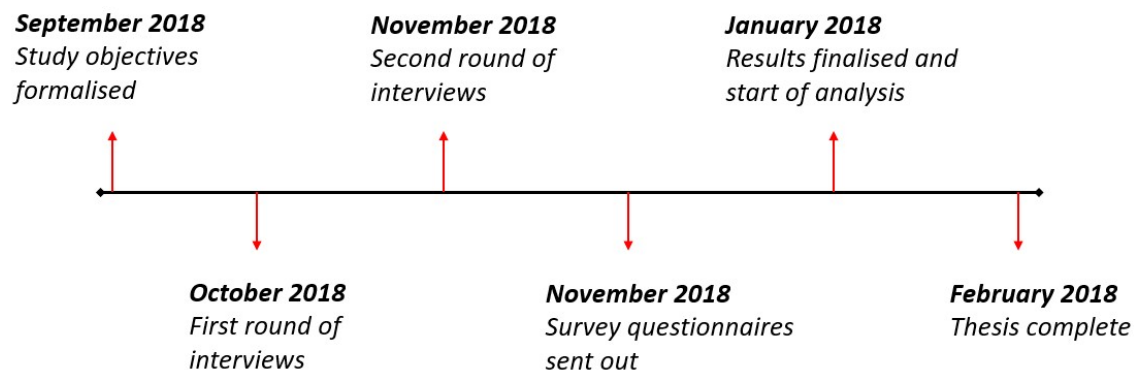


Figure 1. *The research process.*

The objective of the thesis was to create a theoretical framework for increasing value down the supply chain with the use of training material. The created framework was applied to a Swedish-Swiss company to create a recommendation. In the research process existing data, interviews and survey questionnaires were utilised.

2. CUSTOMER VALUE

This chapter defines customer value and introduces different value components that affect how value is perceived by different parties. Also, customer value's role in creating customer satisfaction is discussed and how customer satisfaction can lead to customer loyalty. Value communication allows companies to create customer value and help them maintain their market position.

2.1 Value Proposition

Companies are changing their operations to accommodate the rising trend of value-based and value-focused strategies (Khalifa 2004). Focusing efforts into creating customer value has been defined as important for a company to succeed (Higgins 1998). Woodruff (1997) points out that understanding customer value has become essential for succeeding in implementing value-based strategies. Providing superior customer value leads to customer loyalty which is important for a company's continuous existence (Reichheld & Sasser 1990). Customer value is one of the most misused concepts and has led to many different acknowledged definitions for customer value. The undeniable factor about customer value is that it is from the perspective of the customer and not of the supplier. Doyle (1989) simplifies the concept of customer value as

The value "is not what the producer puts in, but what the customer gets out"

Christopher (1996) adds that customer value is when the benefits exceed the costs of the product. To make a product or service desirable to a customer it is necessary to "get" more out of it when compared to what a customer had to "give" for the product or service (Heskett et al. 1994). However, in business-to-business relationships, both the perception of benefits and costs are different and Blocker (2011) defines customer value in B2B as

"Perceived trade-off between benefits and sacrifices with relationships."

This definition builds to observe customer value during the entire span of the supplier-customer relationship rather than during an individual transaction. Benefits and sacrifices occur from all product, service and relationship interactions to produce overall customer value.

Khalifa (2004) categorizes customer value definitions into three categories: value component, benefits/costs ratio and means-ends models. Value component models include each transaction involving one or more of the following elements which result in the buy decision. Kaufman (1998) defines them as esteem value, exchange value and utility value. Esteem value portrays acquiring a product for ownership because of its psychological benefit. Exchange value constructs the reason for acquiring a product. Utility value is the financial and functional benefits which define the absolute benefits of the product.

One of the most common value component models is Kano's model of perception of value which shines a light on different types of customer perceptions on value-adding characteristics. Characteristics labelled as dissatisfiers are required in order to keep customers. These factors do not give a competitive advantage and failing to provide these factors can lead to customer defection as their needs are not met. Then there are the satisfier characteristics which answer customer requests which satisfy their needs. These characteristics' presence can bring increasing satisfaction to customers and are often viewed as minimum standards to keep operating in the market. The last characteristics are the delighters which are not required or expected by customers but brings increasing satisfaction on top of the previous required characteristics. Kano's model is portrayed in Figure 2. Different individuals will experience each characteristic differently which makes it difficult to pinpoint which customers hold which characteristic in what category.

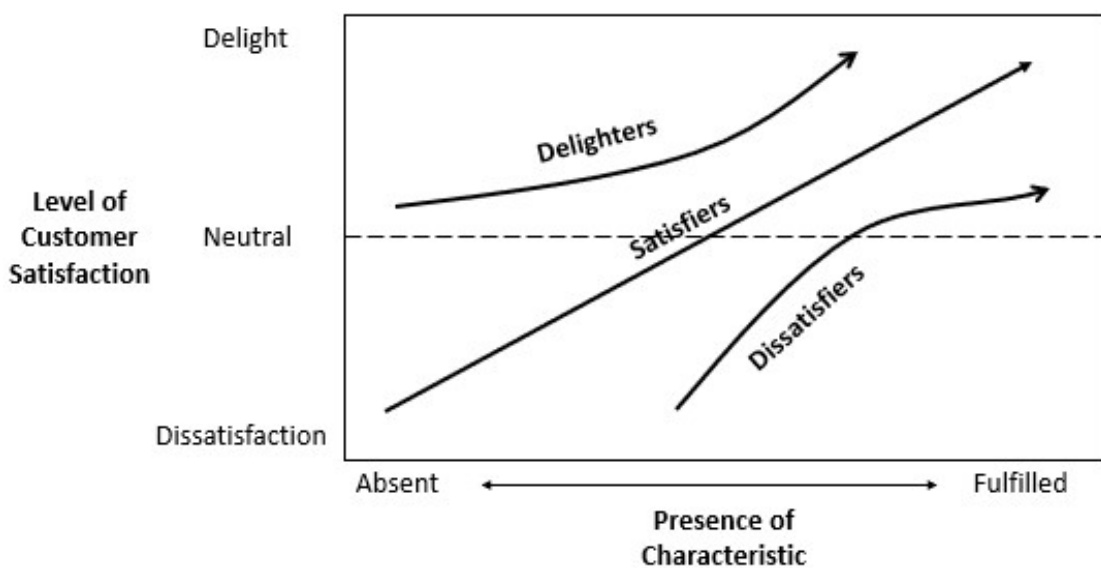


Figure 2. Kano's model of perception of value. (modified from Khalifa 2004)

Benefit and cost ratio models inspect individual customer perceptions of tangible and intangible benefits and sacrifices (Monroe 1990; Leszinski & Marn 1997). The difference between a customer's benefits and sacrifices defines their perceived customer value (Huber et al. 2001). In order to define a customer's perceived value, a supplier must consider all elements which affect the customer's perceived benefits and sacrifices. Perceived customer value will be further discussed in section 2.2.

According to Ulaga (2003) the key factors that affect customer value, in B2B environments, positively are (1) offer quality, (2) personal interaction, (3) service support / customer information, (4) know-how, (5) delivery performance, (6) time-to-market, (7) price and (8) process costs. These elements have been identified by multiple authors to have an effect on customer value. These elements are introduced in Table 2.

Table 2. *Summary of value-adding elements to a customer.*

Value	Definition	Authors
Offer quality	Product quality and reliability.	Lapierre 2000; Menon et al. 2005; Ulaga & Eggert 2006; Gale 1994; Homburg & Rudolph 2001
Personal relationships	Social and functional benefits of relationships.	Gremler & Gwinner 2000; Gao et al. 2005; Ulaga & Eggert 2005; Dwyer & Tanner 2002
Service support / Customer information	Benefits gained from smooth and continuous sharing of information.	Homburg et al. 2005; Lapierre 2000; Ulaga & Eggert 2005; Anderson & Narus 2005
Know-how	Benefits gained from supplier's know-how.	Lapierre 2000; Ulaga & Eggert 2005; Hogan & Armstrong 2001; Jap 1999
Time-to-market	Value of getting products and services quickly to the market.	Stalk & Hout 1990; Ulaga & Eggert 2005;
Delivery performance	Value of meeting schedules and providing reliable delivery.	Hutt & Speh 2001; Ulaga & Eggert 2005;
Price	Price sets the level of expectation for a product or service.	Ulaga & Eggert 2005; Cannon and Homburg 2001;
Process costs	Ability to lower costs creates value for customers.	Cannon and Homburg 2001; Ulaga & Eggert 2005

However, offer quality, personal relationships, service support, know-how, time-to-market, and delivery performance were identified as key elements that have a positive effect on a customer's perception of value. Price and process costs also create value to customers, but according to Ulaga (2003), they do not always affect customer value positively. This is why they will be excluded from further analysis.

Firstly, customers expect high-quality products and services from their suppliers which has made it difficult to distinguish oneself from competition purely by product quality (Ulaga & Eggert 2006). Product quality is defined by technical performance and reliability and has become a criterion to be considered a supplier (Menon et al. 2005). Offer quality is a key element in creating value for customers but is not solely enough to gain a competitive advantage.

Secondly, interactions between companies are carried out by individuals and these relationships between individuals hold value (Ulaga & Eggert 2006). Personal relationships develop stronger relations between companies and accumulate additional benefits. Good personal relationships make communication easier and speed up processes (Gao et al. 2005). This improves efficiency, problem resolution, and understanding of each partner's goals. Personal interactions are another key element in creating value through mutual development.

Thirdly, businesses hold vast amounts of information and providing appropriate information at the right time can be beneficial for both parties (Ulaga & Eggert 2006). Sharing appropriate information can help both parties react faster to changing environments and ensure a competitive advantage. By providing a reliable channel of communication ensures that appropriate information can be attained when needed and in time to react (Anderson & Narus 2005). Service support highlights the value of information exchange in a business relationship.

Fourthly, suppliers hold a lot of valuable expertise with their products that are beneficial to customers (Ulaga & Eggert 2006). In turn, sharing expertise can give a supplier an insight into a customer's operations which provides opportunities for future business, for example in product or process development (Lapierre 2005). Supplier know-how holds value in experience and skills that can be used to improve operations or develop new opportunities.

Fifthly, failure to deliver a product or service within an agreed schedule can cause problems for the customer and additional costs (Ulaga 2003). Ability to deliver on time discourages the customer from seeking alternatives and increases customer loyalty. In changing business environments customers also require flexibility from delivery to be

able to react to changes faster (Hutt & Speh 2001). Also, when changes such as demand peaks or delivery problems occur customers expect quick modifications to take place.

Sixthly, time-to-market has become a strategic guideline for supply chain management (Stalk & Hout 1990). Ulaga (2003) states that there is a growing need for suppliers to launch products faster and carry out necessary modifications with less delay. Different methods such as prototyping have popularised due to its ability to lower time-to-market cycles by allowing customers to give faster feedback on products (Ulaga 2003). Faster cycle times allow customers to experience the benefits sooner.

When inspecting the total customer value companies weight the benefits against the costs that occur. Blocker (2011) found that in many cases the key elements that affect customer value negatively are (1) direct costs that the customer is charged for the product or service, (2) acquisition costs which consist of administrative costs associated with implementing the transaction, (3) operation costs that occur during the product's or service's life span to keep it operational. These elements are represented in Table 3.

Table 3. *Summary of a customer's costs.*

Costs	Definition	Authors
Direct costs	Price paid for product or service	Menon et al. 2005; Ulaga & Eggert 2005; Huber et al. 2001
Acquisition costs	Cost of buying e.g. ordering, administrative costs	Cannon & Homburg 2001; Huber et al. 2001
Operation costs	Maintenance and supplier communication costs	Cannon & Homburg 2001; Menon et al. 2005; Ulaga & Eggert 2005; Huber et al. 2001

Combining the identified key benefits and costs gives an equation for customer value. By comparing offer quality, personal interaction, service support, time-to-market, delivery performance and know-how to direct, acquisition and operational costs it is possible to conclude whether the transaction is positive (favourable) or negative (undesirable). This is represented in Figure 3.

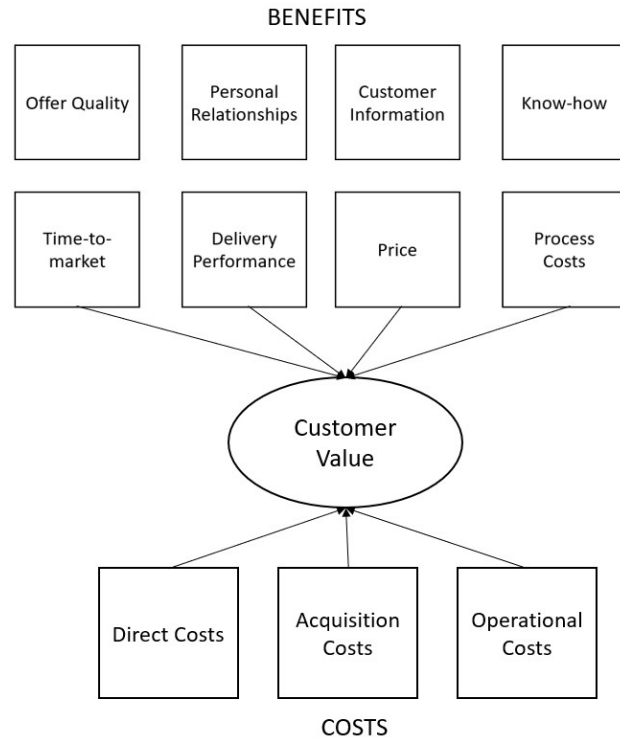


Figure 3. *Illustration of customer value as the sum of benefits and costs.* (modified from Blocker 2011)

In single transactions, it is easier to determine customer value and hence customer satisfaction, but in continuous transactions, a company's past, present, and future are taken into consideration to determine overall satisfaction. By providing continuous customer satisfaction a company can develop customer satisfaction into customer loyalty.

2.2 Perceived Customer Value

Value is subjective to an individual since different aspects of a product will make it more desirable to different people (Green & Srinivasan 1990). Different people and companies hold different importance for the benefits, which were identified in Figure 3, that leads to a different amount of value experienced. This value is a customer's perceived value which is the absolute benefit a company will experience after costs. Perceived customer value is portrayed in Figure 4.

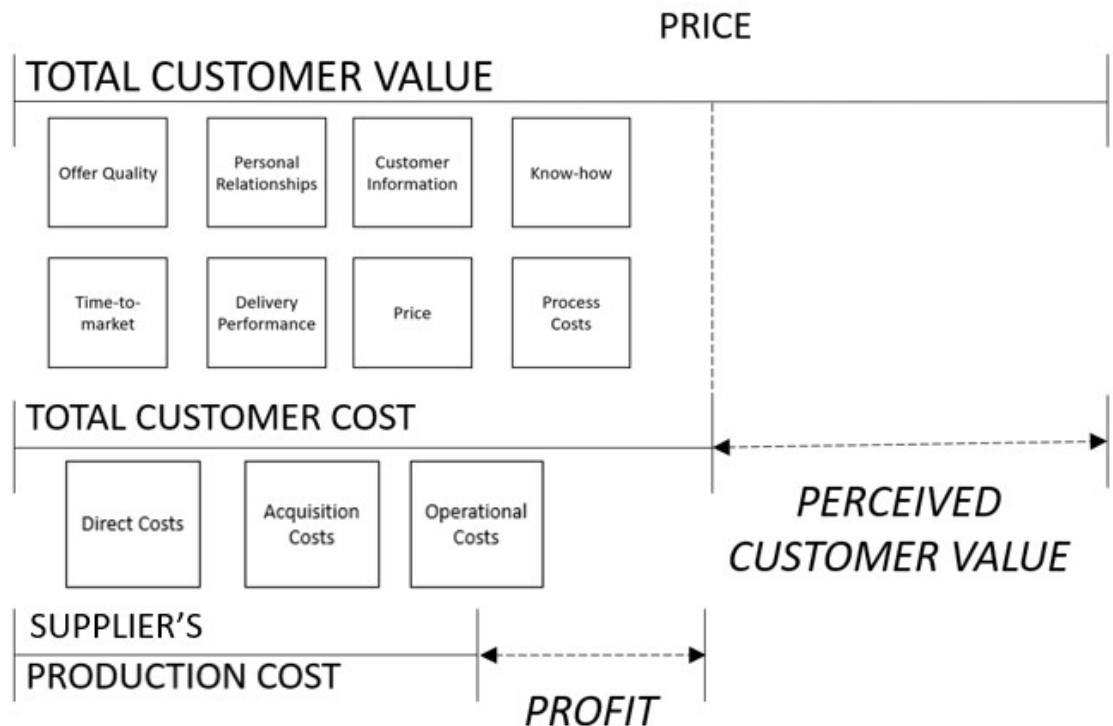


Figure 4. *Perceived customer value equates to total customer value minus price of the acquisition.* (modified from Lyly-Yrjänäinen et al. 2009)

Total customer value is the sum of a customer's perceived benefits, and total customer cost is the sum of a customer's perceived costs. In simple transactions, total customer cost is the price of the good or service and sets the comparison for perceived customer value. Depending on how a customer perceives the benefits the higher the perceived value will be. A supplier can overestimate the total customer value and set the price high enough to mitigate the perceived customer value low enough to make the product or service undesirable. Also, a supplier should set the price level high enough to cover the production costs and produce a profit.

Failure to convey value to customers leads to a lower perceived customer value as shown in Figure 5. This reduces the supplier's competitive advantage and leads to lower value being communicated to customers. Customers keep realising new value for a product and service after using it which is the consequence of inadequate value communication. (Mick & Fournier 1995.) If a customer is unaware of a product or a service's characteristic, they are unable to perceive its value.

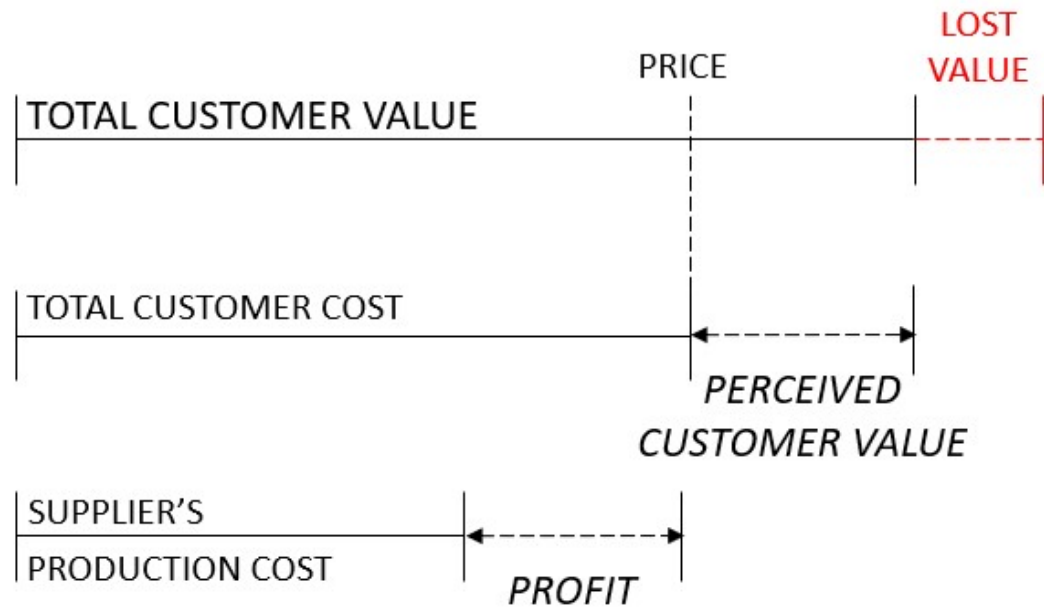


Figure 5. *Failing to get a customer to understand all value-adding qualities of a product leads to lost value for the supplier.* (modified from Lyly-Yrjänäinen et al. 2009)

Different customers will experience value differently even when costs stay constant. Figure 6 portrays the difference between two customers' total customer value of the same product.

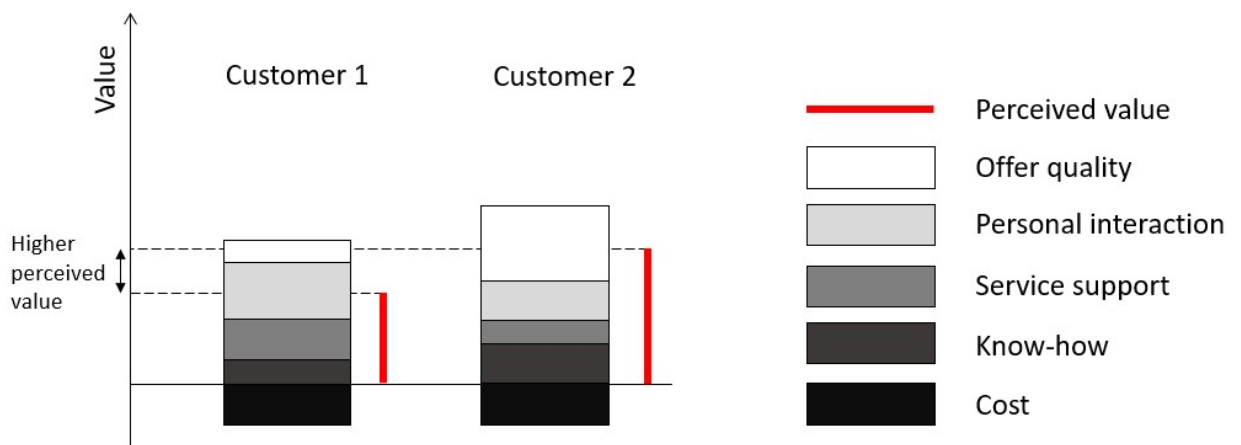


Figure 6. *Different customers will perceive certain characteristics of the same product as more valuable than others even when costs stay constant.*

A supplier can identify a customer's key elements to customise their offering to better meet their needs and therefore increase the perceived value. This is portrayed in Figure 7. Categorising each customers' perception of each characteristic into groups identified by Kano's model a supplier can optimise their offering to certain groups. By identifying the key elements perceived by the majority of customers, allows suppliers to focus their development to key areas that will benefit the customers.

