

## MASTER

### The influence of TCO consideration by the sales personnel on customer loyalty and satisfaction

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Veghel, October 2013

**The influence of TCO consideration by  
the sales personnel on customer loyalty  
and satisfaction**

by

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in partial fulfillment of the requirements for the degree of

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in Innovation Management**

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## **Abstract**

**Purpose:** The purpose of this thesis is to understand the influence sales personnel have in considering total cost of ownership (TCO) and how this affects customer loyalty and satisfaction. Existing TCO-related literature has investigated from a focal buyer perspective but has consequently limited studies that focus on a sales perspective.

**Design/methodology/approach:** An empirical study approach is used, involving customers from an industrial manufacturing company, Vanderlande Industries. Customers participated in an online self-administered questionnaire, resulting in 62 responses (41%).

**Findings:** This study indicates that sales personnel play an integral part in delivering TCO information to the customer, this in turn results in increased loyalty and satisfaction among customers.

**Limitations:** This study results are based on cross-sectional data from a small sample and is therefore not capable of identifying causal relationships. Future research should test the findings with a larger sample size.

**Practical implications:** Sales managers should be aware that customers are interested in TCO and that if sales personnel do not provide sufficient TCO information it is harmful for the customer loyalty and satisfaction.

## **Preface**

This thesis report represents my final assignment for my master study Innovation Management at Eindhoven University of Technology. The thesis is performed at Vanderlande Industries from February 2013 to October 2013.

From Eindhoven University of Technology, I would like to thank my first supervisor Ad de Jong for his support and knowledge. I appreciate that you have put me back on track if that was necessary. In addition, I would like to thank my second supervisor Bonnie Beerkens for her encouragement and feedback during this project.

From Vanderlande Industries, my special thanks go to my supervisors Jan Jongbloets and Radj Bachoe. Their knowledge and experience has brought my thesis to a higher level. Furthermore, I would also like to express my thanks to all my colleagues from the sales department. The pleasant working atmosphere has certainly made this assignment a very enjoyable one. Moreover, thank you for giving me the opportunity to execute my master thesis project at Vanderlande Industries.

Finally, I would like to thank my friends and family for their continuous support during this final phase of my study.

October, 2013

Wibo Heijmann

## **Executive summary**

This study investigated how TCO consideration by sales personnel affects customer loyalty and satisfaction. The main purpose was to examine the nature of the relationship between TCO consideration and customer loyalty, as well as the link between TCO consideration and customer satisfaction within the business to business context. Moreover, this study investigated what drivers predict TCO consideration by the customer. This information is helpful to sales managers as to identify which customers consider TCO in their purchase decision.

## **Research**

By approaching 150 customers by means of an online survey, data was collected from 62 respondents, yielding a 41 percent response rate. With the use of multiple regression analysis, the impact of TCO consideration by the customer and sales personnel on customer loyalty and satisfaction was evaluated. Furthermore, multiple regression analysis is used to identify what drivers predict TCO consideration by the customer.

## **Conclusion**

There are two major conclusions: (1) It is important that sales personnel put more emphasis on and are more knowledgeable of TCO. If the sales personnel TCO consideration is lower than the customer's this has a dramatic effect on the customer's loyalty and satisfaction. (2) Customers who account for TCO in their buying decision need experienced and trained sales personnel that can adequately respond to TCO related questions.

As for the control variables this study found that IATA service level, DMU function: buyer, Political stability, Electrical energy prices and customer size have a significant positive effect on the TCO consideration by the customer. In contrast, customers located in SE-Asia have a lower TCO consideration as compared to the other regions.

## **Limitations**

There are several limitations to this study. (1) The results are based on a relatively low sample size of 62 respondents. Despite the low relatively low sample size, this study shed light on the influence of TCO consideration on customer loyalty and satisfaction. (2) No objective performance measures were used during this study. Customer loyalty and satisfaction was measured based on items filled out by the customers themselves, rather than using objective measures like customer profit, which influences the validity of these results. (3) Due to the low sample size no contrasts between groups could be performed. These contrasts could provide a deeper understanding of the differences between groups of customers. (4) Since this study uses cross-sectional data it is not capable of identifying causal relationships.