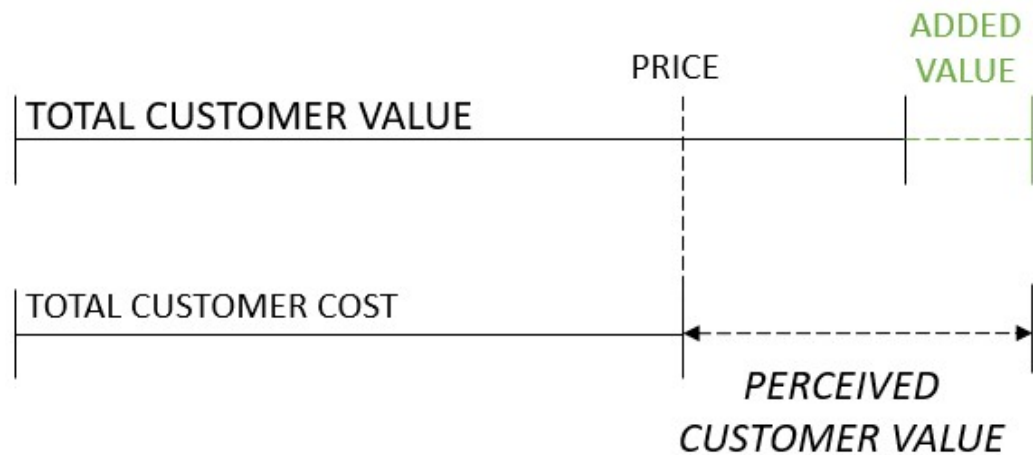


Figure 7. *Improving qualities of a product that customer's appraise causes the customer to perceive increased customer value.* (modified from Lyly-Yrjänäinen et al. 2009)

Additional value will increase perceived customer value and make a product or service more desirable. Providing products and services with high perceived customer value will result in customer satisfaction.

2.3 Turning Customer Value into Customer Loyalty

Suppliers are constantly attempting to get customers to repurchase their products and services and recommend them to others to gain new business. Customers who are satisfied by their supplier are more likely to retain as their customer and repurchase their products and services.

Customers make expectations prior to acquiring a product or service and meeting this expectation affects their satisfaction. Customer satisfaction is argued by Oliver (1981) to be a comparison of customer's expectations and experiences. If a customer's experiences are worse than expected this will lead to dissatisfaction whereas experiences that were better than expected will lead to satisfaction. Oliver (1981) states that experiences which were better than expected do not always lead to satisfaction but will not at least cause dissatisfaction. Regarding Kano's perception of the value model, these experiences which do not cause dissatisfaction when experienced are either satisfier or dissatisfier characteristics which must be present to the customer.

Customer satisfaction can occur in two different types: transaction-specific and cumulative satisfaction (Anderson et al. 1994). Transaction-specific satisfaction is perceived after an individual transaction. It is an evaluation of a customer's expectations and experiences of a specific product or service and helps map its satisfaction (Oliver 1993). However, cumulative satisfaction or overall satisfaction is based on all expectations and experiences over time. Cumulative satisfaction helps evaluate a product's or service's satisfaction in the past, present, and future (Oliver 1993). Company relationships can contain both products and services which means looking at cumulative satisfaction is more valuable to construct a more accurate big picture of the relationship.

Providing continuous satisfaction to customers brings benefits to the firm. Fornell (1992) also states that high customer satisfaction leads to increased customer loyalty, financial benefits, increased customer retention and enhanced reputation to the firm. Acquiring strong customer loyalty improves a company's financial status through stable future cash flow (Reichheld & Sasser 1990). Customer loyalty reduces most costs associated with retaining old customers and attaining new ones since efforts can be lowered to insulate old customers from competitive efforts and new customers receive passive marketing from old customers' positive experiences (Andersson 1994). Figure 8 portrays the action of customer value turning into customer loyalty through customer satisfaction.

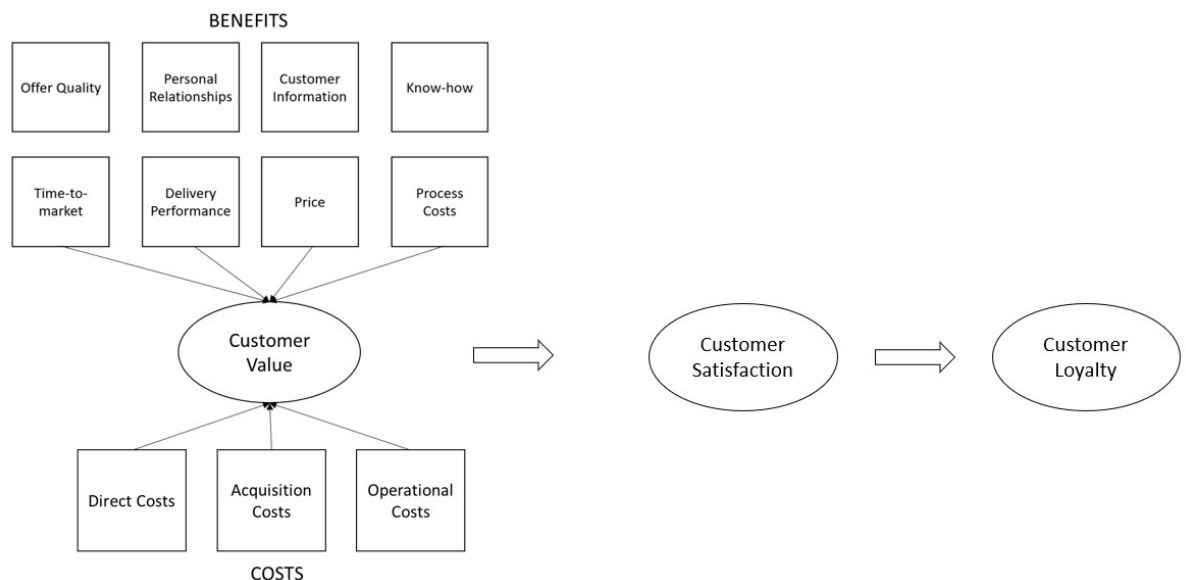


Figure 8. *Positive customer value can be transferred to customer satisfaction, which can lead to customer loyalty.* (modified from Blocker 2011; Lam et al 2004)

Companies which can produce customer perceived value will produce customer satisfaction when customers' expectations are met. It is important to map customers' expect-

tations to be able to fulfil them and fully utilise produced value into customer value (portrayed in Figure 4). Continuously providing customer satisfaction will lead to customer loyalty and a stronger position in the market.

Increasing customer loyalty occurs through positive experiences and often through high customer value. By improving specific characteristics of a product or service a company can increase their customer loyalty. Bitner et al. (1990) state that good performance of a product or service translates to customer loyalty. Positive experiences have been identified to increase customer loyalty and therefore by improving offer quality, customer loyalty should also increase due to higher quality and reliability. Also, relationships between customers and suppliers have been found to increase customer loyalty when positive and interactive (Berry & Parasuraman 1991). Salanova et al. (2005) state that customers experienced more loyalty to companies when they could experience benefits from a service they had bought. When observing cumulative satisfaction, it is important for customers to perceive an improvement in their performance in order to experience loyalty towards the service provider (Salanova et al. 2005). Improving customer experiences increases their satisfaction and turns more easily into customer loyalty. This is portrayed in Figure 9.

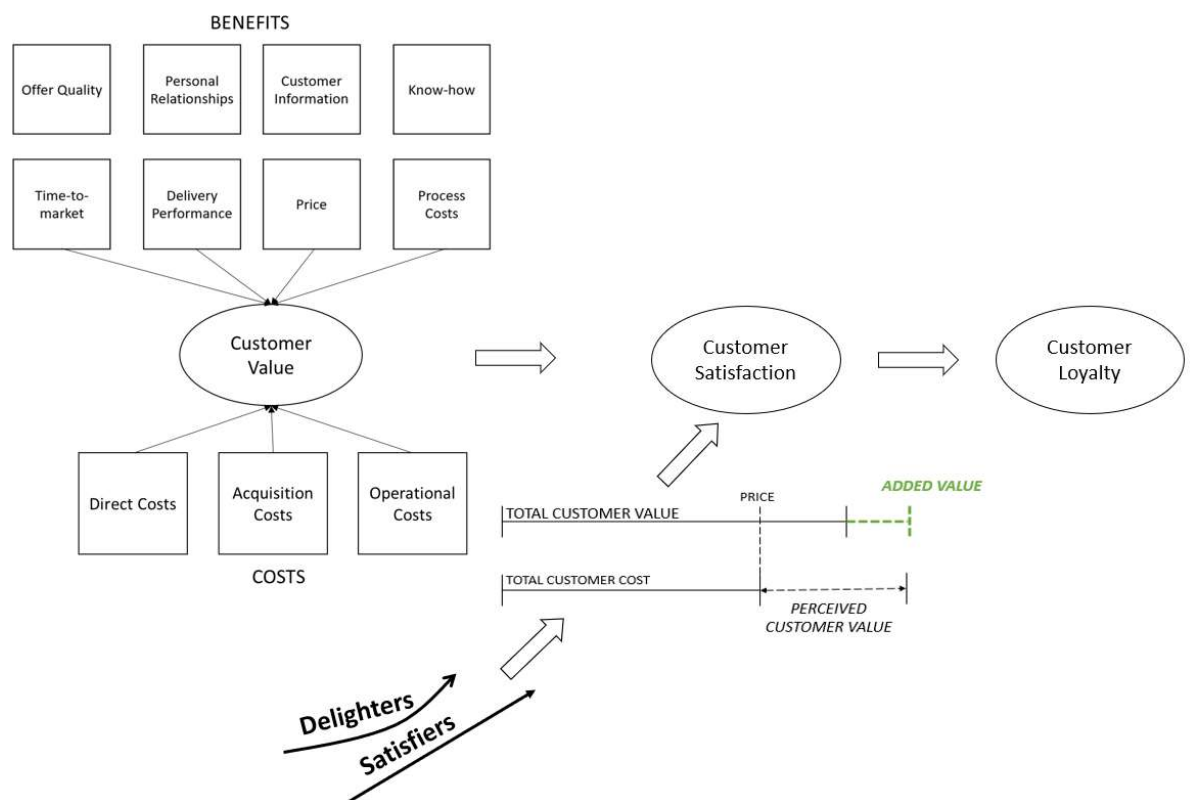


Figure 9. *The use of delighter and satisfier characteristics add perceived customer value enables customer loyalty.* (modified from Lyly-Yrjänäinen et al. 2009; Blocker 2011; Lame et al. 2004; Khalifa 2004)

Increasing satisfaction through delighters and satisfiers is seen to increase customer loyalty. (Westbrook & Oliver 1991.) However, the correlation between customer satisfaction and customer loyalty is not linear and, in some cases, satisfied customers did not show increased customer loyalty whereas delighted (highly satisfied) customers did. Identifying each customer's satisfiers and delighters will allow for more effective value communication. Customer loyalty can be based on either repurchase or recommendation as shown in Figure 10.

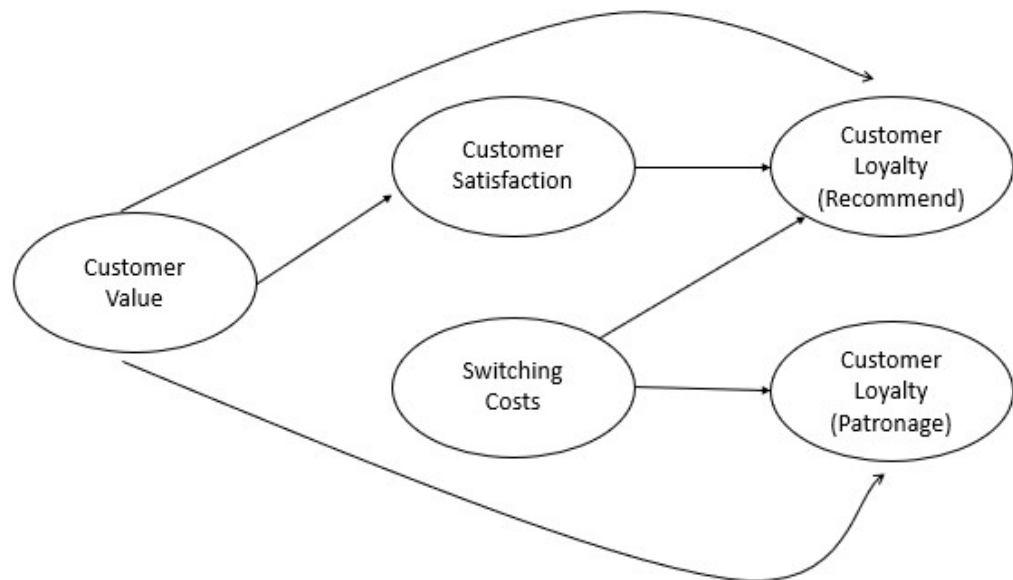


Figure 10. *Illustration of customer loyalty's different types.* (modified from Lam et al. 2004)

Lam et al. (2004) highlight the factor which switching costs play in customer loyalty. When customer's benefit from being loyal to their supplier they are less likely to leave or look for alternative solutions. When loyalty increases perceived value can also increase through rewards from the supplier, such as price reductions. Positive experiences can lead to customers recommending their supplier to others which will attract new customers that also want to benefit from customer loyalty. However, if switching costs are high it can lead to disloyal customers continuing to do business with their supplier even though they are not satisfied with the situation. This can lead to negative marketing and could lead to loss of sales when new customers are discouraged to interact with the supplier. It is important for suppliers to communicate their value accurately in order to encourage new customers to do business with them and turn their customer value into customer loyalty.

Customer loyalty was identified to root from positive customer value. Customer loyalty can differ in type as it can lead to retention and recommendation but can also have negative connotations if loyalty is got from the wrong customers.

2.4 Communicating Value

It has been identified that customer satisfaction is based on a comparison of customer expectations and how they were met. Increasing customer satisfaction requires customers' expectations to be met more accurately and one way to achieve this is by conveying an accurate image of the product or service to the customer. If the customer is aware of the product's or service's value, they are less likely to be dissatisfied. Value propositions communicate value to customers in varying forms.

Value propositions are promises of value to customers for a certain cost (Ballantyne & Varey 2006). Companies can use value propositions to make customers aware of their offerings as well as why they should buy a product or a service from their offering (Webster 1994). Value propositions should be specific to highlight a product's or service's competitive advantage over alternatives, but also general enough to attract new customers from different groups. Customers' varying needs may require different methods of communication to convey value as effectively as possible.

Anderson et al. (2006) state that customer expectations determine their satisfaction. The more accurate a customer's expectations of a good or service are the easier it is to fulfil their expectations. By changing customer expectations, a company can affect their customers' satisfaction. Correcting misunderstood information leads to a higher perceived value as it is not negatively affected by misconceptions. Constructing an accurate value proposition allows companies to convey accurate information about their offerings and help customers realise its true value. This is portrayed in Figure 11.

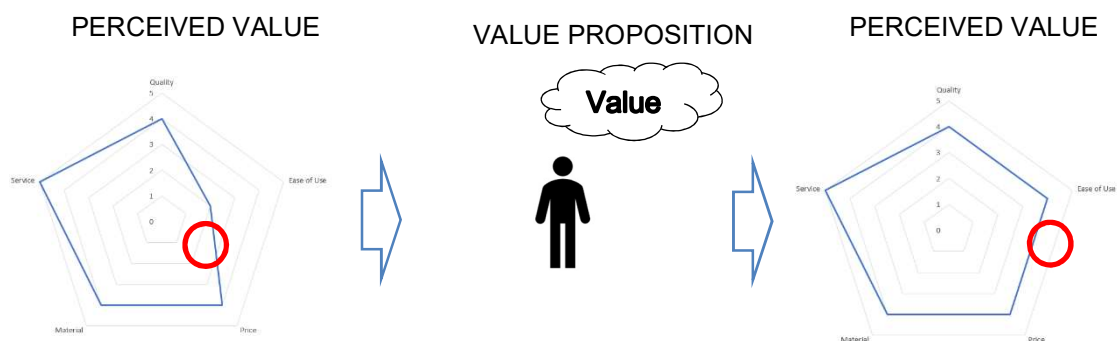


Figure 11. *An accurate value proposition can increase customer's perceived value by fixing misconceptions about a product or service.*

Customers build up expectations from their previous experiences, user reviews and other interactions with a product or a service, such as marketing. Customers have biased perceptions of a product that may not be accurate. For example, an older person may perceive a smartphone as complicated at first, but through settings such as simplified mode, it can be made simpler and closer to a traditional cell phone. Correcting these misjudgments can increase their perceived value and affect the buy decision. Customers may also have appraising opinions of a product that turns out to be false after purchase. This causes dissatisfaction and affects their future decisions related to that company's products and services. Thus, correcting a customer's perception of a product by lowering its value can be beneficial for the company in the long run.

Value propositions are used by organizations to set expectations to customers about their products or services. These will let customers know what the product includes and what it does not. This can be used to correct misconceptions caused by additional information channels.

3. SYSTEM INTEGRATORS IN SUPPLY CHAINS

This chapter will discuss how value is viewed in supply chains and how it affects inter-organizational relationships. The concept of system of systems will be introduced and the new business opportunities it has opened in knowledge integration of systems for system integrators. Key properties of system integrators are discussed to understand where their added value comes from.

3.1 Value in Supply Chain Management

When organizations do not hold the necessary resources, they are forced to make inter-organizational relationships to manage all their activities (Van de Ven & Walker 1984). Single organizations are rarely able to carry out all activities throughout the entire supply chain from refining materials to distribution to end users, but rather carry out a part of the chain (Gentry & Vellenge 1996). Through inter-organizational relationships, companies are able to coordinate materials, financials, and information to produce a product or service that fulfils customers' demands. Christopher (1998) defines supply chains as:

“a network of organizations that are involved, through upstream and downstream linkages in the different processes and activities that produce value in the form or products and services in the hand of the ultimate consumer.”

However, La Londe & Masters (1994) defines supply chains as simply as:

“firms that pass material forward.”

These definitions show that supply chains can be as easy as forwarding material, but in today's world supply chains are often complex and involve many different organizations. This leads to incorporation of both the previous definitions to form the following definition used in the thesis:

“a network of organizations that are involved, through upstream and downstream flows of information, products, services and/or finances that produce value to the ultimate consumer.” (modified from Mentzer et al. 2001)

Supply chains have an increasing number of players present making the supply chains' designs more complex. Companies can be a part of a supply chain indirectly by providing

an additional service to one of the direct players in the supply chain increasing the complexity of the entire supply chain. Different types of supply chains with differing complexities are portrayed in Figure 12.

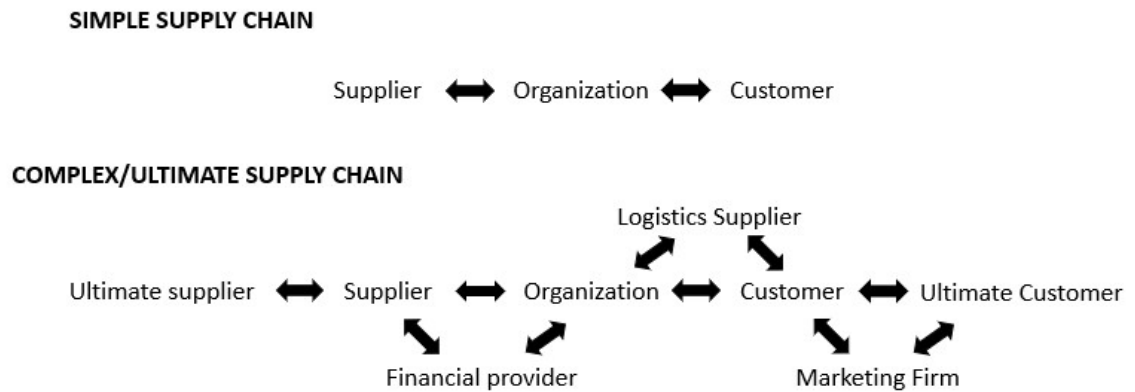


Figure 12. *Illustration of simple and complex supply chains.* (Mentzer et al. 2001)

Observing supply chains starts at organizations that extract raw materials and ends at the ultimate customer. There can be numerous inter-organizational interactions during this process, which makes it difficult for companies to track them accurately (Power 2005). There are also more indirect participants in supply chains that do not themselves create value to the chain but carry out a task for another organization which in turn creates value to the supply chain. This has led to more dynamic supply chains which have made managing them more difficult (Mentzer et al. 2001).

Supply chains aim to improve the overall performance and competitiveness of all partners in the supply chain by complementing each other competencies. Stadtler (2005) states that each partner that is chosen to be part of the supply chain needs to suit a purpose that furthers the customer's perceived value. Companies in the same supply chain rarely have contact with every other company in the same chain, but rather focus their communication to the companies closest to them, upstream and downstream. This means that individual companies are in charge of making the right choices when choosing partners, suppliers or customers. One player in the supply chain making a mistake with an indirect company can have a ripple effect onto other players in the supply chain. For example, if a company outsources their logistics to an external company which cannot provide high quality transportation consistently to the supplier's customers it will affect companies further down the supply chain who expect materials from the supplier. Ries (2001) identified that partners in interorganizational relationships are often evaluated by the following characteristics:

- Core competence
- Trust
- Culture
- Strategy
- Organizational structure
- Financial situation

These characteristics help define whether a company is compatible with the supply chain. Supply chains look to create win-win situations where the incentive is not always monetary (Stadtler 2005). Companies that make compromises for the supply chain as a whole rather than for individual benefit allows for the supply chain to improve its operations. Integrating different organizations' operations together requires coordination and management (Stadtler 2005). Supply chain management consists of integrating and coordinating the operations of different organizations in a supply chain to enable the supply chain to rake the benefits.

Mentzer et al. (2001) identify supply chain management's objectives to improve profitability, competitive advantage and customer value and satisfaction of a supply chain. If a supply chain is able to reduce the costs required to provide the ultimate customer with the necessary level of quality it leads to savings throughout the supply chain. The same amount of revenue with reduced costs leads to higher profit, as portrayed in Figure 13. Figure 13 also illustrates how lower costs allow the supply chain to reduce price and improve perceived customer value which can be interpreted as improving the supply chain's competitive advantage.

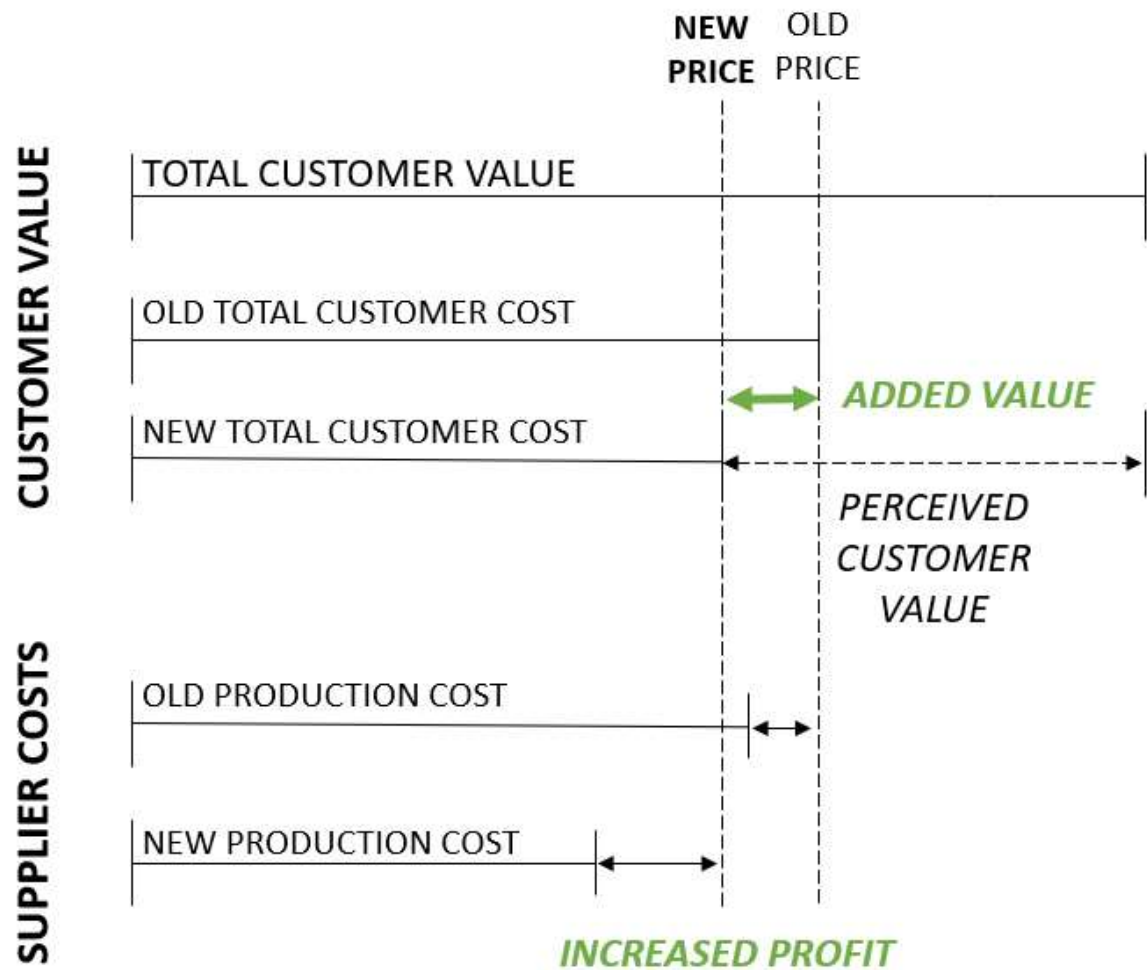


Figure 13. *Reduced costs from effective supply chain management enable a lower selling price which still creates more profit for companies and adds value to customers.* (modified from Lyly-Yrjänäinen et al. 2009)

Since organizations are starting to focus more on customer demand it has led to more customer-centric supply chains. Davies et al. (2007) identify that these customer-centric supply chains are looking to have more solution providers in the downstream of the chain. Solution providers offer a service where they help the customer solve their issues with their know-how and personal relations. This saves the customer from having to learn about the different possibilities available (Boardman & Sauser 2006). Companies often perform actions which are outside of their core competence where it can be more time and cost efficient to rely on an external expert.

Companies are starting to utilise their know-how to integrate vertically from products to services where they are maintaining their manufacturing capabilities and moving to offer additional services throughout the product's life cycle (Oliva & Kallenberg 2003). This has increased competition in certain industries where a supplier and a customer could be providing same services to other companies further down the supply chain. These

services include design, build, operating and maintaining. Companies started offering these services by exclusively using in-house components, but once other companies were capable of producing certain components better, they were forced to start to include other components in their designs as well (Davies et al. 2007).

3.2 Systems Integrators in Supply Chains

Business systems, such as manufacturing systems, are becoming increasingly complex where customers require products and services from multiple supply chains to produce their system (Boardman & Sauser 2006). A system is considered a group of parts which work to fulfil a shared goal. For example, in an automotive factory, there are numerous different robots which work together to create a car. Even though the previous example is a system, it is more commonly known as a system of systems (SoS). The system of systems is a group of systems that are created to work together to achieve a shared goal (Boardman & Sauser 2006). Another example of SoS is an airplane. An airplane has numerous different systems such as ventilation, control, communication systems which allow the plane to fly. Boardman & Sauser (2006) state that SoS are different from normal systems because of their autonomy, belonging, connectivity, diversity, and emergence. Traditional systems and SoS are portrayed in Figure 14.

SoS are autonomous since their operations and management are independent of other parts of the system (Gorod et al. 2008). Each part of the system has its own operation that can be facilitated by another part in the system, such as a robot, but ultimately will only carry out its designed operation regardless of the whole system's objective. A robot hand will always move its arm from location A to location B regardless of the other parts of the system. If there is a problem in the system this can result in a crash. However, these systems are chosen and designed to help serve the purpose of the entire system. Boardman & Sauser's (2006) example of an automobile's brakes are designed to bring the automobile to a stop. This serves the entire system because its designers have identified the need for speed control.

Belonging reflects the idea that SoS can be broken down to parts which are systems themselves and these individual parts have been chosen to be part of the SoS but can also be replaced (Gorod et al. 2008). In traditional systems, the system has been designed to contain the necessary parts to operate, whereas a SoS combines systems to

create a SoS that delivers the wanted operation (Boardman & Sauser 2006). If the common goal is not reached with the current systems, they can be modified or replaced until the common goal is reached.

Connectivity refers to a systems ability to communicate with other systems (Boardman & Sauser 2006). Connectivity is important for effective communication and interaction with other systems (Gorod et al. 2008). Also, autonomy is required to operate when connectivity is not ideal.

Traditional systems are designed to have components to carry out a certain activity. However, in SoS the entire system is designed from heterogeneous systems which have their own activities. The diversity in a single system's activities allows greater diversity in the SoS. The system can have capabilities of carrying out other activities that are not being utilised in the SoS, but this increases the overall diversity of the SoS's capabilities.

Emergence refers to the appearance of new properties during the course of SoS's development or evolution (Boardman & Sauser 2006). SoS's value is more than the sum of the systems, but they are not all fully utilised. These properties can change due to discovered synergies with other systems and lead to a change in the SoS's scope or scale (Gorod et al. 2008). Emergence and diversity are interlinked as a higher degree of diversity in a SoS enables more emergence to occur.

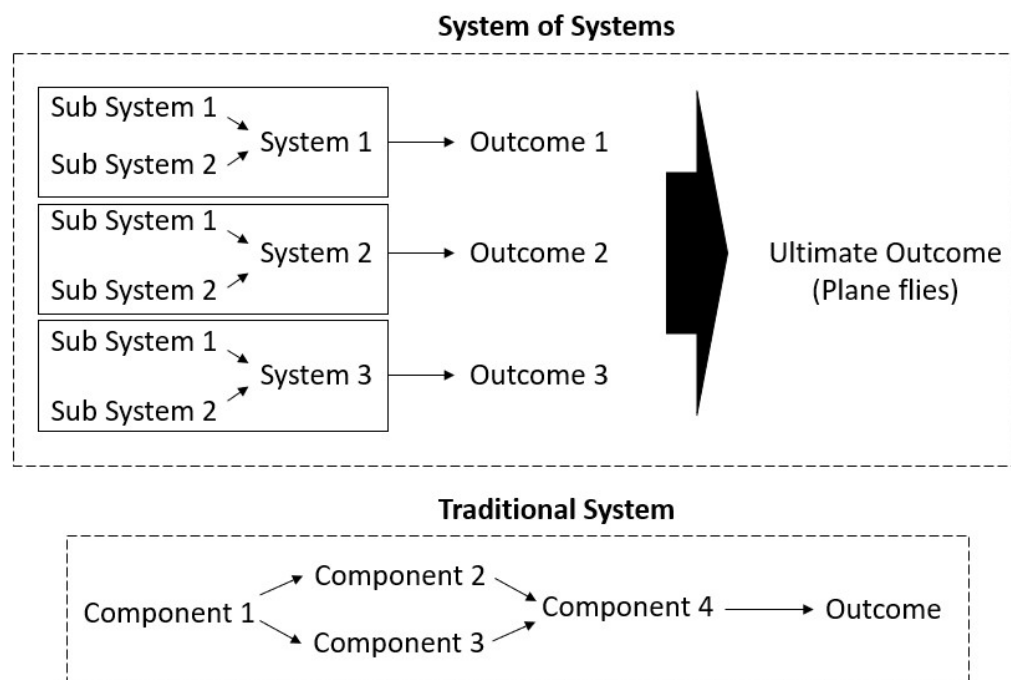


Figure 14. SoS consists of individual systems and their outcomes fulfil the goal of the entire system of systems, whereas a traditional system consists of parts that accomplish a single outcome.

Figure 14 also portrays the complexity of SoS because behind each system is an individual supply chain. Each system has an individual way of working linked to its own knowledge and skills requirements for operating it. This has led to a market for companies that can integrate individual systems to produce system of systems for a wanted process, such as manufacturing. These companies are referred to as system integrators and whose role can be defined as:

“responsible for designing and integrating externally supplied product and service components into a system for an individual customer” (Page & Siemplenski 1990)

System integrators perform the same actions as system sellers except they need to recognize all of their individual potentials to fulfil their customers' needs. Davis et al. (2007) highlight that system integrators are not just component assemblers. They are in charge of designing the general system, selecting the right components and systems from external suppliers, coordination of external suppliers and the development of technological knowledge for the upcoming system (Davis et al. 2007). Open standards and modularity have become popular in the manufacturing industry which has further allowed companies to specialise in component and system integration.

System integrators create value for customers by matching external suppliers' deliveries to customer needs. They have deep knowledge of different systems and sub-systems which allow them to quickly match systems to customer needs. System integrators have skill on applications in certain industries which has accumulated over a time period and gives them an advantage over new players in the field whom do not own the same level of expertise. Koskinen (2012) states that measuring a system integrator's benefits to different stakeholders is difficult due to the roles and responsibilities of all stakeholders being often blurry in a project. However, system integrators tend to have knowledge of a large number of systems, which means customers do not need to familiarise themselves with all the possible systems. System integrators can also handle communications with the external suppliers which saves time from the customer. Figure 15 portrays an example chain of communication with and without the presence of a system integrator.

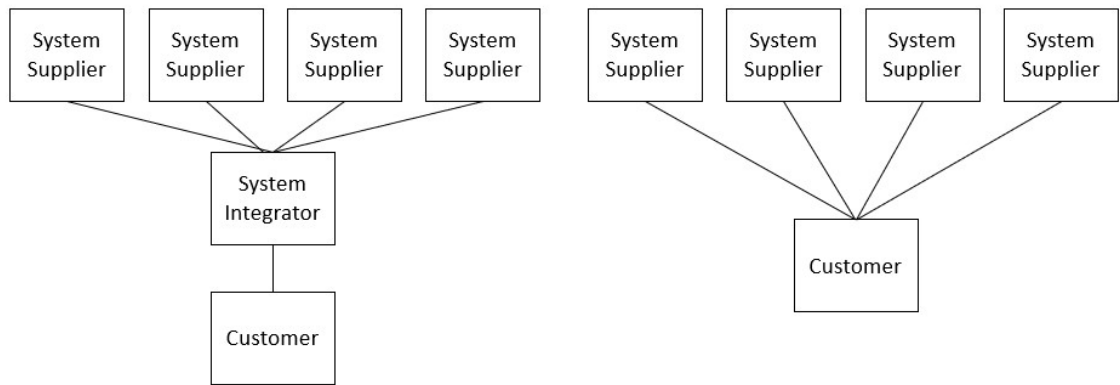


Figure 15. *Chain of communication between suppliers and the customer with and without a system integrator.* (Modified from Davies et al. 2007)

Using a system integrator can be considered to lower the acquisition costs related to administrative costs leading up to procurement of a component or system, which in turn creates value to the customer (Davies et al. 2005). This is due to the reduced communication that is required by the customer. Also, there are fewer knowledge requirements for the customer as the system integrator has superior knowledge of different sub-systems. Another benefit to the customer is that the system integrator holds the risks and responsibilities of the customer when making the system (Davies et al. 2005).

Projects are becoming increasingly complex and have opened a new market for system integrators who aim to integrate different systems into a system of systems. System integrators bring benefits to customers as system integrators hold superior knowledge that can be used to design and implement systems such as manufacturing plants.

3.3 Knowledge Integration of Systems

The previous authors identified that an important part of system integrators' value comes from their knowledge of sub-systems. System integrators need to be the connector between sub-systems and create links to make the different sub-systems work collaboratively (Holland 1998). Understanding each sub-system requires thorough knowledge but integrating these together to form a system which works for a common goal is difficult. Koskinen (2012) identifies knowledge integration as accessing, leveraging, sharing and maintaining knowledge for the benefit of project implementation. As shown previously in Figure 15, system integrators are required to combine information and knowledge from

different suppliers and coordinate with them to achieve the goal of the project. Knowledge integration in projects relies on communication between all parties of the system and is often disturbed by physical distance, language barriers, technological infrastructure differences and work norms (David et al. 2008; Barczak & McDonough 2003).

For system integrators to provide value to their customers with their solutions-focused projects they need a thorough understanding of the customer's needs (Davies et al. 2005). System integrators are responsible for creating unique benefits to customers through combining products and services from suppliers and this can be difficult if the needs of the customer are not understood (Davies et al. 2005). Each encounter is special which requires system integrators to tailor each product and service's offering to meet the wanted outcome rather than offer ready solutions.

Davies et al. (2005) state that system integrators need to take into consideration the lifetime costs of all solutions when evaluating each contract. This has led to value-based pricing where system integrators take more financial risk and pay for parts of the up-front costs. In return, they gain parts of the gains from the solutions they created. This shows that system integrators need to be looking at the big picture and integrating numerous different types of knowledge together to form effective solutions that fulfil customer needs.

In solutions projects the integrator usually manages, resources, supports and improves the delivery throughout its lifetime (Davies et al. 2005). This allows for system integrators to get an insight into their customers' operations. This access to critical information allows them to improve their service for them, but also future projects. Issues that arise are also interesting for the suppliers as they can use them to better their offerings and hence improve their competitive advantage. System integrators can use these issues to gain new knowledge from upstream players that will enable them to perform better and add value to their customers downstream.

Davies et al. (2005) argue that system integrators need skills and knowledge in certain areas in order to effectively cover each solutions life cycle. These topics are:

- **Key account management:**

Knowledge of their customer's markets that will give them an understanding of their operations. Knowledge of their customer's processes also enable them to anticipate future projects and allows a system integrator to provide better service to other customers.

- **Risk analysis and management:**

Identifying, evaluating and managing risks enables system integrators to provide more reliable and risk safe solutions where they have been able to consider risks from short-term to long-term.

- **Financial acumen:**

Understanding cost and revenue structures allow for more thorough project effectiveness evaluation but also enables the continuous running of the business.

- **Legal skills:**

Developing legal skills enables better contracting, agreements, risk mitigation, and intellectual property. This also keeps the system provider up to date on changing legislations and regulations regarding their industry.

- **Information management:**

System integrators manage a lot of information and need effective ways of managing it throughout the organization to gain its true benefits and prevent information from getting lost or turning obsolete.

- **Innovation management:**

System integrator's operations conform to unique solutions making it crucial to be informed of upcoming technologies that can be utilised in future projects.

- **Portfolio management:**

Ability to assemble and manage partners that can be used in projects. Having a wide range of partners to choose from enables system integrators to fulfil their customers' needs more accurately.

- **Communication:**

As identified before, communication between system integrator and the suppliers and the customer is very important to achieve the common goal.

- **Product and service mix**

System integrators need a wide knowledge of different products and services in order to accurately provide solutions to their customers.

System integrators who acquire and/or develop these skills and knowledge have full coverage of product and service life cycles that allow them to effectively provide solutions to

their customers (Davies et al. 2005). System integrators operate in a changing environment and have to be able to learn, change and renew structures and skills depending on customer demands.

System integrators' value creation revolves around knowledge and skills. The necessary skills and knowledge topic areas that allow them to operate effectively as a business, but also to carry out customer-centric services.

4. TRAINING MATERIAL

This chapter goes through training courses' objectives and creation process and introduces different types of trainings organizations have. Trainings' effects on organizations' operations is discussed and the new form of training, e-learning, is introduced and its effects are evaluated. Training material's capability to communicate value is discussed and how training material can be used to communicate value through system integrators.

4.1 Training

Change occurs constantly in companies and this leads to a changing need of employees' skills and knowledge. Certain employees will need to learn new skills or new knowledge, and some will need to adjust their previously learnt skills or knowledge to better adjust to the present. Management oversees adjusting a company's competence to meet market requirements for survival. A dynamic organization is better equipped to combat today's competitive markets (Kulkarni 2013). Companies can reach their wanted employee skill and knowledge levels through planned training efforts (Wexley 1984). Acemoglu & Pischke (1999) state that a skilled labour force is one of the engines for growth and allows companies to hit their performance. In 1912 Pigou claimed that firms would not be able to encourage training due to a lack of resources, whereas Paradise states that in 2006 over \$100 billion was invested by businesses in training and development. Today, training's benefits have been identified and companies are investing in intellectual and human capital (Petty & Gurthrie 2016).

Numerous authors have identified the significance of everyone's knowledge, skills, attitudes, and organizational knowledge and companies are starting to focus their efforts into developing them (Wright et al., 1994; Kamoche, 1996; Barney and Wright, 1998). Through training, organizations are able to produce qualified, flexible and well-prepared employees (Bartel 1994). Figure 16 illustrates the factors that affect learning.

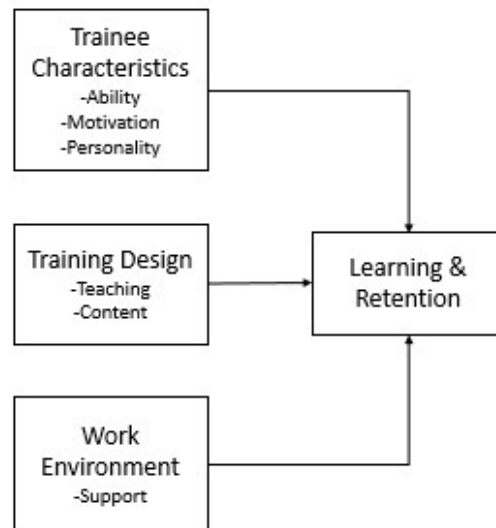


Figure 16. *Factors that affect learning.* (modified from Ford & Weissbein 1997)

Ford & Weissbein (1997) identify factors which affect a trainee's learning and retention. Trainee's own characteristics determine their ability and motivation to learn from certain types of training. Training design controls how trainees are able to learn depending on content and teaching. Also, the work environment plays a role in a trainee's learning since a working environment which supports training can facilitate one's learning.