## **Managerial implications**

There are three main implications for management of the sales organization: (1) Sales personnel play an important role in delivering TCO information to the customer. Customers consider TCO on a high level and need experienced sales personnel that can adequately respond to these needs and deliver relevant TCO information. (2) To better serve these customers sales personnel should be trained in the TCO aspects of the systems they sell. What are the long term benefits for the customer, how does a change in the design affect the TCO costs? Sales personnel should be aware of these aspects and be able to educate the customers in order to provide the best overall value. (3) The results of this study can be used by the sales organization to develop specific TCO sales strategies. In general, larger sized customers who are located in politically stable countries with higher electricity prices that offer a high level of services towards its passengers are highly considering TCO in their buying decision.

### **Directions for future research**

This study provides several directions for future research. (1) Despite the low sample size that is used for this study, this study proved the importance of sales personnel to consider TCO during the sales process as it influences the loyalty and satisfaction of the customer. To strengthen the findings and conclusion a larger sample size is needed. Moreover, a larger sample size provides opportunities to investigate contrast like different situations or customers, this could provide a better understanding. (2) Future research could investigate how sales personnel should best deliver TCO information to customers, for instance having a value focus instead of a price focus.



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# **1 Introduction**

This chapter provides the motivation for this study, the contribution and outline of this thesis.

## *1.1 Motivation*

Within the fields of marketing and sales, research on total cost of ownership (TCO) is limited.

Prior TCO research has investigated TCO mainly from a purchasing perspective with an aim to minimize costs for the customer. This thesis expands this body of research by taking a sales perspective that takes into account the influence sales personnel have in providing TCO information.

Salespeople have to interact, and sell to and with customers in a market segment. In this market segment multiple product differentiations can be offered to fit specific customer needs (Dickson & Ginter, 1987). For instance, some customers seek a low cost product, while other customers seek a more luxurious product that offers a higher quality. In similar argumentation, TCO enables decision-makers in focusing on total value received and not simply initial price (Wouters, Anderson, & Wynstra, 2005). Nevertheless, most customers do not consider the total value received and focus on initial price. Ellram and Siferd (1993) stated that adoption of TCO is limited, as calculating and using TCO proves difficult for purchasing managers (Milligan, 1999). This provides opportunities for the sales personnel to demonstrate relevant TCO information to these customers in order to educate the customer in making buying decisions based on the total value received.

Research that takes a sales perspective focus is limited. Therefore, this study will focus on how consideration of TCO aspects by the sales personnel affects customer loyalty and satisfaction. In contrast, how do customers consider TCO in their buying decision? This role of TCO consideration and its effect on customer loyalty and satisfaction will be the subject of this thesis.

For sales managers, quantitative data enables them to acquire further insights into how sales personnel consider TCO and how this affects customers TCO consideration during the sales process. If this information is related to customer loyalty and satisfaction there are possibilities to further study and understand the behavior of sales personnel. Furthermore sales strategies and

organizational changes can be made to better serve the customer's needs thereby increasing the sales performance.

Within current research, the main research direction of TCO has a purchasing focus with the aim of minimizing total costs. This thesis expands this body of research by taking a sales perspective within the sales personnel-customer dyad. To investigate this further, the following research questions are stated:

***R.Q.: What is the effect of consideration of TCO by the sales personnel on customer loyalty and satisfaction?***

This main research question can be divided into two sub questions:

***S.Q. 1: What is the effect of consideration of TCO by the sales personnel compared to consideration of TCO by the customer on customer loyalty and satisfaction?***

***S.Q. 2: For which other variables does this analysis need to be controlled?***

## *1.2 Contribution*

Research relating TCO consideration by sales personnel compared to TCO consideration by the customer is limited. This thesis expands this body of research by taking a sales perspective and provides new conceptual insights.

## *1.3 Thesis outline*

Chapter 2 presents an overview of the theoretical background on TCO and provides insight on the purchasing versus sales perspective. Chapter 3 presents the conceptual model based on the theoretical background on TCO and its affect on customer loyalty and satisfaction. Moreover, the hypotheses are described in this chapter. Chapter 4 discusses the methodology and provides insight into the survey, measures and factor analysis. Chapter 5 presents the results found in this study. Chapter 6 discussed the results and provides limitations, the managerial implications and some future research direction.

## 2 Theoretical background

This chapter provides insights on the previously conducted theoretical background of TCO (Heijmann, 2013). Section 2.1 presents the purchasing literature of TCO. Section 2.2 extends this purchasing perspective with studies that account for a sales perspective.

### 2.1 TCO purchasing perspective

The academic literature mentions several definitions for TCO but all have a common denominator. In essence, a broader view is used to identify the true costs of purchasing and using a product or service from a supplier. All costs that occur from purchasing and using a product are included such as indirect costs and life-cycle costs. TCO is defined as “a structured approach for determining the total costs associated with the acquisition and subsequent use of a given item/service from a given supplier.” (Carr & Ittner, 1992). Although this definition is long standing it is used most frequent in recent literature and is most applicable within the context of this thesis.

Ellram one of the main scholars on TCO research wrote multiple articles regarding the TCO subject and pioneered the topic in her early research, later on she conducted follow up research and expanded on her and other works. The following section will elaborate on some of her studies.

Ellram (1993) introduced a chronologic TCO framework based on pre-, transaction and post-transaction components. Ellram further acknowledges that different product categories have different characteristics that are important in the TCO calculations as the costs associated in TCO analysis when an item is in use differ greatly by type of buy. (1) The purchase price of capital goods is around 35 percent of the total cost during its life cycle and the costs incurred during the life cycle account for 50 or more percent of the TCO. (2) Maintenance, Repair and Operating Supply items (MRO) have the largest cost associated to failure and replacement costs when in use. (3) Services

are the most difficult to pinpoint costs. She advises that tangible issues that should be part of TCO analysis: costs of service agreements and costs of services performed outside of service agreements.

Later, Ellram (1994) mentions three main barriers to TCO implementation: (1) the corporate culture, (2) education and (3) resource allocation. The main finding is that the importance of the item being purchased is a good indicator of whether a firm will perform a TCO calculation. Ellram (1995) researched the primary uses of TCO models by the case study firms. The primary uses for TCO as mentioned by these firms were (1) supplier selection, (2) supplier evaluation, (3) measurement of ongoing supplier performance and (4) to drive major process changes. The recommendation for firms is to use TCO for supplier selection and evaluation as it “proves to be a powerful, competitive tool and communication tool”. Ellram and Siferd (1998) conducted a case study involving 11 organizations as to how they apply TCO in their purchasing decisions. The research revealed TCO analysis supports a whole range of decisions from routine day-to-day operation decisions to strategic decision, such as how to reengineer a process.

While Ellram mainly conceptualizes TCO other scholars have used this established body of knowledge to compute models that could purchase the optimal order quantity and source the optimum market share from suppliers. These studies will be elaborated in the following section.

Degraeve and Roodhooft (1999a) designed a mathematical programming model to select suppliers based on TCO minimization. They divided purchasing into three hierarchical levels: (1) Supplier level, (2) Ordering level and, (3) Unit level.

(1) The first level is the supplier level. Activities are only performed at this level if a given supplier is being used. Costs that fall in this level are for example, quality audits and the salary of a purchasing manager who manages the relationship with this supplier.

(2) The second ordering level includes activities that have to be performed each time an order is placed with a given supplier. These include for example, receiving costs, invoicing costs and transport costs.

(3) The unit level is the last hierarchical level. These include activities that are performed for a unit product in a specific order. These for example could include additional costs of a production shutdown caused by a fault in a product purchased from a supplier. The model reported overall expected cost savings over the current policy by 8 percent and 11.5 percent respectively. Later that year Degraeve and Roodhooft (1999b) further expanded upon their mathematical programming model to further improve the efficiency of the purchasing process. This model allows for the selection of suppliers and determines order quantities over a multi-period time horizon.

(4) They introduce a fourth hierarchical level of activities associated with purchasing. These include batch level costs that are related to specific batches. In the described case study quality of the product accounted for about 70 percent of the TCO of a supplier. The results of the model can be used for determining optimal purchase strategies and provide an overview of supplementary activities associated with external purchases. Moreover the model can be used for negotiations with suppliers as all relevant criteria are taken into account.

Extent to the previous models Degraeve, Labro, Roodhooft (2004) provides the first application of TCO sourcing for services. As noted by Ellram (1993) services are especially difficult to pinpoint relevant costs in TCO calculations and other previous literature solely studied TCO and the sourcing of components not services. A mathematical programming model is developed at Alcatel Bell to select airlines for 56 destinations. TCO savings compared to the previous ad hoc policy account to about 19.5 percent. The optimum airline policy further reduced the total number of suppliers from 34 to 9 airlines and proposes single sourcing for most of the destinations. This result is comparable with previous research that also found that reducing the amount of suppliers reduces TCO for the buying firm.