Implementing training effectively requires a systematic process that starts with thorough planning in order to maximise the benefits gained. Kulkarni (2013) describes training to have four stages: needs assessment, designing, implementation, and evaluation. Hamza (2012) has instead separated design and implementation into three stages: design, development, and delivery. Both of the processes were combined to produce the process represented in Figure 17.

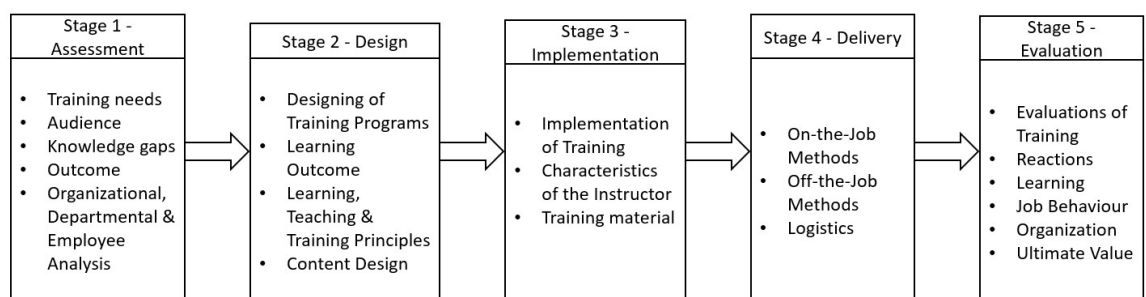


Figure 17. *Training implementation process.* (modified from Kulkarni 2013 and Hamza 2012)

Training starts with a needs analysis where management is responsible for identifying the key topic areas to be covered, best practice for implementation and who will participate. Topic areas should be selected to reflect the organization's goals and develop the participants' skills that will benefit the organization. To reach a desired level of skill it is important to start off by assessing the target audience's starting level. Determining the knowledge gap between the starting level and the desired level will help determine the level of training provided and the entirety of a training path. The size of the audience will also determine which implementation methods will be most effective since classroom training might not be optimal for re-educating an entire organization whereas a pre-recorded presentation can be used to reach a high number of people in a shorter time span.

Hamza (2012) identifies there to be four types of people when it comes to learning:

- Doer – prefers active learning activities and likes real-life applications.
- Feeler – focuses on emotions and feelings and prefers unstructured learning.
- Thinker – learns from logic and reasoning and enjoys independent work.
- Observer – learns from listening, watching and discovery and does not actively participate.

When designing training, it is important to take into consideration different learning types to effectively close the knowledge gap for everyone rather than only focus on a single learning mode which is only effective to some groups (Hamza 2012). Including different activities in a single training allows more learning types to benefit from a single training and is less resource intensive than creating own training courses for each type. This will be further discussed in section 3.2. Through an effective needs assessment, it is then possible to determine which methods should be used to help close the knowledge gap identified in the audience.

When developing training, it is important to make sure the training being developed will fulfil the previously made training objectives. A common method is drafting and piloting material and methods, but in the long run development can occur even after implementation in the evaluation phase. Implementation combines the developed training material and the training instructor who is in charge of getting the audience from a starting level to the desired level. Delivering training combines the logistics and methods of implementing training. After the training has been implemented, the effects of the training can be analysed. The evaluation process cannot be implemented immediately after the training unless the evaluation is in regard to the training implementation rather than the effects on the audience. Involving all these steps allows for a systematic development in a target audience's skills.

Training implementation methods can be divided into two groups: formal and informal training. Shown in Figure 18. Formal training is planned training that usually occurs outside of the normal working environment. Examples of formal training are conferences, videos, case studies, classroom training and eLearning. Formal training has a planned structure where an instructor is in charge of presenting training material to an audience to introduce new ideas and ways of operating to their audience. Formal training also focuses on teaching new information or knowledge rather than reflecting on work.

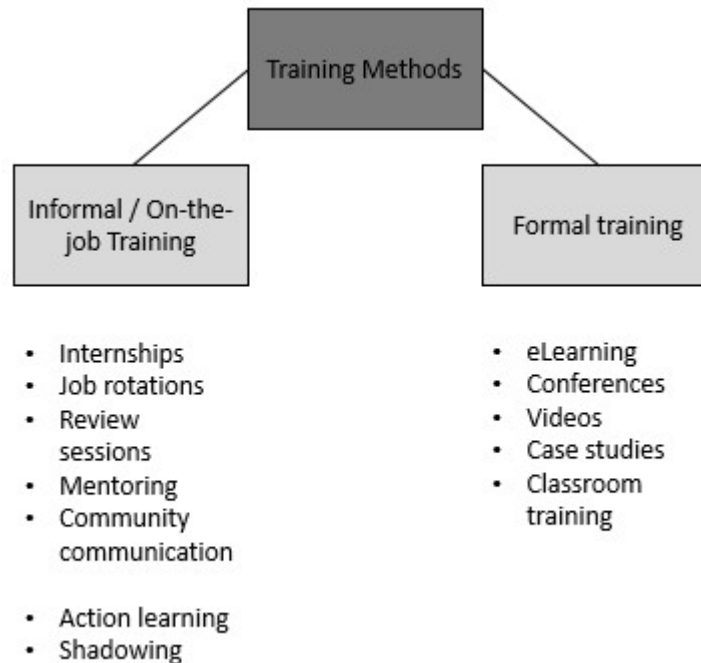


Figure 18. *Different types of training methods.* (Kulkarni 2013)

Informal training is more unstructured but should still be well organised in order to maximise training benefits. Informal training usually occurs within the trainees working environment. Examples of informal training are internships, job rotations, and review sessions. Most common informal training occurs when the trainee is doing his job normally and learns through reflections on experiences. This can be further facilitated by co-workers, taking the role of an instructor, who share their superior knowledge and skills. Although it is called informal training it is necessary to have a system for passing down information from a more experienced individual to another and to have constant reflections on one's actions.

Applying both formal and informal training to an individual enables them to learn more effectively from on-the-job training that occurs from normal operations. Many authors

have identified a 70-20-10 phenomenon between on-the-job, informal and formal training, portrayed in Figure 19, showing through which training type new skills and knowledge are attained (Hoyle 2013).

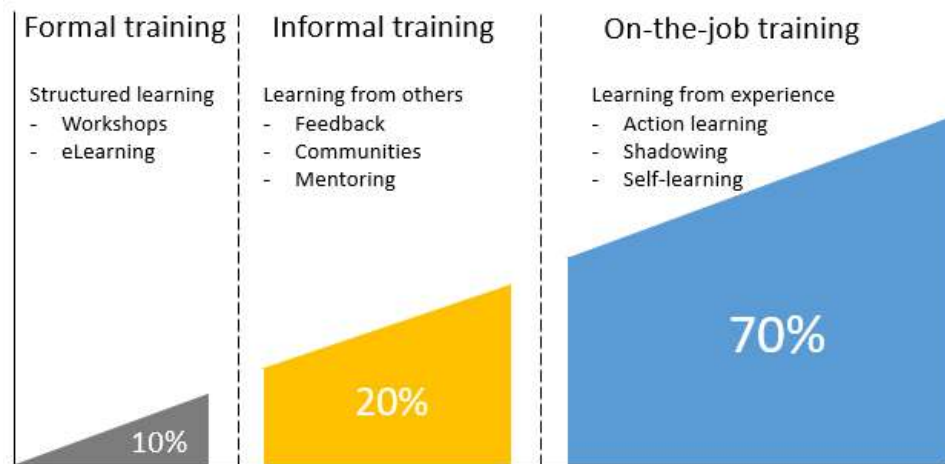


Figure 19. *Illustration of how much people learn from different types of training.* (modified from Hoyle 2013)

Although a clear majority of learning occurs during on-the-job training, the other two types of training are essential for the overall success (Eichinger & Lombardo 1987). Hoyle (2013) states that many organisations neglect the importance of formal and informal training because on-the-job training leads to most learning. However, in order for on-the-job training to lead to learning the first two forms of training need to be effectively implemented. Formal training is meant to introduce new ideas to trainees which will enable them to develop their skills through informal training, such as feedback and self-learning through action learning. Hoyle (2013) states that a failure to implement the previous training before on-the-job training will lead to unstructured learning with unexpected results. Kolb's learning cycle portrays the process of on-the-job learning, as shown in Figure 20.

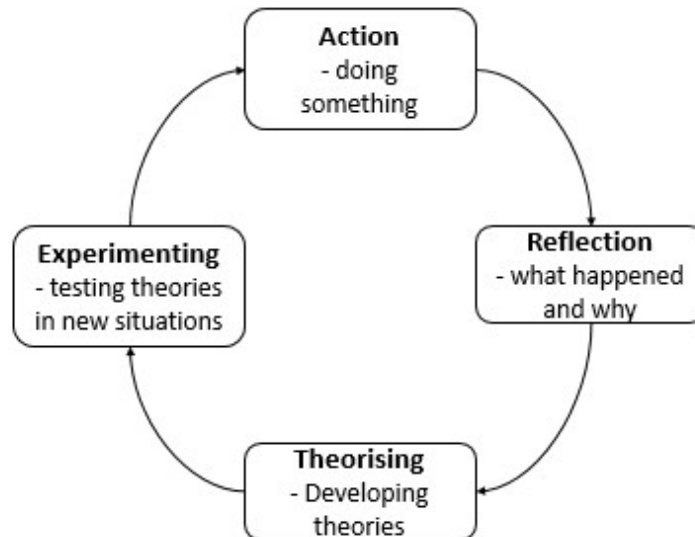


Figure 20. *Process cycle of on-the-job learning.* (modified from Hoyle 2013)

The learning cycle starts with the trainee carrying out an action which creates an experience. To learn from these experiences, one needs to reflect on them and carry out a deductive cause and effect analysis to understand the experience. From these analyses, it is possible to form theories for causality which can be tested in new situations to concretise them.

Training is used by organisations to maintain their workforce competitive in changing today's changing business environment. Different training methods have unique benefits, but they should all be used in moderation to gain absolute benefits of training.

4.2 E-Learning as Training Material

Training material needs to be matched to the training audience to promote learning in training. Hamza (2012) states that training material needs to take into consideration the audience's experience, culture, education, location, motivation, and constraints. This enables the audience to maximise the benefits from the training hence gaining the most value. Making training too easy will undermine the trainees and cause them to lose their motivation. Repeating already known information can be beneficial to a trainee but can also lead to dissatisfaction and loss of motivation. As identified earlier it is important to

take into consideration audiences learning type when designing training. Providing different types of training will allow for each type to choose their preference but it is important to include activities for all types in when creating a general training.

Different types of training material have different benefits and possess characteristics that make them more attractive to certain learner types. Most common training materials are discussed below.

Video – Pre-recorded video that goes over a topic area which can be accessed through a computer. This allows trainees to go over the topic area as many times as necessary without needing an instructor. Videos have a fixed production cost which leads to lower costs over time. Videos can be made interactive through tasks, but there is no guarantee to keep trainees motivated. However, videos can transfer knowledge visually and vocally making it an effective form of training material. If a need for training arises and there is a video already made it means that the trainee can participate in the training very quickly. There is no human contact in this training, which leads to difficulties if the trainee is unable to understand the material.

Classroom – Traditional form of training in a classroom with an instructor who is an expert in the topic area. Classroom training is very flexible because the instructor can adjust the training to the audience and their different characteristics, for example, experience and motivation. An instructor can explain topics which are unclear to the audience and can answer their questions. However, classroom training takes time to organise and has a limited capacity. Classroom training is preferred by many due to the human interaction that takes place. On the other hand, classroom training has been deemed inefficient in some cases. This is because the quality of the training relies on the instructor's skills and knowledge. Classroom training is more resource intensive as it occupies work time from multiple individuals because it requires them to be physically present. Classroom training usually requires trainees to prepare for the class by doing pre-assignments, but these are not always completed and leads to less efficient learning.

Webinar – An online classroom where trainees can participate from different locations and interact with the instructor. Webinar combines the benefits of classroom training and removes the constraints of logistics. This still requires trainees to sacrifice work time but does not require them to be physically present. This also allows different people from all over the world to interact with each other and learn from one another. Trainees can also address questions to the instructor if they had difficulty understanding, but again the quality of the training revolves around the instructor's skills and knowledge. Webinar also

has pre-assignments which are meant to be done beforehand in order to fully capitalise the benefits of the training.

Information document – Traditional way to transfer knowledge is through documents which contain information. This is a very cost-effective method of sharing information and knowledge due to the low production cost and distribution cost. However, it can be difficult to transfer complex information through this method because the only available medium is visual. If the document is not designed to make it captivating, trainees are less likely to use it or be motivated to focus on the information on it. Information documents are perceived as old and are usually disregarded as the primary source of information. They are most notably used to summarise or remind trainees of key pieces of information previously learnt.

PowerPoint presentation – Presentation containing information that can be presented during training, but also shared online to make it more easily accessible to everyone. This allows for classroom training to be shared to a larger audience, but PowerPoint presentations lack the interaction which is present in classrooms. PowerPoints usually have limited information on them which can make it difficult for trainees to grasp the entirety of the topic by using only the slides present in the presentation. PowerPoints are also very cost-effective but are more effective at transferring knowledge than information documents since PowerPoints can be made more interactive.

E-learning is used to describe training which can be done remotely through a computer. From the previous list of training material PowerPoint presentations, information documents, videos, and webinars can be classified as e-learning. Welsh et al. (2003) emphasises that different forms of e-learning are more sophisticated than others and this correlates with learning efficiency. More sophisticated E-learning applications can have a combination of videos, tasks, and information to interact with the trainee and allow them to better understand the topic area. Hall (1997) states that trainees typically want more interactivity in training material which is provided on the internet. This has caused simple PowerPoint presentations to evolve into interactive webinars that have been proven to be more effective than traditional classroom training. Zhang et al. (2004) also identified that the main reason was that trainees were able to go back to the material if they did not understand and were too shy to ask the instructor to go over the topic again. Other benefits of e-learning include:

1. Consistent worldwide training

E-learning reduces the training quality's variance between different locations by providing each location with the same training. This also reduces the workload from individual locations (Welsh et al. 2003).

2. Reduced delivery time

E-learning can be used to distribute it to large audiences in a short time span. In comparison to training 20 people in a classroom, online training can train thousands in a few weeks (Welsh et al. 2003).

3. Learner convenience

All employees can participate in training regardless of their workload, location or working hours. Training is available all the time and can be accessed when most convenient rather than missing an important training due to preoccupations (Welsh et al. 2003).

4. Reduced information overload

Employees have a growing amount of information they are required to learn which can lead to very information packed training. This leads to less information retention hence inefficient training. E-learning allows information to be split into smaller portions which can be delivered over a longer time span which strains the employee less (Welsh et al. 2003).

5. Learning tracking

Organizations can track who has completed which training and can track how their scores have developed. This allows organizations to upkeep their standards by making sure all employees complete mandatory training, such as safety training (Welsh et al. 2003).

6. Reduced costs

Providing remote training reduces logistics costs and classroom costs associated with off-the-job training. This reduces each employee's downtime and improves E-learning's cost-effectiveness (Welsh et al. 2003).

Although E-learning's benefits have been identified by multiple studies it does have its downsides (Zhang et al. 2004). Welsh et al. (2003) emphasise that in order to gain benefits from e-learning there needs to be thorough planning and investment into training

design, information technology infrastructure, and change management. Design implicates whether or not employees will be able to use the training material and if it is addressed to the correct audience. Information infrastructure has to be sufficiently resourced to provide the required software and hardware to operate online training. Change management will ensure that online training has senior management's support and prepares the organization for a new form of training. Dobbs (2002) states that senior management commonly misunderstands that E-learning needs to collect practice feedback and provide guidance for further learning and not just share information. Howard (1998) highlights the importance of effort and planning in the success of E-learning. A major drawback for E-learning is its production costs which consist of designing and implementing training material and providing the necessary information technology infrastructure to operate online training.

E-learning has higher set-up costs and can have higher production costs due to the high effort and planning that is essential for its success. E-learning also has maintenance costs that are associated with the software and hardware investments which make online training possible (Zhang et al. 2004). This means that companies need to invest more into creating e-learning training courses and need to pay more to allow people to continuously use the training courses. However, training per user is much lower for E-learning in the long run because it can reach numerous individuals in its life span whereas traditional training has a limited capacity per session. Once the training course is available online any number of individuals can partake in the course without limitations. Although E-learning is more beneficial in the long run but Welsh et al. (2003) argued that E-learning should not replace traditional training completely but should be used to provide a consistent training standard throughout an organization with traditional training patching up topic areas which require extra attention.

Online learning faces additional challenges because some people have computer anxiety that makes them more likely to resist using computers and more likely to prefer classroom training (Kernan & Howard 1990). Long et al. (2008) stated that computer anxiety negatively affects an individual's motivation to perform in training. This made trainees prefer traditional classroom teaching and reject training that needed the use of a computer. However, this can be countered with trainees sharing their reactions. Long et al. (2008) found that trainees who had good experiences with online training could help communicate the value of training to other employees and make them more likely to partake in the training.

E-learning was identified to be an effective form of training material with unique benefits that make it great for larger international organisations. E-learning's largest drawback is its expensive setup costs but offers cost efficiency in the long-run.

4.3 Training Material to Communicate Value

Evaluating a training's value has been a problem for companies as they have not been able to determine the benefits they are receiving for their investments in training. Aragon-Sanchez et al. (2003) also state that many companies accept the benefits of training, but do not understand the value-adding process in training.

However, these benefits will be mitigated if the training is not able to reach the hoped outcome (Long et al. 2008). To assess the value created by training, it is essential to evaluate training. Evaluating training helps determine whether to continue offering a specific training program, to develop future programs and to validate the results of training (Kirkpatrick 1996). Alvarez et al. (2004) define training evaluation as a methodological comparison of predefined desired outcomes and occurred outcomes. It is not easy in all instances to give simple criteria for training. However, Edens & Bell (2003) highlight the importance of needs assessment to successfully evaluate training. Clear needs assessment clarifies the desired outcome which enables creating concrete evaluation criteria. Knowing what the training is designed to solve makes it easier to evaluate it later if the desired changes take place, for example, a reduction in absenteeism.

Kirkpatrick (1959) introduced a four-level model for training evaluation where training could be evaluated in four different categories: (1) trainee reactions, (2) knowledge or skills, (3) behaviour or (4) tangible indicators such as turnover or accidents. Training reactions evaluate a trainee's immediate reactions to the training regarding different characteristics, such as the instructor's skills or personality (Kirkpatrick 1996). Knowledge and skill developments track a trainee's advancement after a training event by a test (Plank & Ryan). The behavioural evaluation aims to identify changes in performance and attitudes after a training event (Truelove 1997). Tangible indicator developments are hard indicators showing business results for example productivity increase. Reactions and knowledge developments are recorded more frequently and give data faster than behavioural and tangible indicators (Sugrue 2003). In all cases, it is important to have a recorded starting level that can be used for comparison. This four-level model

has been praised for its simplicity and functionality and is still used with little modifications (Long et al. 2008). When training gets positive reactions from trainees, they are more likely to complete the training and reach the desired outcome. Positive reactions can improve an individual's perceived benefits of training and make them more likely to participate in courses in the future. Sharing trainee reactions encourages more people to participate in training. Figure 21 illustrates how training reactions affect the training outcome.

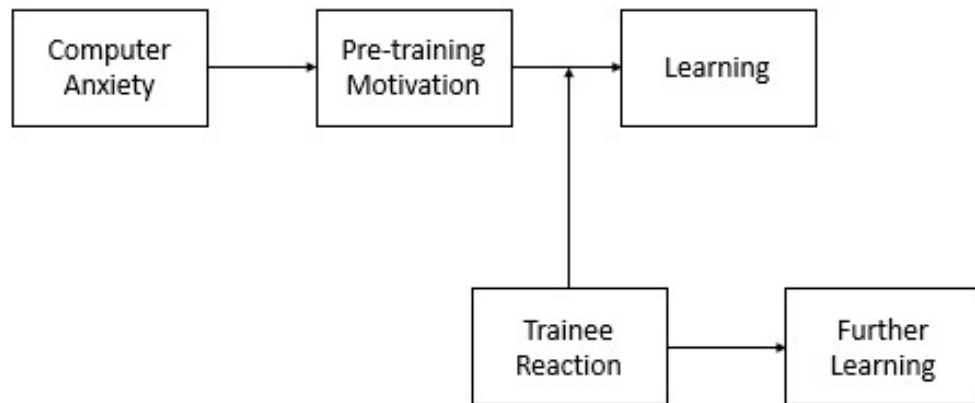


Figure 21. *Illustration of a trainee reaction's effect on trainee's learning experience.* (modified from Long et al. 2008)

Kirkpatrick (1996) criticises that managers often focus their efforts into evaluating tangible indicators even though all of them are important. Figure 21 shows how positive trainee reactions can turn a hesitating trainee's experience into a positive one and how positive reactions help distribute the training inside an organization. Positively reacted trainees are more likely to keep taking online training and keep learning.

Sun et al. (2006) introduce course completion rate as an indicator of training effectiveness. Dropout rates are one of the biggest problems organizations are facing in online training (Frankola 2001). This is mainly due to the increased learner control which leads to discontinuation of a course if they lose their motivation. The more trainees that complete a training they have started implies that the training has been perceived as useful and has led to learning. When a course has a lower completion rate it means it needs to be developed to better meet its audiences training needs to motivate them to complete it (Sun et al. 2006).

As identified earlier, the value is a comparison of expectations and experiences and when trainees partake in training, they expect to reach a certain level of knowledge or skill by the end. Training which fails to resolve a problem it was created for causes dissatisfaction and limits value created. Presence and absence of certain characteristics

determine the effectiveness of training on an individual and hence their reaction to it. However, some benefits of training are not observable until after some time after completing training. This means that an individual's perceived value of training may continue to rise over time making it difficult to analyse their absolute perceived value. According to Kano's model identifying the key characteristics will enable a company to optimise its value creation by systematically improving training's characteristics from dissatisfiers to delighters. Figure 22 illustrates how training benefits are observed by an individual.

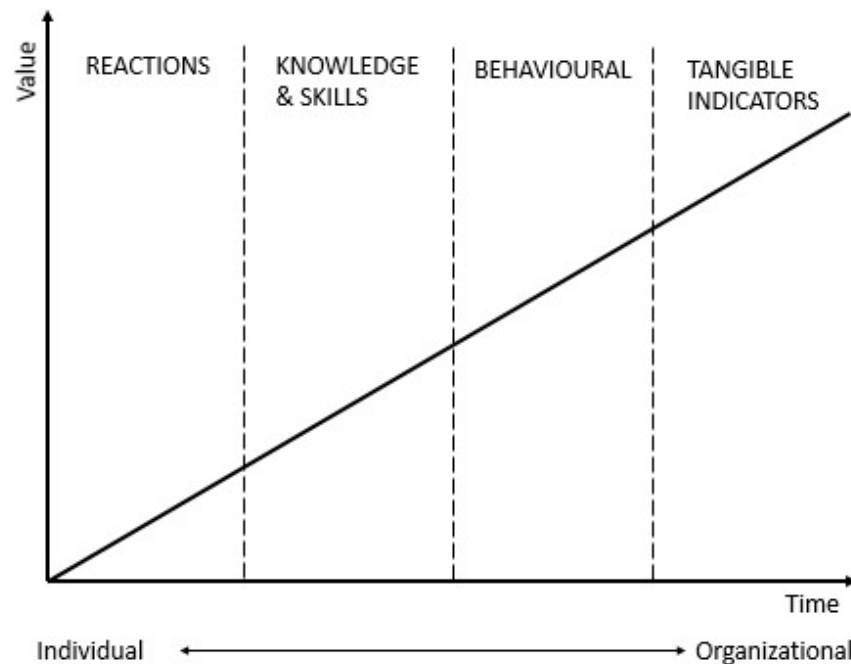


Figure 22. *Different value indicators can be observed after different times with more valuable indicators emerging later in time.*

Lower level value, reactions, and knowledge perceived by trainees are immediate and an important part of helping distribute the training's benefits to other individuals. This value affects future attitudes towards training and helps develop it in the desired direction. Higher level value, behavioural and tangible indicators, perceived is more influential on an organizational level where it is used to validate the use of training to improve human capital. These values are observable to individuals as well and in the long run positive results increase perceived value. Higher level indicators are important to motivate higher management to keep investing in training whereas lower level indicators help motivate employees to partake in training.

Importance of training evaluation has been identified and multiple methods for effective training evaluation have been discussed to conclude that multiple indicators are required to satisfy different stakeholders interested in training.

4.4 Communicating Value to System Integrators through Training Material

Organizations have, for a long time, been training their employees to improve profitability and customer satisfaction. However, Llopis et al. (2006) introduce the idea of training customers to better understand the value created by the supplier. Customers need to feel more than just customers in order to benefit from training. Once the necessary connection has been developed then customers will benefit from knowledge and skills training. By increasing customer knowledge of the supplier's products or services, it can lead to higher perceived value. These training further customers' understanding of the supplier's operations and deliver a more accurate value proposition to its customers.

System integrators were identified to design solutions starting from customer needs and working upstream to integrate products and services to form the entity. Due to this, it is important for them to be up to date with their product and service mix in order to have the ability to accurately offer solutions. Suppliers have been training intermediaries to better represent their added value to their customers.

Suppliers are training customers to help them guide their customers into buying the right product by improving the intermediary's knowledge of the supplier's products. This increases the end customer's perceived customer value and allows the rest of the supply chain to benefit from it. Training also makes sure that the end user gets the experience the supplier has designed by educating the intermediary to operate the supplier's products correctly. This makes sure that the customer again receives the value that was intended by the supplier. This added value can also be used to gain new benefits for the supply chain. Importantly, these training courses allow intermediaries who are in contact with end users to give feedback to suppliers on possible new changes and new needs. This allows suppliers to adjust their operations to new needs and capitalise new business if a possibility arises.

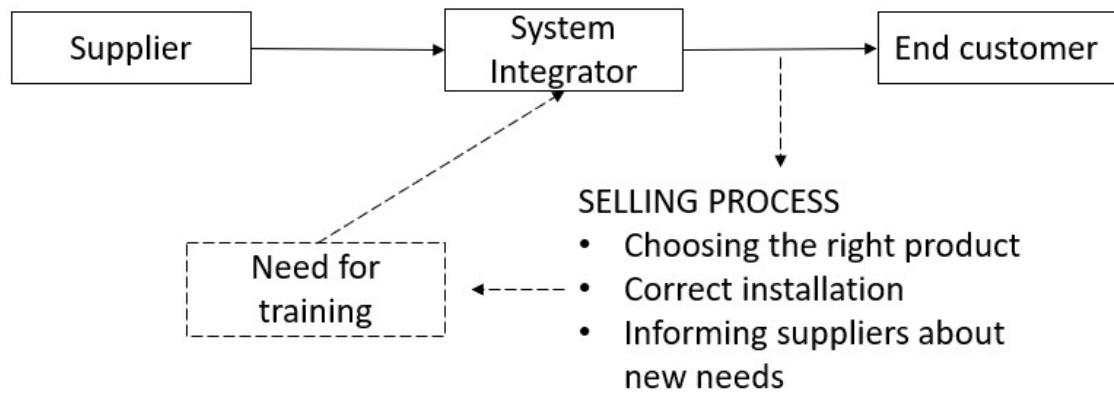


Figure 23. *Training system integrators allow them to serve end customer's better which benefits the rest of the supply chain.* (modified from Llopis et al. 2006)

By intercepting the sale process the system integrator can gain insight into the supplier's and customer's operations allowing them to receive information about new business opportunities that could be available. System integrators represent numerous brands and should choose the one that best suits the customer's needs (Llopis et al. 2006). Although a supplier might be better in terms of quality a competitor's lower prices can make it a more attractive option. Therefore, it is important to educate customers on the supplier's higher quality and innovative characteristics which create more value for the customer (Llopis et al. 2006). Once the customer has a more thorough understanding of a specific supplier's offering it increases their competitive advantage over the alternatives which the integrator represents (Canning 1993). This means that system integrators are readier to represent companies and their products which they are more familiar with. This brings them comfort in the sales situation as they have greater knowledge of the product and its functions. This allows the system integrator to communicate the supplier's value to the end customer more effectively and accurately meaning the customer will not disregard the supplier's offering due to misconceptions in their abilities. This is portrayed in Figure 23. The benefits and costs to different parts of the supply chain are summarised in Figure 24.

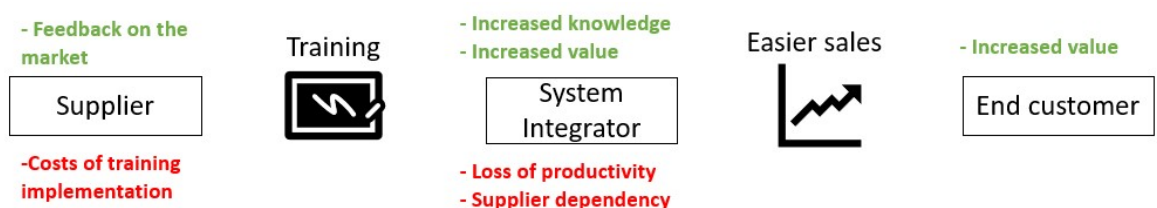


Figure 24. *Portrayal of benefits and costs of different actors in a supply chain when a supplier providing training to system integrators.*

Creating training that benefits the system integrator increases their customer satisfaction and can turn into customer loyalty. This increased value enables them to operate more effectively with more knowledge on the product and service mix that can be translated into higher customer value to the end customer. The system integrator needs to bear the sacrifices of training, but ultimately will benefit. Creating more perceived customer value makes the supplier's offering more competitive and attractive to the customer. Higher customer value should enable the supplier to sell more of its products to end customers. This way the benefits of higher perceived customer value at the end customer can be transferred further upstream the supply chain. Figure 25 portrays the proposed framework for creating customer loyalty from customer value and how training can be used to develop individual's understanding of a product or service to increase their perceived value.

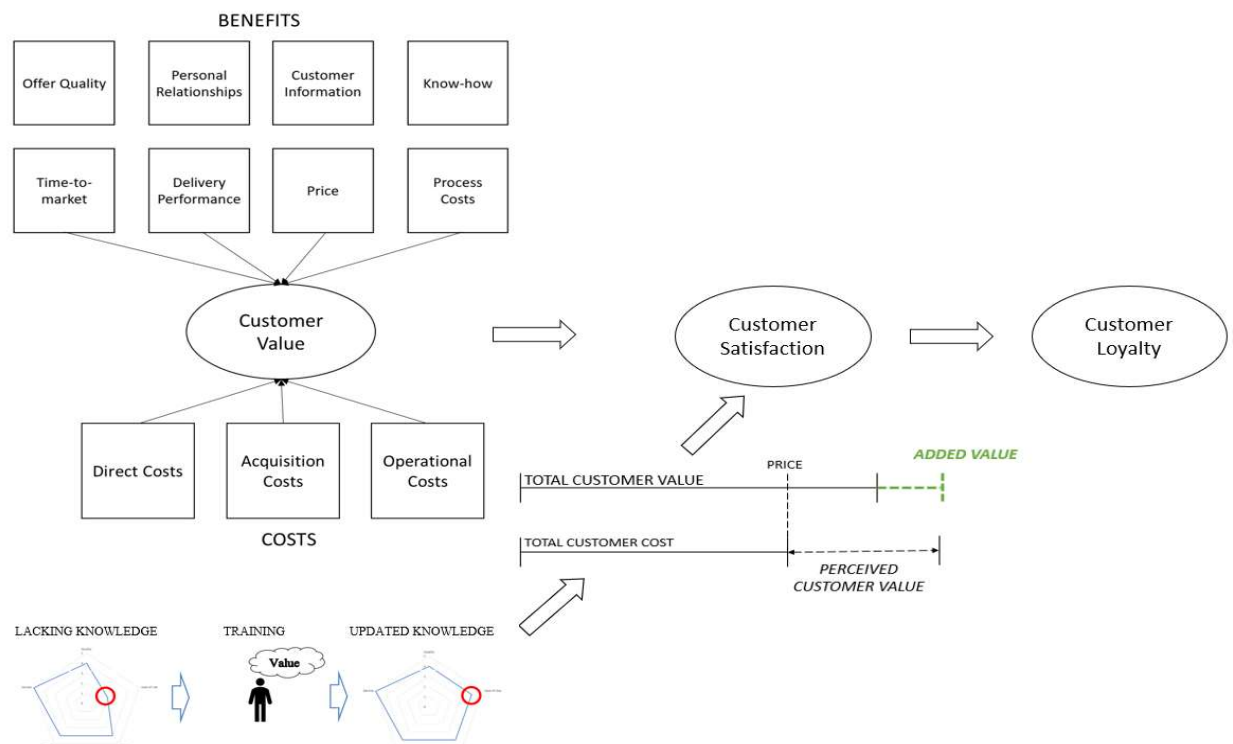


Figure 25. *Framework for creating customer value and loyalty through training.*

Identifying key areas where customers lack knowledge enables the supplier to create training courses to improve the customer's knowledge in the specific areas and ultimately increase the customer value they perceive from the product or service (Canning 1993). If a customer is unaware of a certain function of a product or service, it is not possible for that customer to perceive value from it. It is also possible that the customer perceives

value from a function but is unaware that the function is not universally available. Increasing the customer's understanding of the value can improve their perceived customer value and consequently increase their satisfaction towards the supplier.

Training customers have benefits for the entire supply chain, but its effectiveness is difficult to measure. Although it brings benefits to all parties, the customer's willingness is questionable as customers do not always trust other companies to think about the best option for other companies.

5. THE CASE COMPANY

This chapter introduces the operating environment of the case company and the current situation of the case company to give a vague portrayal of the main issues the company has run into. The desired outcome is also discussed to give reason to decisions and recommendations made.

5.1 Industrial Robotics

Since 1970s, automation has been very common in manufacturing. Automation started off with replacing simple straining monotonous tasks but nowadays is used for even complex tasks which have allowed companies to implement products and services that before were not possible or profitable to do. Automation's benefits were identified early on and allowed it to develop to what it is today. Today automation is practised in almost all industries due to the competitive advantage that it brings.

With electrification, robots have become a key part of automation. Industrial robots are robot systems used in automated manufacturing and are often designed to carry out a specific task, such as welding, painting, palletizing or material handling. Several different industrial robots are introduced in Figure 26.



Figure 26. *Common industrial robot types (from left 6 axis, scara, collaborative robot). (IFR 2018)*

Industrial robots have multiple joints which allow them to move in multiple plains if necessary. Robots can be categorised based on their reach (operating zone), payload (maximum weight capacity), applications (tasks used for) and design (size and attachment

mechanism). Each of these attributes can make a certain robot favourable in certain situations over others and creates demand for robots to fit each different scenario.

In 2017, it was estimated that there were 2.1 million active industrial robots worldwide with an estimate for annual worldwide shipments of industrial robots coming to 381,000 units (IFR 2018). The number of industrial robots sold has been rising for the last 8 years and is expected to rise due to the trend towards automation, which is supported by the desire for innovative technical improvements in robots. Robots are being used for an increasing number of tasks which creates demand for new robots with new capabilities. Currently, the largest industries are automotive and electrical with the metal industry as third (IFR 2018).

The industrial robotics industry is expected to continue growing at an approximate rate of 30% due to the continuing trend of automation (IFR 2018). Technological advances in the area have allowed companies to produce new generations of robots that better fit their customers' needs and desires. For example, the new robots can utilise new materials and use them more efficiently. Also, new technologies have allowed robots to be made which can be used in collaboration with a human operator in the same space. The use of industrial robots in manufacturing has become mandatory in order to be able to survive in the competitive industry. Currently, 73% of all global sales occurred in China, Japan, South Korea, United States and Germany with a clear majority in Asia (IFR 2018). This geographical distribution can also be seen industrial robot manufacturers' origin countries as many of the larger manufacturers are of Asian origin.

Two large customer groups for industrial robots are system integrators and OEMs, who can for example combine robot systems to create a manufacturing process or create products. These types of customers are potential customers to the case company. A growing product offering can be time consuming to keep track of as a customer and this has opened new business opportunities for companies who specialise in the expertise of these products and help their customers implement their plans to the best of their abilities. This means that the system integrator who is in charge of implementing the customer's desires requires a lot of knowledge about the possibilities available on the market. Making sure that everything is compatible with each other and can cooperate without larger problems is one of the main roles of system integrators. System integrators need to be aware of each robot type's benefits in order to serve their customers most effectively. System integrators usually specialise to certain industries where they have high expertise in the possible applications available. OEMs can integrate robot systems for themselves or can purchase services from system integrators. They may produce only a part of a finished product which they sell forward to device manufacturers. In order

to create an effective manufacturing process, the OEM needs to be aware of the different technologies available and how they can be best utilised for their own benefit. Figure 27 portrays some forms of operations system integrators and OEM's carry out.

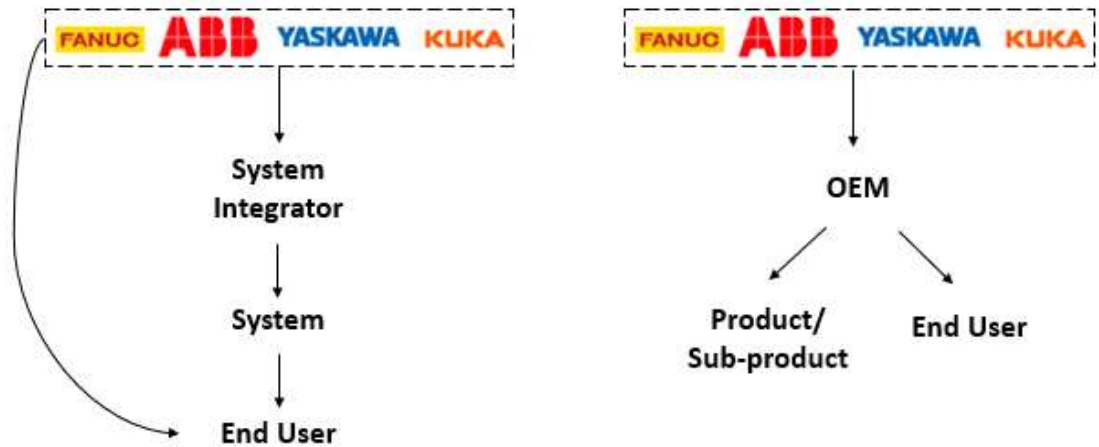


Figure 27. *Examples of OEM's and system integrator's operating methods and robot distribution.*

System integrators do not themselves obtain ownership of the robot systems but offer a finished solution to their customer or end user. OEMs create a manufacturing process from the available options to produce a product that it sells forward to other manufacturers. Figure 27 illustrates how system integrators work as an indirect sales channel. These forms of operations do not cover all bases of OEM or system integrator operations and only pose as examples.

5.2 Current Situation

OEMs and system integrators need to internalise high amounts of information about different suppliers' offerings and their product characteristics. In a highly competitive market, it can be difficult for a supplier to receive enough attention to present its value-adding properties. This can lead to system integrators or OEMs to miss some suppliers' added value and making that option look less competitive against the rest. Suppliers are reliant on system integrators and OEMs to understand their added value when deciding which supplier to do business with. There is no guarantee to system integrators or OEMs

knowledge on suppliers' attributes leading to suboptimal competition environment for the suppliers.

The current issue is ensuring that system integrators and OEMs acquire enough knowledge about the case company's robotics offering to fully understand its value-adding characteristics. Failure to fully understand the case company's robots' value leads to lower competitiveness, which is not desired.

The current system includes an online based training platform that offers courses from basic level to intermediate level. The other part of the current system is courses sold by the case company to their partners which have a clear focus on programming that allows them to troubleshoot their issues more independently. These courses tend to be traditional classroom courses and are locally organised.

The online based training platform has received critique from partners for being difficult to use and to navigate around in which has led to a smaller user base. When trying out a new service it is crucial to get positive experiences from its users to get them to come back and continue using it. Being unable to find what one is looking for with ease can cause a negative overall experience. The discomfort experienced by the platform users has discouraged the expansion of the platform and limits its potential to share information about the case company's robots offering.

The platforms failure to perform well has affected its natural diffusion negatively among the case company as well as its partners. The platform is available to all, but all the material is not openly available, and a request is needed to access the rest. However, there is no explanation for this system and worsens the ease to use. Accessing a specific course can be easy and lead to positive experiences, but people are not intrigued to find additional courses. The lack of diffusion has led to the platform not receiving publicity which in turn leaves many people unaware of its existence. Currently, there is no incentive for sharing the platform and there is no pull demand for it.

The material available on the online platform is well made to be clear and aesthetic. However, there is no systematic process for identifying specific needs for specific courses. Some of the courses are very similar to others which shows that there is no clear system for managing the courses. The courses have clear learning objectives which allow the user to know what they will learn during the course, but there is no statement regarding how it can benefit the participant other in addition to gaining general knowledge.

Since the case company's competitiveness relies on OEMs' and system integrators' understanding of the case company's value there should a way to monitor their dedication

to improving their knowledge of the case company's offering. The current partner network system encourages the case company's partners to cooperate with the case company, but there is no incorporation of training in the relationship. Also, the current system does not allow easy monitoring of how many people have partaken in a course.

5.3 Value Creation

This thesis presents the idea of increasing system integrators' and OEMs' expertise on the case company's robotics offering through training to improve the case company's competitive advantage over other suppliers. The current training platform has faced some critique which was introduced in the previous section.

Providing training to customers enables the case company to improve their brand and recognizability to the rest of the industry. Training on the case company's own robots would improve other parties' knowledge and capabilities with them and hence increase their value to them. Sales training, on the other hand, would help other parties down the supply chain sell more and consequently increase the case company's sales. This type of training would focus on improving other companies' performance in the hope that it will indirectly benefit the case company. In these cases, the effects take a long time to be observable and, in some cases, will be very difficult to measure. For example, effects on the brand are all intangible but in the long-run do bring benefits.