While these mathematical models prove helpful in the previously described cases. A general system for applying this logic was not present therefore Degraeve, Roodhooft, van Doveren (2005) developed a company-wide management information system for defining procurement strategies based on the TCO framework. In the case study a company-wide management information system is implemented and results are elaborated upon. The model minimizes the TCO while meeting the demand for a given product group. The costs that fall into the TCO model consist of five levels: (1) supplier level, (2) product level, (3) order level, (4) product-order level and (5) unit level, this information is captured in a custom designed matrix that measures cash and non cash attributes per cost level. To improve the usability of the model a user friendly and versatile software package was designed. In conclusion, the studies performed by Degraeve et al. quantify cost assets identified by Ellram on a conceptual level and reported purchasing improvements up to 19.5 percent for the case study companies.

## *2.2 TCO sales perspective*

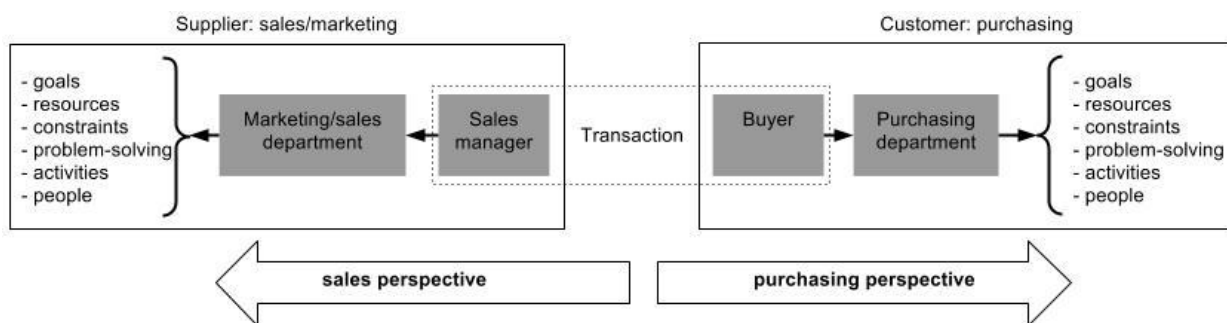
The previously discussed literature defines, conceptualizes and applies TCO with the goal to minimize costs for the purchasing side of the seller-purchaser dyad. This section contrasts the purchasing with a sales perspective.

Purchasing is defined as ‘The management of the company’s external resources in such a way that the supply of all goods, services, capabilities and knowledge which are necessary for running, maintaining and managing the company’s primary and support activities is secured at the most favourable conditions’ (Van Weele, 2009). As Van Weele (2009) discusses purchasing is recognized as a key business driver, since most companies today spend more than half of their sales turnover on purchased parts and services. Purchasing can take place in the business-to-consumer (B2C) or the business-to-business (B2B) market and major differences occur in the motives purchasers have in these markets. The main characteristics of purchasing in B2B market are the use



of a decision-making unit (DMU), price negotiations and a rational buying process. Moreover, B2B purchasing is performed at a strategic level in most organizations. The number of customers are limited and there are often long-lasting relationships between the buying and selling parties (Van Weele, 2009). In short, the purchasing perspective takes the focus of the buyer and aims the supplier to deliver the best system for their situation at the lowest costs.

The sales perspective takes the focus of the supplier and is interested in knowing the buying needs of the customer in order to provide the best offer. In the book by Jobber & Lancaster (2006) selling is defined as ‘The nature and role of selling is to make a sale. This seemingly obvious statement disguises that is often a very complex process, involving the use of a whole set of principles, techniques and substantial personal skills, and covering a wide range of different types of selling tasks’. See Figure 1 for the sales versus purchasing perspective.



**Figure 1: Purchasing and sales transaction (adapted from Van Weele, 2009)**

The sales and purchasing perspectives have similarities and differences. (1) The actors involved differ as there is the supplier (sales personnel) and the customer (buyer). The sales personnel prefer to discuss the added value whereas buyers prefer to discuss and compare prices. The sales personnel also use different argumentation as they talk about selling points, whereas buyers talk about buying needs.

(2) In the purchasing and selling dyad both sides are similar in that they perform a boundary spanning function because they interact externally with other companies. This boundary spanning function is further elaborated in a study by Wouters, Anderson, Wynstra (2005): “Since sourcing

decisions may impact costs of the customer firm as well as the supplier costs, TCO in its most progressive form is a boundary-spanning concept that involves supplier cooperation and information sharing”. Now the contrast between the purchasing and sales perspective is elaborated, the next section will provide insights from more recent TCO literature that incorporates a sales perspective.