The main aim of the case company's training platform is to increase customer expertise through different types of training. Primarily, this will require customers' needs to be mapped in order to know which areas their expertise can be increased. It is also necessary to find out the best medium to use for transferring knowledge. This combined with interesting training topics will help motivate people to proactively look to improve themselves. Making the training material high quality and pleasing to the participant is crucial in creating positive reactions that help the training platform diffuse and be recommended to other people. By creating additional value to customers through training the case company can experience increased levels of supplier loyalty from their partners. The wanted outcome of the effective training platform is portrayed in Figure 28.

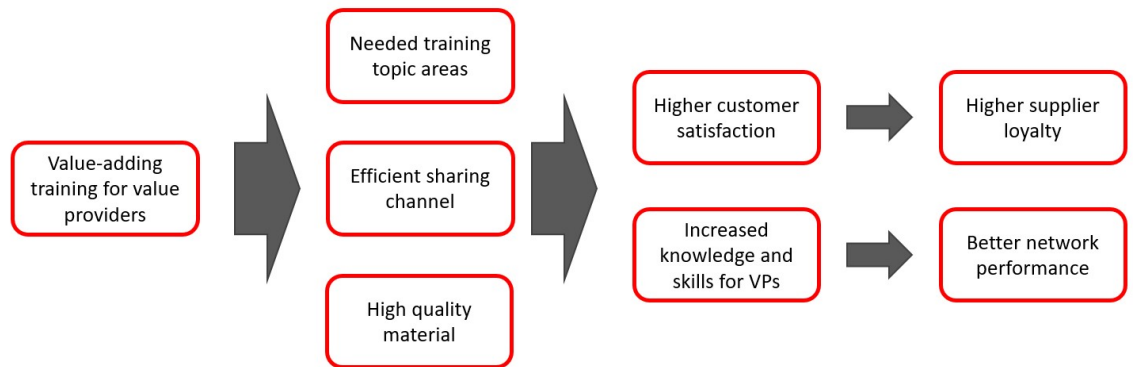


Figure 28. *Portrayal of the process of effective value communication through the use of training material.*

To summarise, the case company wants to create value-adding training material to their customers and partners which in turn increases their expertise and increases their satisfaction towards the case company. This increased expertise and satisfaction leads to higher supplier loyalty and higher network performance that leads to higher the case company's indirect sales.

6. SURVEY QUESTIONNAIRE

This chapter introduces the research process that was carried out to investigate how the case company could achieve their wanted outcome. From the survey questionnaire it was possible to depict an image of the current situation. The rest of the survey questionnaires findings are discussed, and the study's findings are shown.

6.1 Research process

After the objectives of the study were identified it was necessary to map the current situation with qualitative interviews and help with designing the survey questionnaire. The objectives are shown below.

- *Identify at least 3 top training priorities and needs for customers.*
- *Identify at least 3 most effective distribution channels for customers.*
- *Create an action plan for training program's smooth distribution to customers.*

Four interviews were carried out in two different rounds. The first round's objective was to create a picture of the current situation and start mapping the questions for the survey questionnaire. In the first round, one customer was interviewed to get an outside perspective into the situation and case company employee was interviewed to get an inside perspective. The customer interviewee was a CEO of a SME that works in the automated manufacturing industry. The customer had a close relationship with the case company and had experiences from a timespan of seven years. The interviewee was able to give insight into the needs of multiple levels of the organization from the sales people to the engineers.

The company interviewee was a head of sales of the robotics department. He had experience in the company from a timespan of 18 years and was able to comment on the different training needs of different positions.

Based on these interviews a survey questionnaire was created. The survey questionnaire aimed to identify key topics for training and the type of training that would be most effective at transferring information and knowledge. The survey questionnaire also captured a vague description of the respondents' demography. The second round of interviews aimed to make sure that the survey questionnaire would produce the wanted results and would allow the main objectives to be answered. In the first draft of the survey questionnaire it was identified that it did not create enough data on the reasoning behind each score. Additional questions were added to the interview structure to investigate different reasons for the given answers that would guide modifying the survey questionnaire's structure and questions. In the second round of interviews two the case company personnel were informally interviewed to evaluate the survey questionnaire's structure. Once the second round of interviews was done the survey questionnaire was refined to generate data on the reasoning behind scores.

In the end the survey questionnaire had 16 questions with 10 main questions and 6 sub-questions. The first three questions were designed to capture the demography of the respondent by asking their industry, how long they have worked there and their interactions with the case company. The next three main questions were designed to map the respondent's current knowledge of the case company's training opportunities available and how they could initially be improved. The next question mapped the respondent's ideal training's characteristics and what that person held most important when it comes to training. It was also important to get the respondents' views and opinions on training in general. After a few questions accomplished these goals the respondent's opinion was asked on training topics they held most beneficial to customers.

There were two survey questionnaires designed for two different segments, the case company personnel and customers. The objective was to get two perspectives on the issues and answers to get a more accurate depiction of the situation. The responses' origins are portrayed in Figure 29.

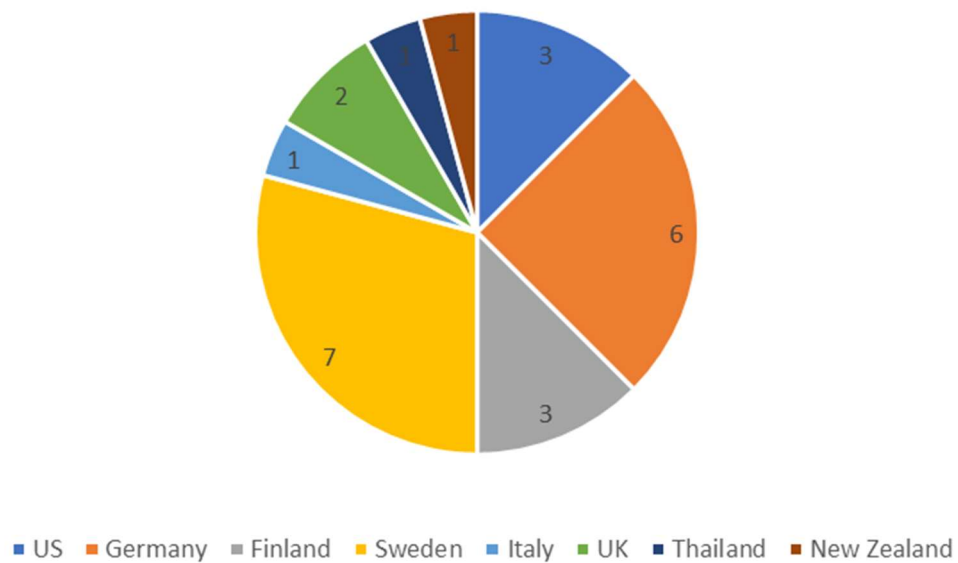


Figure 29. *Accumulated survey questionnaire responses from each country.*

With the survey questionnaires 10 the case company personnel were reached and 14 customers. These responses were from eight different countries: US, UK Germany, Finland, Sweden, Italy, Thailand and New Zealand. Germany and Sweden generated approximately half of the respondents and Finland and Italy made up a quarter of the responses. It needs to be taken into consideration where the results came from in order to see in which areas the results can be applied. In this case a clear majority of results came from western countries which have their own way of operating. This would mean that the results could not be applied to Africa without further analysis to make sure the same actions occur in both environments.

To get a more accurate picture of the customers' operating environments the respondents were asked to determine in which industry they were working in. This would help determine which products they are in contact with and to which customer segments the results can be applied to. Figure 30 presents the customer segment distribution in the respondents.

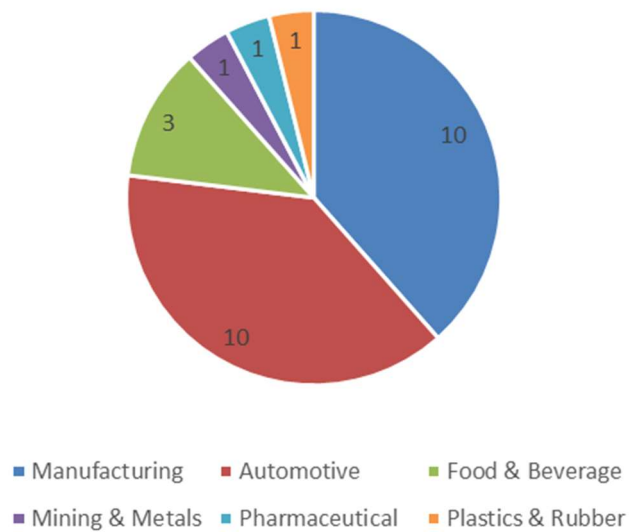


Figure 30. *Distribution of customer segments in respondents.*

Majority of the customers were from manufacturing and automotive industries with three respondents operating in food and beverages industry. There were also singular respondents from mining and metals, pharmaceutical and plastics and rubbers industries. This means that the results will be most applicable to the automotive and manufacturing industries where majority of the products are industrial robots. These industries are also equipped with more autonomous robots with different variants available that can raise different training needs compared to more complex machinery present in different industries.

The survey questionnaire asked the respondents to describe their relationship with the case company to get an idea about their supplier satisfaction and loyalty. Figure 31 shows the distribution of the case company's customer relationships on a scale from 1 to 5, 1 very bad and 5 excellent.

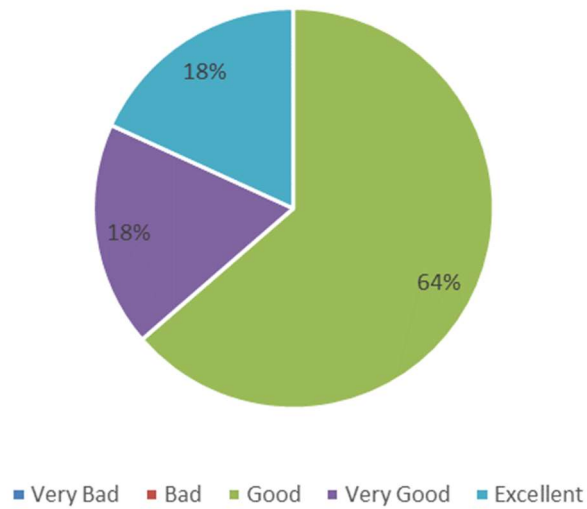


Figure 31. *Distribution of the case company's customer relationship satisfactions from the customers' point of view.*

All customers were happy with their relationship with the case company, which made it apparent that the training platform's performance has not affected their supplier image negatively. There were no mentions of any misdoings from the case company that would have affected their professional relationship negatively. This emphasises that the training platform is seen as a satisfier function, from the Kano's model, and can be used to create additional value to customers without the risk of damaging the case company's customer value.

It was important to study the occupational backgrounds of the respondents to understand to which departments the results could be applied to. By only reaching people from certain departments does not guarantee that the results of the study can be assumed apply in the entire organization. Figure 32 portrays the departments from which the respondents were from.

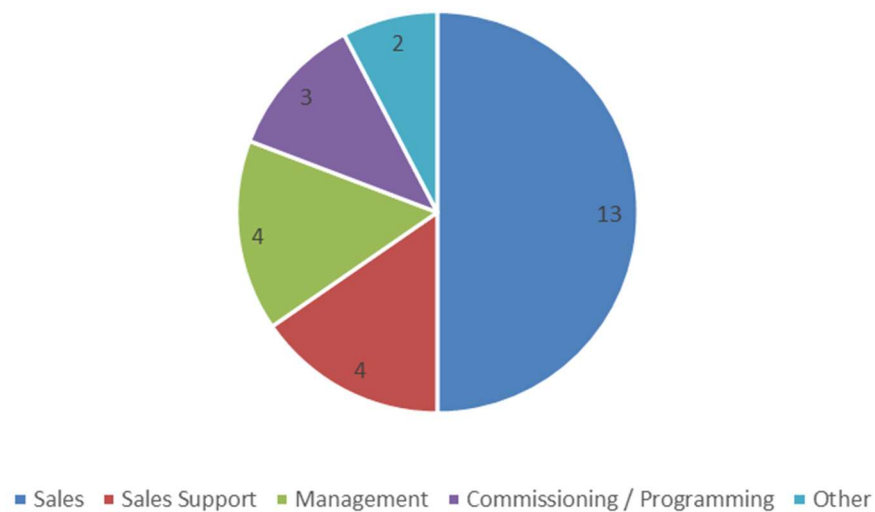


Figure 32. *Respondents' occupational background.*

Half of the respondents worked in sales and when combined with sales support the two groups occupied a majority. This means that the results will mostly reflect the views of sales and sales support personnel. However, there were also respondents from management and commissioning or programming. This means that the results will have views from the management and reflects their readiness to respond to the results. In decision-making it is crucial to take into consideration the large proportion of sales and sales support personnel to not automatically assume the same to apply to every other department as well. The results do not accurately demonstrate the true training needs of the entire organization.

6.2 Real Situation

Currently, the training platform is underperforming in the eyes of customers whereas it is working decently for the case company personnel. Figure 33 demonstrates the current training platform's recognizability by customers and the case company personnel.

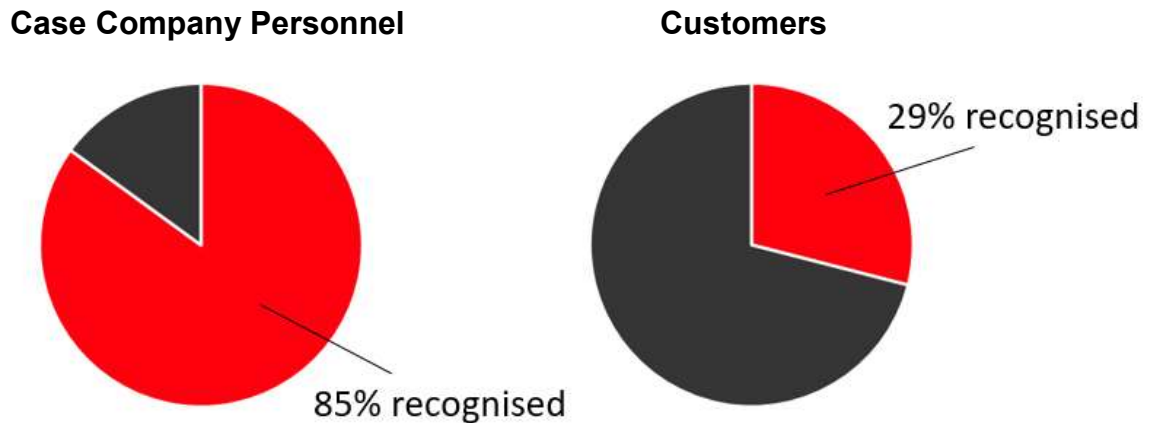


Figure 33. *The current training platform's recognizability by customers and the case company personnel.*

the case company personnel rated the current training platform 7.3 out 10 points reflecting its good performance according to the case company personnel. However, customers rated it 3.7 out 10 meaning it is severely underperforming according to customers. Each group were asked whether they had heard of the current training platform. This generated data on the current training platform's visibility in the eyes of the company personnel and their customers. Next each group was asked to rate the platform and give an explanation for their answer. Already in this stage only 29% of customers had recognised the platform meaning that the feedback received in the next questions was limited from the whole customer group. Main issues customers had with the platform were to do with the clarity, quality and navigation. These issues will be explained in more detail as they are the key areas to focus on to enable the training platform to create more value to the customers. Also, the company's personnel did not experience as many issues with the platform and a clear majority found it effective.

In order to describe the problems which came to light more accurately a sample website design was made. Figures 34 and 35 show example website views that can be experienced with the current platform. Figure 34 shows the first website that the company personnel or customer comes into contact with.

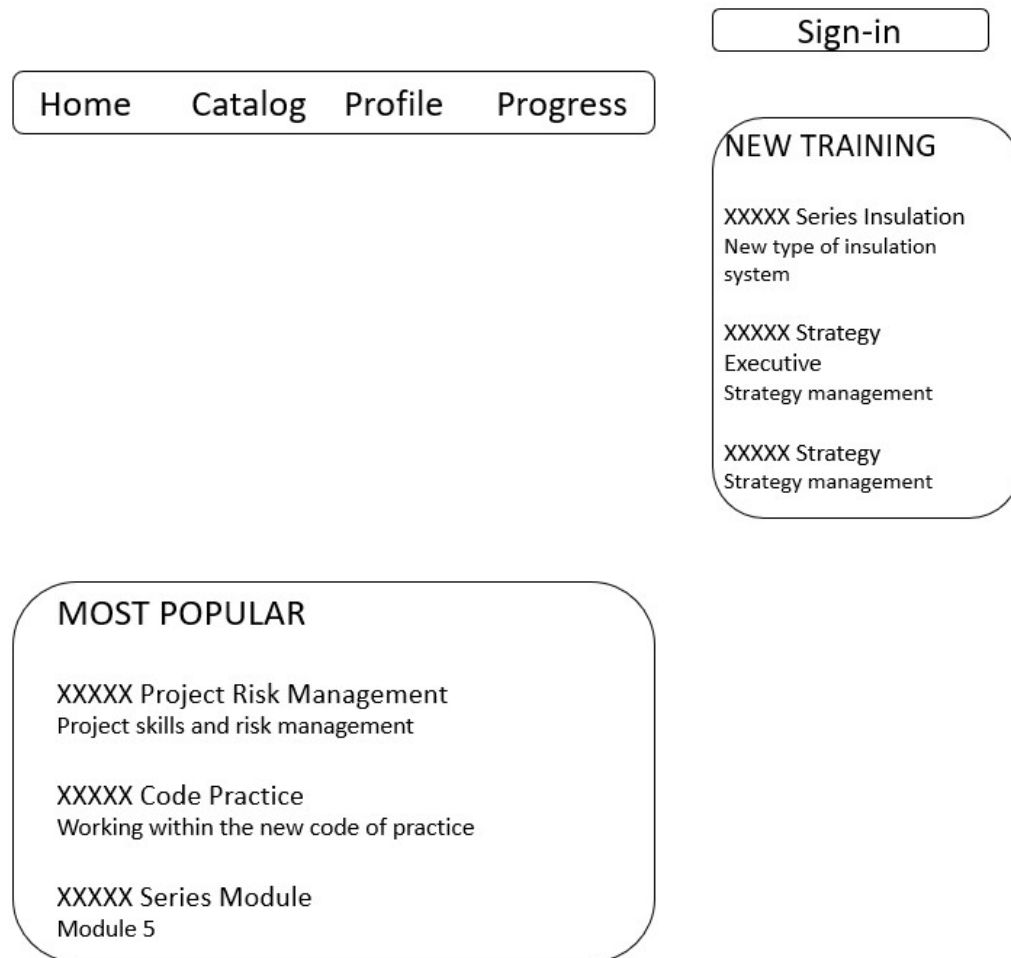


Figure 34. *First contact website for training platform.*

The page shown is what can be seen once the participant has signed into their account. The training which it suggests are not customised to the participant but rather show the most popular and new training globally. Even here it can be perceived that some of the training descriptions are very lacking not giving any additional information to the participant. The code, represented by XXXXX, is one of the only ways to directly find a training course directly. This requires the participant to have obtained the training course code.

By signing in, the participant does not immediately gain access to the training portfolio. They are required to choose either the ones they have already enrolled to or then to enter the training portfolio page. A simple task as clicking one header to get to the training portfolio can make the entire system seem more complicated especially since the headers are not always unambiguous. Figure 35 portrays the view the participant faces when they enter the training portfolio page.

TYPE Type 1 Type 2 Type 3 Type 4 Certification Curriculum TRAINING Must Needed Recommended LANGUAGE English Finnish Swedish Danish German Croatian COUNTRY Search	<div>Search</div>
	TRAINING CODE – XXX SERIES ITS BEST Register Basic technical information about XXX series and its best variants. Mainly for internal use. Tags: XXXXX
	PROFILE PSI– CERTAIN AREA PROJECT MANAGER Register Self assessment and introduction of skills needed for that area’s project manager. For internal use. Tags: XXXXX
	01 – GENERAL LEDGER Register 01 – General Ledger Tags: XXXXX
	2018 TAX ADJUSTMENTS (KOR) Register Tax laws adjustment training. Tags: XXXXX
	XXXXXXXXXXXXXXXXX LAUNCH Register Provide sales people with knowledge on the new product/service. Tags: XXXXX
	CODE – XXXXXXXXX SAFETY - FI Buy Safety training for XXXXXXXXX in Finnish. Classroom. Tags: XXXXX

Figure 35. Example view of the current online training platform.

The platform consists of a filter bar, portrayed on the left, which allows the participant to use certain criteria to limit which training courses are shown. Majority of the view is taken up by the list of training courses shown, portrayed on the right, which has the title of the training, a description, tags and a register or buy button depending on whether or not the course is free.

Customers pointed out that the platform was “confusing and difficult to use” and knowing which training is the one they are looking is difficult. The names of different training and their descriptions were found to be confusing and not good enough at reflecting the subject of the training. As shown in the example, certain training courses have a clear title which specifies it to a certain topic and to a certain region. However, some training

courses have a very general name, such as 01- general ledger, which does not give any insight into the course itself. This combined with the poor description it leaves the participant without any information what the course holds. This is not such a problem if participants have the course code, but it affects the overall experience of the platform. Being able to effortlessly know what is contained in each training makes the entire experience more effortless for the participant and can lead to a more positive experience.