This section will discuss TCO literature that accounts for the interaction between the selling and buying company and provides new insights that are used in the conceptual model that is treated in chapter 3. Zachariassen and Arlbjorn (2011) conducted in-depth interviews with a company’s purchasing division and five of its suppliers. Their study aids in identifying which customers are worth allocating TCO sales resources. They proposed a taxonomy based on the strength of the relationship between the selling and buying companies involved and the complexity of TCO cost drivers. There are four main findings:

- (1) When the relationship with the supplier is at arm’s length and the level of TCO cost driver complexity is low, the use of TCO can be seen as manipulation. The research found that “indirect costs associated with negotiating with suppliers actually increase due to the increased emphasis on cost data, which runs counter to the original intention of TCO.” In this case it is thus better for the sales personnel to not use TCO data when communicating with a customer.
- (2) When the relationship is not strategic and when the complexity of TCO cost drivers is high the use of TCO is not advised. They found that TCO can serve as an irritating tool for both sales personnel and the customer and it ultimately precludes rational decision making.
- (3) In contrast, when the relationship proves to be a partnership and the TCO cost drivers are of low complexity then confirmation is given. Here “TCO served as a relatively uncomplicated confirmation of the partnership for both the focal firm and the respective suppliers”. Here TCO functions as a confirmation of the mutual interests of the parties.

(4) When the relationship is more complex learning occurs. “Based on the empirical data, both parties remarked that they would have a strong incentive to mutually obtain information about the total costs that arise due to transactions among the parties.” The parties used the information gained from TCO calculations to identify indirect costs that are unnecessary high and improve them.

In conclusion, the described taxonomy allows firms to more effectively allocate their sales resources in TCO calculation efforts. The practical implications indicate the usage of TCO calculations should be done for customers with a strong relationship (partnership). Thus when using TCO calculations in negotiations and proposals to prospects, this could best be done for prospects where there is an expected long-term relationship.

## **Value**

Recent studies indicate that sales personnel play an important role in delivering value to the customer. In addition to costs (TCO) a value perspective communicates what advantages the customer receives from using a product or service.

Wouters, Anderson and Wynstra (2005) introduce the concept: total value of ownership (TVO) that “captures both total cost considerations in ownership, but also performance advantages gained by the purchasing firm to create value for its customers and receive additional revenues and profits that it otherwise could not”. Buyers find it difficult to quantify the value of alternative purchase possibilities, as “most of their suppliers were unable to demonstrate the value of their proposals” (Wouters et al., 2005). These arguments indicate the importance of the sales personnel to consider TCO aspects and sell these to the customer. Value can be defined as “the worth in monetary terms of the economic, technical, service, and social benefits a customer firm receives in exchange for the price it pays for a product offering, taking into consideration competing suppliers’ offering and prices” (Anderson, Jain, & Chintagunta, 1993; Anderson & Narus, 1998). In similar argumentation, a recent article by Snelgrove (2012) mentions ways in which TVO in the future quantifies the total

value created for the customer. This customer value creation could for instance be: increased revenues, increased price premium, reduced risk, reduced working capital or fixed capital investment or any other level which positively impacts a customer's profitability. In the future TVO could be used for offering 'pay for performance' contracts. Alternatively sales could offer two options to the customer. A conventional high initial price versus pay for performance, the customer can then choose where to take the risk plus the benefit. This concept demonstrates the importance of sales personnel in conveying TCO information and the added value to the customer.

In conclusion, this section discussed studies that account for a sales perspective and indicates the importance sales personnel have in providing TCO information to the customer. In the next chapter this information is used in the conceptual model.