The current training platform's quality was brought up as a concern as it lowered people's motivation to participate and complete training courses on the platform. Customers especially commented on the "slow and tedious" manner of the platform and its content. When each training course is opened from the list the course's homepage is opened which has the full description of the course if it has been added. It also includes all timetables if there are any. Every time a page is changed there is a loading time which can add up to longer periods of time, from 30 seconds to 3 minutes per training course. Visual loading screen make them more visible to participants which can in turn lead to more negative experiences such as in this case. There is a lot of training material available on the platform and some of it is much older when the same technologies were not available for engaging the participant. This is why traditional true/false and multiple-choice questions can appear tedious as they are present in many courses. Participants expect more interactive elements which can be interactive videos and tasks that require more attention than for example multiple-choice questions.

Related to the clarity of the platform the navigation around the platform raised concerns as well. It was "not always easy to find your way" highlighted the unclear way of navigating the current platform. This is linked to the "confusing and difficult to use" section that focuses on the material's and platform's clarity. The previously introduced filter system, portrayed on the left side of Figure 35, does not allow for effective categorisation of the available training courses. Currently, it is possible to categorise by the type of training, for example classroom or web-based. This leaves thousands of training courses available as it is impossible to filter them by topic. The other filter options mainly allow participants to filter training courses by their location and language which can be effective when only a small number of courses are offered in that location or language. This means that training courses can be filtered by their properties but not by topic. Also, the tags that are associated with training courses do not always accurately describe the training course. These tags are used in the search function which is found on the website. Since these tags are not always accurate it leads to the search function to be subpar. Some search results end up being training courses which the participant was not looking for. It can also take the participant multiple tries with different tags in order to find the training

course the participant was looking for. Currently, it is not possible to combine tags to widen to search but it is possible to narrow down the search with multiple tags. This lengthens the participants attempt to find a specific training course.

To summarise, customers found the current training platform's performance bad and the majority of the respondents could not even recognise the training platform. According to the company personnel the platform was performing well, but customers had bad experiences with the clarity, quality and navigation of the training platform.

6.3 Findings

The results will be discussed in three different categories representing the study objectives. The first one will identify the top training topics requested. Followed by top training characteristics which need to be considered when creating the training platform. The last topic will be identifying the key channels that should be used to distribute the training. Additionally, there are miscellaneous findings that were deemed beneficial in the evaluation phase.

6.3.1 Top Training Needs

Top training needs were deemed important because by identifying key topic area where training needs are present it is possible to create training courses which answer already existing training demand. These training courses will create value to customers and the case company. They will improve the customer's operations which in turn reflects the case company better to the end customer. This allows the case company to improve their customers' expertise and communicate more value downstream the supply chain. Also, the training courses will patch problems that the case company's customers are experiencing making them more satisfied with the case company.

The survey questionnaire identified the top three training topics most requested by both parties to be technical knowledge, robot safety and sales skills. Table 4 shows all the training topics which were voted for with their individual accumulated votes. The top three topics are bolded.

Table 4. *Ranking of requested training topics by the number of votes accumulated.*

RANKING	TRAINING TOPICS	VOTES
1	Technical Knowledge	21
2	Robot Safety	18
3	Sales Skills	17
4	New/Upcoming Technologies	16
5	Laws & Regulations	13
6	Maintenance	11
7	Layout Planning	8
8	Configuration	1
	Lifecycle Offerings	1
	Standardization	1

The fourth top training topic varied between both groups as New/Upcoming Technologies was placed fourth by customers whereas the case company personnel named Laws & Regulations. Configuration, Lifecycle offerings and standardization all accumulated one vote and shared last place. The training topics that shared eighth place were not initially on the response sheet and they were added by individual respondents. This explains their low response rate, but also shows that others did not see it necessary to add them. These training topics should be investigated further to evaluate their true demand from the customers.

Figure 36 portrays each country's individual answers with the grey line being the overall result. Each corner represents a different training topic and the further the line is from the centre of the diagram the more demand that training topic has. If there is no connecting line it represents zero votes for that specific training topic.

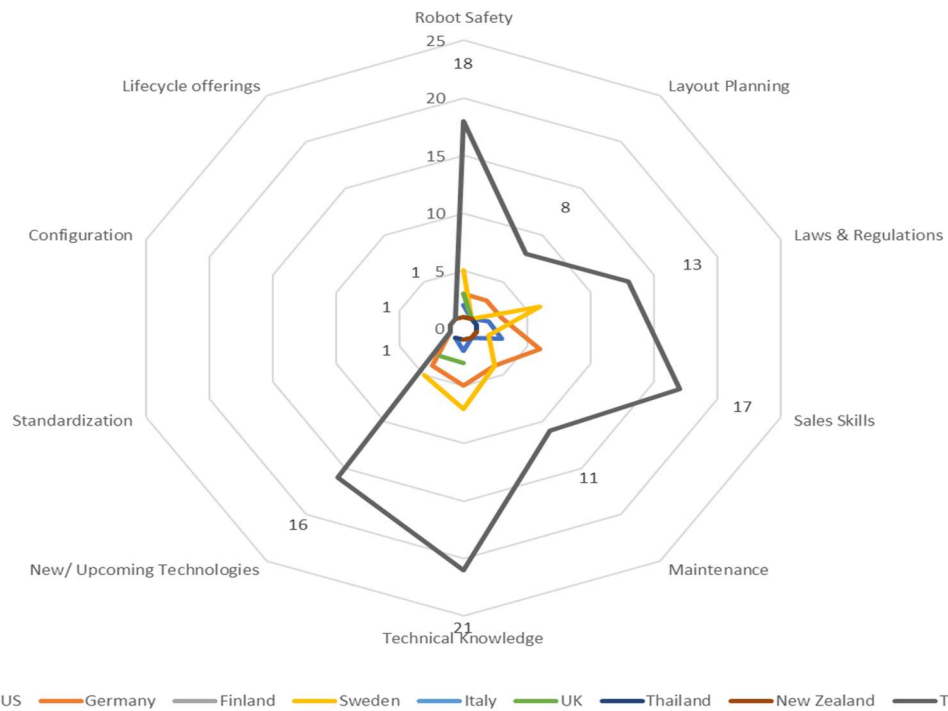


Figure 36. *Radar diagram of survey questionnaire results on top requested training topics.*

Each countries' votes are represented by each colour which allowed for each country's responses to be compared to the overall trend of all received responses. There were not many countries which differed from the overall trend except for Germany and Sweden. These two countries were among the countries with the highest number of responses making it easier to identify trends in the received responses. Other countries had fewer responses which followed the same distribution as the overall responses. Germany's results are portrayed in Figure 37 and Sweden's results in Figure 38.

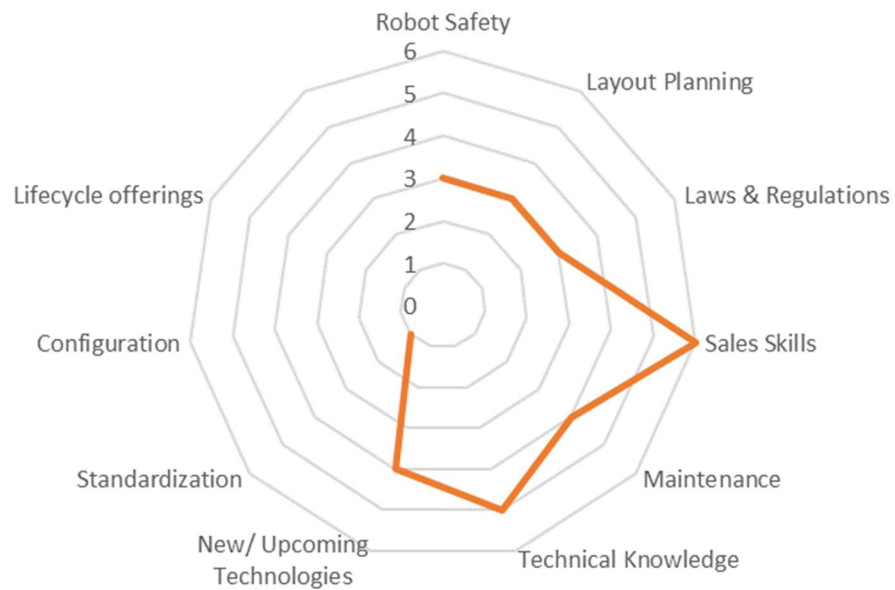


Figure 37. *Germany's top training topic requests.*

Germany had sales skills and technical knowledge as the top 2 demanded topics with new/ upcoming technologies and maintenance sharing third place. Compared to the norm Germany had a relatively low demand for laws & regulations training. This suggests that training courses in Germany do not need to be made to focus on the laws and regulations, but rather on developing the customers' sales skills to help them sell the case company's products and services more effectively forward to end customers.

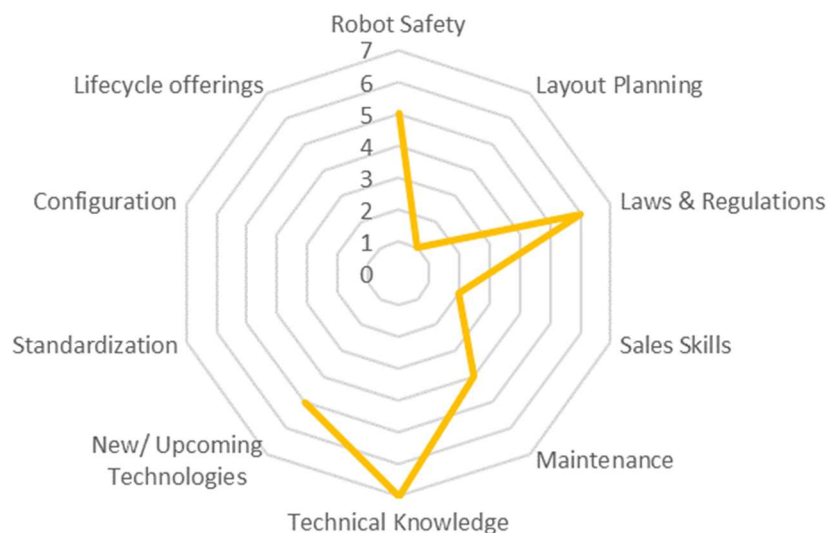


Figure 38. *Sweden's top training topic requests.*

Sweden identified technical knowledge, robot safety and laws & regulations to be most demanded training topics which altered from the overall trend. Sweden had close to no demand for sales skills training which was third overall. Layout planning's demand was also close to non-existent.

Focusing training courses on the identified topic areas will create training which has demand. The acquired list is not fully inclusive and other important training topic areas can arise and should be taken into consideration when creating training courses.

6.3.2 Top Training Characteristics

Identifying the top training characteristics enables making an effective training platform which consists of training material optimised for the audience group. This motivates participants to take part in training courses and benefit from them. Making training courses which do not portray the characteristics which the segment group identified most important conveys that the training course was not made with the segment group in mind. By allowing the participant to partake in the training course as effortlessly as possible they may perceive their investment as lower. This in turn will increase their perceived value from the training course as they gained the same amount of value from the course but invested less.

The top three training characteristics were identified to be easy to understand, quality and easy to find. Table 5 shows the rankings of all training characteristics and their ratings out of five. The top three characteristics are bolded.

Table 5. Ranking of top training characteristics and their overall ratings out of five.

RANKING	TRAINING CHARACTERISTICS	RATING
1	Easy to understand	4.66
2	Quality	4.52
3	Easy to find	4.29
4	Specificity	4.18
5	Visual	4.06
6	Time efficiency	4

The ratings show that all characteristics were rated four or above meaning that all characteristics are seen as important. However, the identified top three all received higher ratings and should be prioritised. This means that the rest cannot be ignored as they all

were identified to create value to participants. Figure 39 portrays the ratings of each training characteristic.

Training material needs to be easy to understand and needs to be high quality in order to please participants. It also needs to be easy to find and specific to a topic. Surprisingly, training material's visuality ranked second lowest.

6.3.3 Top Training Channels

The objective to identify top training channels allows for training material to be made in a format that is most value-adding to customers and not waste resources on making material that is less ideal. This reduces the barrier for participants to partake in the training courses and over time enables them to experience more value from the training provider. Making the training courses as comfortable as possible reduces the risk of the participant interrupting the training and ending it early as well as the risk of the participant not doing the course. If the participant has had bad experiences with a certain training channel it will make them more reluctant to complete that training.

The top three training channels were identified as video, classroom and webinar. Table 6 shows the overall rankings of all training channels and their accumulated votes. The top three training channels are bolded.

Table 6. *Ranking of top training channels and their overall accumulated votes.*

RANKING	TRAINING CHANNELS	VOTES
1	Video	15
2	Classroom	13
3	Webinar	9
4	Information manual	7
5	PowerPoint	5
6	Workshop	2

All training channels received votes which shows that there is demand for all forms of training. However, some forms of training are deemed more ideal and should affect the distribution of training channels used for training.

Workshops were added by only two respondents. Other than that, traditional PowerPoint presentations were listed as the least favourable channel for training. There were no clear differences between countries with almost all countries stating the identified three

channels as the top channels. Figure 40 portrays the votes that each channel accumulated.

Although classroom has the second most votes in this chart it is suggested that this is affected by the case company's current training platform's poor behaviour. It was identified earlier that training reactions play a significant part in a training form's success and in this case, the e-learning has been underperforming. If the training platform had been more effective webinar and classroom could be seen to change places.

Additionally, 80% of the respondents were in favour of remote training, which partially explained the popularity of video presentations and webinars. Even though the top training channels were identified they do not remove the need for the other channels.

6.3.4 Miscellaneous

Other results were gathered about training demand, effects on the case company brand and other suppliers to give a more accurate image of the big picture and give more insight into other implications the training platform can have. These results were gathered to expand knowledge on both parties' perception of training in general.

It is important to map what level of training courses should be provided in the training platform in order to match the needs of the customers. It also helps map where the case company personnel would place their customers' skill level. Figure 41 shows how both the case company personnel and their customers answered to what level training courses they should provide to the customers.

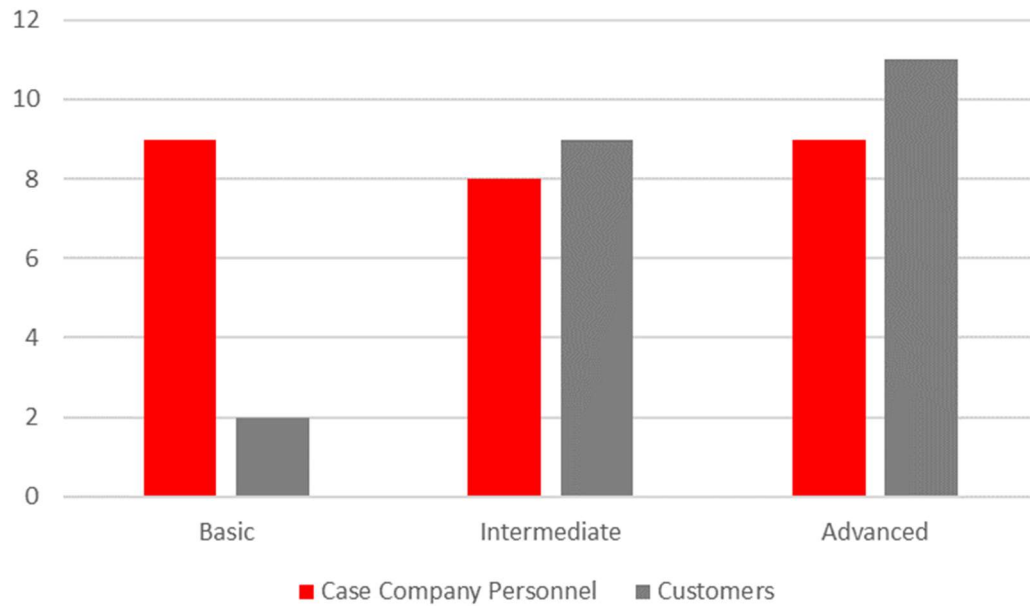


Figure 39. *Training course skills level recommended by case company personnel and demanded by customers.*

The results show that the case company personnel saw a consistent need for all levels of training for their customers. However, the customers saw a higher need for intermediate and advanced training courses and a much lower need for basic courses. This suggests that the customers perceive to have good basic skills in the previously identified training areas whereas the case company's personnel do not agree. The case company personnel thought that the customers would benefit far more from basic training. This could mean that the case company's customers are experts in the field but do lack some basics that they may have forgotten or skipped when they entered the industry.

Respondents' views on training demand were recorded to get an idea on training courses future demand. 88% of respondents recognised a growing need for training since employees are required to remember an increasing amount of knowledge and need to be able to maintain numerous different skills. This means that the respondent group recognised a growing need for training which means there is going to be a growing demand for training courses. If the case company wants to maintain their position as a technology leader in the industry investing into training courses can give them an edge.

It was also recorded that an effective training platform would affect the case company's brand. 89% of respondents had an opinion that an effective platform would have a positive effect on the case company's brand as a more responsible supplier that wants to help other companies develop themselves. This supports the case company's agenda

to stay as an industry leader as they can improve their brand image by providing training courses to the rest of the industry. The rest of the industry can see this as sharing their expertise to develop the entire industry rather than aim to increase their lead in the industry.

Customers were also asked about other suppliers' training offerings and it was found that 64% of respondents answered that other suppliers also provide training. This reflects the case company's need to develop an effective training platform to keep their advantage as the industry leader. Even though the training platform may seem insignificant it can turn more decisive in the long-run when the case company's competitors start to match the case company's offering. The following training topics and channels were said to be offered by other suppliers:

- Classroom
- Web-based
- Programming
- Sales

To summarise, the respondents of the survey all identified a growing need and demand for training as individuals are expected to have a wider range of skills and knowledge available. Also, providing an effective training platform has been identified to have a positive effect on its provider's brand image. Additionally, providing training courses is becoming an industry norm that could lead to all players having to offer such a service to stay competitive in the industry. These environmental observations should motivate the case company to invest in their training platform to keep their industry leader position.

7. DISCUSSION AND RECOMMENDATION

This chapter discusses the effects of the case company's actions on different factors in different scenarios. Based on these analyses a recommendation is created to help achieve the wanted outcome introduced previously. The recommendation is evaluated by its effects on a set of factors and their feasibility is discussed.

7.1 Implications

To get a more accurate understanding of the big picture the following factors will be evaluated depending on the focus of the scenario. Table 7 portrays the factors which will be evaluated in each scenario.

Table 7. List of evaluated factors and their meanings.

FACTOR	MEANING
Customer value	Level of customer value created by the case company.
Supplier image/ Brand	Brand recognition changes.
Supplier loyalty	Increased loyalty between the case company and customer.
Distribution	Ease to distribute the training platform to customers and other stakeholders.
Competitive advantage	Scenario's effect on the case company's competitive advantage over its competitors.
Financial implications	Overall financial implications when comparing revenue and costs. The focus is on immediate effects since long-term financial gains are difficult to measure.

The change in created customer value is to be analysed to get an idea how the case company's invested effort translates into new customer value. Customer value is the basis for customer satisfaction and customer loyalty which will also affect the case company's competitive position in the market. Due to customer value's effect on other factors it is important to observe customer value changes to better understand the overall impact of the scenario on the case company's operations.

Supplier image and brand changes affect the case company's image as a supplier, employer and as a company to the outside world. A better supplier image allows the case

company to gain a competitive advantage over its competitors and improve its operations in the long run. Also, the case company's brand improvements affect how the public views the case company and how likely people are to apply to the case company. These changes can improve the case company's intangible assets and give them a wider potential employee base.

Changes in supplier loyalty are based on customer value and affect the case company's competitive position against its competitors. Improving supplier loyalty enables the case company to gain stable income from loyal customers. In the long-run this can improve the case company's profitability.

Observing how the case company's distribution of its training platform is affected in each scenario affects its diffusion to potential participants. A service which creates more value can be expected to diffuse easier making the platform's distribution easier. In a scenario where the platform's distribution is more difficult means that the case company needs to invest more into marketing the platform.

Competitive advantage is important to observe as it defines how actions in each scenario affect its competitive position. Competitive advantage can occur in the short-run and long-run. Competitive advantage needs to be considered as it affects the case company's continuous existence in the future.

Financial implications need to be considered to get an idea of each scenario's profitability and whether it is making a profit. Some scenarios can require a larger investment which can affect its overall profitability.

Many of the implications are connected, for example without customer value there cannot be financial implications or competitive advantage. This leads to more complex outcomes and makes it more difficult to reach an outcome without trade-offs.

7.2 Scenario 1: Customer Value Focus

Customer value has been a driving force in creating demand for products and services. By creating value to the customer through products and services it should make customers want to buy that specific product or service for its value. If a company develops a product or service from the customer value point of view, there should already be demand for the product. Creating a product and then pushing it onto the market does not

guarantee that customers realise the value of the product which leads to them not having demand for it. Also, if there is a product on the market which has received positive feedback for its customer value to its customer segment it can create a pull effect on the market which leads to higher demand.

If the case company focused on creating as much customer value to its customers, the expected impact on the training platform are shown in Table 8. The impacts are discussed to show their interlinked impacts on other factors.

Table 8. Impacts of scenario 1 on the following factors.

FACTOR	MEANING
Customer value	Created customer value would be increased due to the material being made to meet customers' requests and needs.
Supplier image/ Brand	Scenario would improve supplier image as the case company would focus on helping its customers develop. Brand would not be affected to the public.
Supplier loyalty	the case company's effort to help develop customers would increase their customer satisfaction and customer loyalty.
Distribution	The training platform's high customer value would make it easier to distribute the platform to customers.
Competitive advantage	The increased customer value and customer loyalty would improve the case company's competitive advantage in the long-run.
Financial implications	After the initial costs the increased competitive advantage in the long-run would generate more revenue to the case company. Since the aim is not to generate revenue it can be expected that the revenue will only cover the costs of the platform or generate very little profit.

This scenario focuses on creating as much value to partners as possible. This means creating training that the case company's partners request and not training which the case company sees would best benefit their partners. This would mean maximising customer perceived value by maximising created customer value and minimising costs. This may also lead to the case company's own value not being transferred most effectively. For example, training in this scenario would focus on developing general sales skills rather than the sales of the case company's products particularly. This requires the case company to put its own agenda aside and focus on identifying and fulfilling their customers' needs.

Focusing on customer value would increase the case company's brand recognition as a partner orientated supplier and could benefit the case company's competitive advantage

in the long run. This form of partner-centric operations can also improve supplier-customer loyalty as partners perceive the relationship as more valuable. Customers would be more inclined to do business with a company that is known for creating high levels customer value with its products and services. The fact that the case company is replacing their agenda with prioritising their customers would show their dedication to serving their customers.

Distribution would be easier since the content is created to be valued by partners. Content which is designed to create customer value to its users will create a pull effect on its demand. Also, the streamlined training platform would improve partners' experience with the platform and lead to them continuing to use it. This would create a higher demand for the platform and more of a pull effect on its demand. There would need to be an initial push strategy to inform partners of the new format on the platform. This would lead to negative profit for the case company with no clear increased revenue. In the long run, the improved supplier loyalty and brand would increase the case company's market position in the industry.

Since the platform is already in place and mostly needs reorganising the relative risks are low due to low initial costs. With implementing training platforms, the initial costs are one of the largest drawbacks but in this case the platform is already available. There will still be some additional costs that will come from the required modifications as well as the maintenance costs. Since the scenario is very customer-centric and the risk of failure is low due to the higher customer value which should lead to better customer experiences. Implementing this strategy would a thorough investigation into the case company's customer segment.

ACTIONS TO TAKE

- Separate internal and external training courses.
- Create training courses that fully meet partners' needs by integrating them into the training production process.
- Offer the platform for free to enable faster diffusion and later turn into revenue model to mitigate costs.

7.3 Scenario 2: Supplier Brand Focus

A supplier's brand plays a part in defining the company's position in the market and their attractiveness in supply chains. A company's brand communicates the way that company does business to other businesses. This affects other businesses' willingness to cooperate with that business and what they expect to get out of it. Having a negative brand image makes other businesses more reluctant to operate with that company as they could have problems with trust. On the other hand, businesses will be more likely to want to do business with companies with positive brand images as they have proven that they are trustworthy and good partners. By focusing on creating an attractive supplier image a company can affect how other businesses perceive them in the market and can open them to new opportunities.

If the case company chose to focus on enhancing their supplier brand image with the training platform the expected impacts are shown in Table 9. The impacts are discussed to show their interlinked impacts on other factors and to give an idea how they differ from other focuses.

Table 9. Impacts of scenario 2 on the following factors.

FACTOR	MEANING
Customer value	Case company would create more customer value in general, but the amount of created value to certain groups would be lower than in a customer-centric approach.
Supplier image/ Brand	Improves case company's brand as a responsible technology leader in the industry.
Supplier loyalty	Improved visibility and brand would improve supplier loyalty as the case company puts more effort in helping its customers develop as well.
Distribution	Ease to distribute the training platform to customers and other stakeholders.
Competitive advantage	Scenario's effect on the case company's competitive advantage over its competitors.
Financial implications	Overall financial implications when comparing revenue and costs. The focus is on immediate effects since long-term financial gains are difficult to measure.

This scenario focuses on developing the industry as a whole and sacrificing customer value and the case company's value to accomplish it. This would improve the case company's brand image as a company that drives to develop the entire industry rather than focus on individual performance. As the case company is trying to enhance its brand as a technology leader this scenario would work towards that goal. This focus aims to bring benefits in the long-run with the improved brand image but could lead to financial losses in the short-run.

To change the reactions associated with the current training platform it could be good to rebrand the training platform and relaunch with the identified issues resolved and a much higher overall quality. This would cost more to the case company but could be beneficial in the short-term to help diffuse the platform and improve its performance in the long-run.

Focusing on raising the industry as a whole would create value to more stakeholders but would limit some of the value perceived by customers and partners since the material is not optimised to their needs and priorities. This would, however, improve the case company's brand as a responsible industry leader who wants to develop the entire industry. This would benefit the case company in the long run and help them achieve their goal brand of being the industry technology leader. Maintaining the technology leader position would allow the case company to keep their competitive advantage with their superior expertise compared to the market competition. Having an effective training platform would further enhance their image of possessing the highest tier technology in the industry. The improved brand would also draw in more customers and partners that want to interact with the case company.

The distribution of the platform would not be significantly easier because even though it will cater a wider audience it will create less value to certain groups which could demotivate them away from the platform. However, since more people will be aware of the case company's products and their benefits alongside their improved brand their competitive advantage would improve in the long run.

Creating a new platform will generate financial costs in the short run and increases the risks associated with it. Relaunching a better platform does not guarantee a higher degree of success which needs to be taken into consideration. Also, due to the slower distribution the case company needs to be able to handle the short-term costs which will turn more profitable in the long-run. This requires the management to be invested into the strategy and not evaluate the strategy's performance by purely looking at its financial success.

ACTIONS TO TAKE

- Relaunch training platform to attract people from outside of the case company's existing network, e.g. education centres.
- Create training courses which educate people about the robotics industry and create courses which enable the industry players to develop their operations towards a better future.
- Focus branding to convey the case company's responsibility in the industry and guiding it in the right direction.

7.4 Scenario 3: Case Company's Revenue Focus

Revenue allows companies to keep financing their operations when their customer acquire their products or services. An increase in revenue will not guarantee a correlating increase in profit as it is subjective to costs. It is not new for companies to come up with new products and services in hopes of producing increase revenue in hopes of higher profits. These new products and services allow companies to create new sources of income and stay competitive in markets. For a product or service to produce revenue there needs to be demand for it. This means that if a company wants to focus on creating increased revenue with a product, they need to create it to fit their customers' needs. However, it can be difficult to determine a fitting price to match the product's demand because of differing perceived customer value between customers but also different views between the customers and the providing company. Companies can use revenue focus on products or services can be used on the side of a less profitable product or service to increase the overall profitability of a company's project. Companies can use revenue focused products and services to generate more cash flow that can be used for other projects or investments to create a profit.

If the case company chose to focus on maximising their revenue with the training platform the impacts are shown in Table 10. The impacts are discussed to show their inter-linked impacts on other factors and how they differ from the impacts of other strategies with different focuses.

Table 10. Impacts of scenario 3 on the following factors.

FACTOR	MEANING
Customer value	Level of customer value created by the case company.
Supplier image/ Brand	Brand recognition changes.
Supplier loyalty	Increased loyalty between the case company and customer.
Distribution	Ease to distribute the training platform to customers and other stakeholders.
Competitive advantage	Scenario's effect on the case company's competitive advantage over its competitors.
Financial implications	Overall financial implications when comparing revenue and costs. The focus is on immediate effects since long-term financial gains are difficult to measure.

The case company could create their training platform to focus on generating revenue. This would mean all the training material is optimised to benefit customers and partners, but the prices will be made more competitive meaning that the overall customer perceived value will be lower. This would mean that the material's quality needs to reflect its price and would require active marketing. Since the perceived customer value is lower the case company needs to invest into reversing their customers' opinions about the previous training platform to allow the new platform to succeed.

This would create high customer value as it will be high quality and made to create value to customers and partners. This would accumulate higher financial costs but on the contrary, it will also generate a higher amount of revenue.

This would not affect the case company's brand significantly. It could enhance it slightly as it would direct the case company's services towards digital services and improve the case company's image as the technology leader. This would most likely not affect the case company's customers' and partners' supplier loyalty as it would only bring new customers to the new digital service.

The revenue focus could make it more difficult to distribute the training platform as the cost could be a barrier for some companies. The increased cost would lower perceived customer value which impacts customers' buy decision. The extra customers the case company receives could improve their competitive advantage and the extra revenue would enable the case company to invest it into other expenditures.

All in all, it would generate more revenue to the case company, but it is risky to make a revenue-focused training platform as the current one is underperforming. This could lead

to the case company investing resources into making a good platform that ends up underperforming as well.

ACTIONS TO TAKE

- Delete or improve low quality training courses and create a minimum quality requirement for future training courses made.
- Market the training platform's facelift and offer free basic courses and a free trial period for the more advanced courses to attract new customers and motivate customers whom had bad experiences with the previous platform.
- Create a revenue model that attracts new customers, but also retains older ones for new material e.g. subscription based or one-time payment for material.

7.5 Recommendation

After the current situation was investigated the current issues were identified. To combat the identified issues three objectives were made. The objectives were made to make sure that issues were approached from a customer-centric point of view and that it would help future distribution of the created training platform. The three objectives of this study were:

- *Identify at least 3 top training priorities and needs for customers.*
- *Identify at least 3 most effective distribution channels for customers.*
- *Create an action plan for training program's smooth distribution to customers.*

The answers to the first two objectives were identified in section 6.3 and in this section, the third objective will be answered. The answers to the first two objectives are summarised in Table 11. In order to get a reliable and accurate action plan for the training program, it is necessary to look back at the results of the survey questionnaires and interviews and make sure the recommended actions reflect the needs and desires of both the case company and the customers.

Table 11. *Summary of answers for the first two objectives.*

OBJECTIVES		
Identify 3 top training needs	Identify 3 most effective distribution channels	Identify top 3 training priorities
Technical knowledge Robot safety Sales skills	Video presentation Classroom Webinar	Easy to understand Quality Easy to find

Given the different approaches that can be taken to accomplish the different outcomes, it is essential to decide what is the desired outcome and design the approach accordingly. From the interviews and survey questionnaires three main desired outcomes came to light:

- Create a wanted and working training platform
- Increase the case company indirect sales
- Enhance the case company brand

According to the results collected, if the case company wants to accomplish these goals, they need to focus on the training platform's visibility, clarity, quality, availability, navigation and learning path options. Additionally, the case company needs to consider the revenue model for creating additional value to them and other parties.

The three introduced scenarios all have a specific element which is being focused and maximised. For the case company to achieve the wanted outcome the case company needs to focus elements explored in each scenario leading to the recommendation being a combination of all three of the introduced scenarios.

7.5.1 Visibility

Currently, less than a third of customers recognised the case company's training platform which means that as a service it has failed to create demand for itself. The first part of creating demand is getting people to know about a product or service and this can be done by increasing the current training platform's passive visibility around the case company's other products and services. The current training platform should be integrated into the case company's new service as it is meant to be the next revolutionary IOT (Internet of Things) service which connects the case company's products and services for a next level customer experience. It is logical to include a training platform as a ser-

vice to a network of products and services as the platform could be used to explain different parts and functions of a product or a service to better serve customers. This would also add an easy way for customers to find additional information about products and services which can affect their buy decision.

Another way of boosting the current training platform's visibility would be to add an easy route to the platform itself. Currently, it is too difficult to find the training platform and there is a very low chance of stumbling upon the training platform by accident. The easiest way to accomplish this would be to add links on robots' product pages which takes the visitor to the training material on that specific robot on the training platform. This would give the training platform visibility but would also increase customers and partners overall knowledge of the case company products if the training material is made intriguing. It is important not to overcrowd the websites and not force the training platform onto customers and partners excessively to prevent pushing them away from the platform.

7.5.2 Clarity and navigation

Earlier it was identified that clarity and navigation go hand in hand, and both are currently lacking on the current training platform. With clarity and easy navigation, the case company can improve the reactions customers and partners experience on the current training platform which would lead to a higher chance of them recommending the training platform and continuing to use it.

Separating the case company's internal and external training material would make it much clearer for valuer providers what they can benefit from. This would also allow the case company to reduce the quantity of information that is not understood by external personnel that is currently being used in training descriptions and content lists. This would make them more inviting to others. Currently, there is too much information in the training titles, descriptions and content lists that is not descriptive to external personnel making it difficult to know what each training holds inside.

Categorising the content effectively allows people to navigate the available material more efficiently and makes it easier to know what material is available. Currently, the categorisation is very limited, for example, type, language, country. Also, the search engine makes it very difficult to find different training courses unless the visitor knows exactly what they are looking for. This is because it works on a tag-based search rather than keywords found in the training. Categories such as robots (for product related training

courses), layout planning (motor selection, cell composition) and laws & regulations (current and upcoming changes) would make it much clearer to customers and partners where to find what they are looking, and also enables them to browse and explore for new material.

Lastly, to help participants find relevant material it is essential to have a learning path that is easy to follow. This allows customers to proactively deepen their knowledge about the case company's offering but would also make them invest more resources into their relationship with the case company. Currently, there is no clear learning path available according to customers. The learning path could be the same as the case company's internal learning path which is very detailed. The case company's partners would go through information about the case company and robotics fundamentals to get an overview of the company and the industry. After that a more detailed training into the case company's products which the customers are most associated with. After a certain period, there should be a revision training where their previous learnings are summarised to maximise their value from the training. The final step is to offer training into a certain specialty sector such as sales, layout planning or configuration to help customers gain specialised knowledge in their own field.

7.5.3 Quality

There needs to be a clear correlation between the price of training and its quality to ensure that customers' expectations are met and exceeded. As it was identified highly satisfied customers are far more likely to continue using the same products or services when compared to just satisfied and dissatisfied customers. There is a lot of material currently available and it is difficult to uphold a constant quality especially since some of the training is older. However, to uphold the entire platform's quality the lower quality training courses need to be reviewed and updated or removed. Training courses with clear benefits to the participant should be priced or only free to long-term customers. This would create additional value to long-term customers and would bring more value to be a long-term customer. This could also create a pull effect on the training platform as it brings an image of exclusivity by limiting the training platform's free access to a certain segment.

Figure 42 portrays the suggested different training levels that could be used to either to price training courses or to just categorise them. It is necessary to have different level training courses available on the platform to fulfil different needs of each user group.

Customers and other businesses will require more in-depth information about the industry when compared to an education centre such as a high school.

		Configuration Layout planning	Clear time or cost saving benefits Cost more
	Update changes Training summaries	Beneficial information that improves work quality Free or cheap to AVP	
Technical information Laws & regulations	General information and skills training that exists elsewhere as well Costs little or nothing		

Figure 40. *Portrayal of proposed training material level hierarchy.*

Basic training courses that contain information that could be found elsewhere as well, such as about laws and regulations or robots in general, could be made free or cost little to encourage people to use the platform which would give it visibility again. These training courses should be of good quality as they work as a trial for the other training courses which could cost more. Getting people satisfied with these training courses makes them more likely to be willing to pay for more advanced training courses. The next level training courses would hold training courses which have efficiency benefits to the participant. This could hold training courses on updates, upcoming technologies or training summaries. These training courses would cost the participant a certain amount to gain access to them. These could, however, be made free to long-time loyal customers to increase the benefits associated with maintaining a longer relationship. The top level would hold training courses with clear time or costs saving benefits such as on how to carry out robot configurations or layout planning which allow either the customer or end user to do these actions themselves and not having to pay for it or try to figure it out on their own. These would cost more as there would be more tangible benefits.

7.5.4 Availability

Increasing the case company's training platform's availability would give it more visibility but would also enhance the case company's brand's visibility. Making it easy to get to the platform is one step but increasing the number of users would boost the platform's visibility even more. If there are to be general training courses on robots and the robotics industry certain education centres such as schools or applied science colleges could use them in their courses to cover these topics. This would enhance the case company's

brand as a responsible technology leader and would make itself visible to more potential employees.

7.5.5 Feasibility

Certain actions proposed are simpler than others and the next section will rank each propositions feasibility. Figure 43 portrays each actions feasibility and complexity from the discussion and recommendation sections. Each action has its corresponding section number allocated under them to show where they are introduced and discussed in more depth.

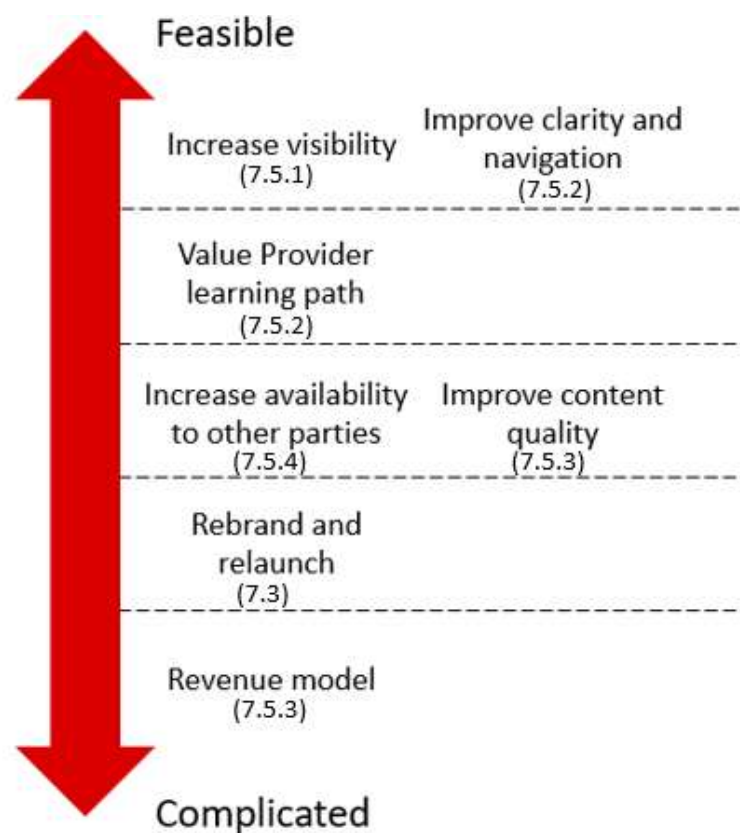


Figure 41. Listing of different proposed actions' feasibility and complexity.

Increasing visibility, clarity and navigation are a simple question of coding and design. These are not very complex but will require time and capital to complete. Customer learning path is similar to the previous actions except it will require more planning to adjust the internal learning path to suit external parties. Increasing availability to other parties requires the platform to be adjusted to fit the new target group. It will also require marketing and administrative work to get education centres to integrate the case company's training platform to their teaching. Improving content quality can be feasible for new content, but since there is a high quantity of material already available it will take more time

and resources to review them and get them to the standard level. Since the current platform has had been underperforming rebranding and relaunching would give it a new start but would require administrative work and would require the new platform to be marketed again. Lastly, since most of the benefits experienced by training are only experienced in the long-term it makes it more difficult to price them effectively without overpricing. Designing an effective pricing model would require planning efforts from numerous departments.

8. CONCLUSION

With the growing need for training, it is important for companies to invest in supplying effective training to their partners and customers to ensure staying competitive in the market. Training enables companies to convey their competitive advantage to others more effectively and allow their partners and customers to perceive higher value from the same products and services. Higher customer value and satisfaction helps businesses compete with their competitors and become the most favourable option available.

Training develops an individual's skills and knowledge to improve their performance. One of the main issues training faces is that majority of the results it brings are achieved in the long-run during the on-the-job learning phase. This has caused companies to neglect their investing into training. However, the results experienced in the on-the-job learning phase are the result of prior training that have enabled the learning to occur. This highlights the need for a well-planned training program that optimises an organization's learning.

The objective of this study was to identify the top training priorities, needs and distribution channels alongside an action plan for smooth training distribution to customers. This thesis looked over the theoretical topics of customer value and communicating value, the roles of value, knowledge and system integrators in supply chains and training material as a medium for communicating value in a supply chain. A theoretical framework was proposed on how training material could be used to communicate value to system integrators to increase customer value further down the supply chain.

It was found that remote learning's demand is growing with pre-recorded video presentations being the preferred form of training channel with classroom and webinars next in line. For participants to be motivated to partake and complete training it needs to be easy to understand, high quality and easy to find. In order to enable the smooth distribution of training material to participants, it was necessary to improve the current platforms clarity, quality and navigation to fulfil customer and partner needs. In addition to improving the aforementioned factors, it was found that the platforms poor recognition played a part in its underperformance. The main outcome of this thesis was the recommendation on how the current issues identified could be resolved based on the reviewed theory and the study results to create training that would communicate value to customers and partners.

Given the results of the study, the recommendation created from them can be considered a rough depiction of the final actions that need to be taken. To give a more concrete

recommendation a higher quantity of responses would have been needed. The higher quantity of responses from certain countries could have affected the results by altering them towards that country's opinion. In future research, it would be beneficial to have a country quota to limit each country's responses. However, this could limit the quality of results from each country. In the end, the results were gathered from multiple countries and there were more than 20 responses making the conclusions based on them valid and accurate enough to draw depictions.

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