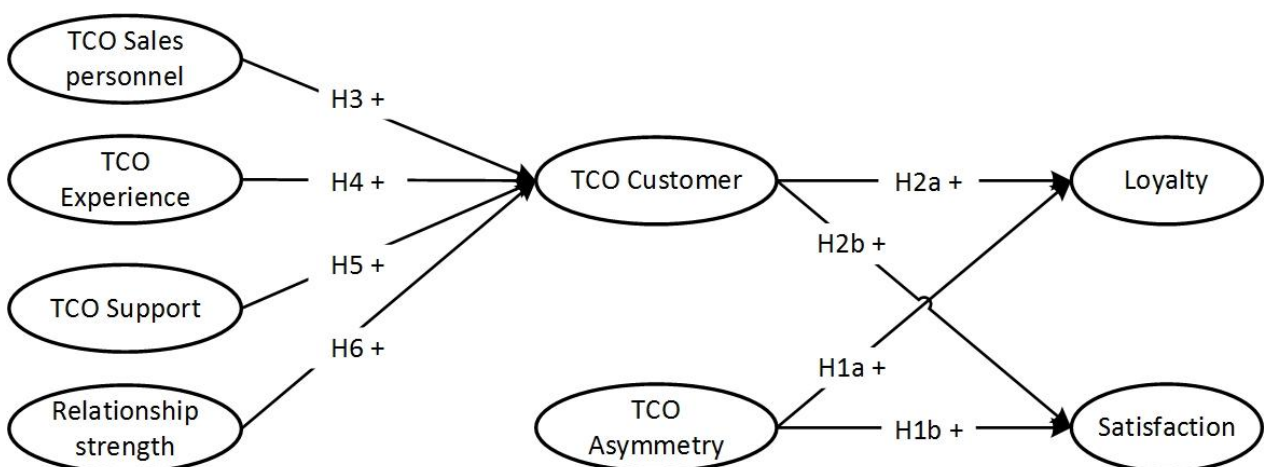
### 3 Conceptual model and hypotheses

After discussing the theoretical background, a conceptual model is presented in order to extend TCO with a sales perspective. This conceptual model will focus on TCO consideration by the sales personnel and the customer and its effect on customer loyalty and satisfaction. Next, hypotheses were formulated to investigate the effect of different relationships.

#### 3.1 Conceptual model

See Figure 2 for the conceptual model. It includes the sales perspective antecedent relationship strength between the seller and buyer (Zachariassen & Arlbjorn, 2011) and contributes to the literature by adding the TCO consideration by sales personnel. Furthermore, this model includes more traditional TCO antecedents such as the TCO experience and the TCO management support of the customer (Wouters et al., 2005). The driver TCO Asymmetry is included to examine the importance of TCO by the sales personnel compared to TCO by the customer.

To investigate the influence of each driver, hypotheses were formulated on each element Loyalty and Satisfaction (H1, H2). Since this thesis conceptualizes the importance of sales personnel it is interesting to investigate how the TCO sales personnel driver compares to existing TCO antecedents. Therefore, hypotheses were formulated to investigate the effects of these antecedents on TCO consideration by the customer (H3 through H6).



**Figure 2: Conceptual model linking TCO to customer loyalty and satisfaction**

### 3.2 Hypotheses

This section discusses the influence of TCO consideration on customer loyalty and satisfaction. As this study also focuses on the sales perspective it contributes current TCO research that solely focuses on the purchasing perspective. This study therefore measures two TCO perspectives, one measures the TCO consideration by the customer and one measures the TCO consideration by the sales personnel. When the sales personnel consider TCO aspects on a higher level than the customer considers these (positive asymmetry), they create awareness, provide additional information and educate the customer in TCO aspects. As the customer is learning from this information it is likely to improve the customer loyalty and satisfaction. In contrast, when the sales personnel consider TCO on a lower level than the customer (negative asymmetry), it may lower the customer loyalty and satisfaction, as the customer feels left out and his or her needs are not adequately considered by the sales personnel. Therefore, the following hypothesis can be formulated:

*H1: The level of TCO asymmetry is positively related to (a) customer loyalty & (b) customer satisfaction.*

Since TCO is long-term focus versus a short-term price focus, TCO considering customers purchase additional services to maintain and operate the bought good for its lifetime. Therefore these customers have a longer standing relationship with the seller. As these customers have a trusting relationship with the seller this will likely lead to a higher level of customer loyalty and satisfaction. Therefore, the following hypothesis can be formulated:

*H2: The level of TCO customer is positively related to (a) customer loyalty & (b) customer satisfaction.*

The level of TCO consideration by the customer has several antecedents. Zachariassen and Arlbjorn (2011) found that a strong relationship between the customer and seller and complex TCO cost

drivers lead to a learning situation for both parties. Access to cost data and using this data to measure TCO is found to be the main reasons customers do not adopt TCO purchasing (Carr & Ittner, 1992; Ellram & Siferd, 1998; Milligan, 1999). Buyers find it difficult to quantify the value of alternative purchase possibilities, as “most of their suppliers were unable to demonstrate the value of their proposals” (Wouters et al., 2005). These arguments indicate the importance of the sales personnel to consider TCO aspects and educate the customer. By selling with more consideration for TCO aspects the customer can be made aware of these aspects and is likely to consider them in their purchase decision. Therefore, the following hypothesis can be formulated:

*H3: The level of TCO sales personnel is positively related to the level of TCO customer.*

TCO experience refers to the extent a customer has experience with quantifying the total cost of purchasing alternatives. TCO experience is found to influence the consideration purchasing gives to TCO (Wouters et al., 2005). As customers have more experience with TCO and learned from previous purchases that focusing only on the initial price do not always provide the best value, we expect these customers to have a higher level of TCO consideration. Therefore, the following hypothesis can be formulated:

*H4: The level of TCO experience is positively related to the level of TCO customer.*

TCO support by management relates to the encouragement buyers receive from management for using TCO information. Ellram and Siferd (1998) found that management support overcomes user resistance and unfavorable corporate culture. Wouters et al., (2005) found that TCO support by management influences the attention purchasing gives to TCO. As supply chain managers supervise buyers, when management thus focus on TCO the buyers need to account for TCO aspects in their sourcing decisions. Therefore, the following hypothesis can be formulated:

*H5: The level of TCO support by management is positively related to TCO customer.*

According to Zachariassen & Arlbjorn (2011) the allocation of TCO resources by sales personnel should be differentiated. Relationship strength between the selling and buying company is found to predict the level of TCO consideration by the customer. Therefore, sales managers should evaluate the seller-buyer relationship and allocate sales resources to customers with whom a strong relationship is present or expected. Therefore, the following hypothesis can be formulated:

*H6: Relationship strength is positively related to TCO customer.*

In conclusion, after formulating each hypothesis the next chapter provides the methodology used to investigate these hypotheses. Chapter 4 provides insights into the sample, survey, measures and factor analysis.



## **4 Methodology**

This chapter discusses the methodology for researching TCO consideration and its impact on customer loyalty and satisfaction. Section 4.1 discusses the sample and procedure. Section 4.2 provided an overview of the survey. Section 4.3 deals with the measures used in the survey. Section 4.4 tests the reliability of these measures using factor analysis.

### *4.1 Sample and procedure*

To test the research model data was needed. This data was collected from customers of Vanderlande Industries (VI) which provides automated material handling systems and related services. The company operates in the markets baggage handling at airports, automation of warehouse and distribution centers and sorting solutions in parcel and postal facilities. The company implements material handling systems of all sizes, ranging from local sorting depots, airports and distribution centers right up to the world's largest facilities. This thesis deals only with baggage handling customers of the international sales department. These are B2B customers that range from local airports to international hub airports that process over 25 million passengers per annum. VI sells baggage handling systems (BHS) of high quality and with low operation costs to all these customers to support their baggage handling service towards its passengers. VI recognizes differences in customer demands in the market, some customers are prone to purchase a BHS based on a low initial price. For other customers initial price is not an issue, reliability and capabilities of the system are more important. The sales department is interested to know what drives customer loyalty and satisfaction of those customers that consider TCO. Furthermore, they are interested to know which customers consider TCO in order to improve their sales performance.

These customers are suitable for this research as they are only comprised of B2B customers. The main characteristics of B2B customers are the use of a decision making unit (DMU), price negotiations and a rational buying process (Van Weele, 2009). Furthermore, purchasing based on TCO in this market is relevant as the purchase price of capital goods is around 35 percent of the

TCO (Ellram, 1993). These customers are located worldwide and responses came from Europe, Australia, Asia and even Africa. The result of 62 completed surveys, which is a response rate of 41.3 percent, was achieved by using a three-wave method that comprised of one email invitation and two reminders (Cooper & Schindler, 2006). The reminders were sent one week after the previous notification to allow for some response time. As a reward for completing the survey the respondent received a nice desk clock that runs on water. No monetary reward was used as customers are using different currencies thereby making it difficult to remunerate the respondent.

#### *4.2 Survey*

The online survey consists of 25 items based on scales used in different empirical studies. This section will explain the different sections of the survey. Participants received an invitation per email with a link to the online survey. See Appendix I for the invitation and the survey used for this study.

The first measurement part of the survey measures the TCO consideration using 14 items that are self-developed and based on the TCO categorization by Ferrin and Plank (2002). A selection of the items was made based on factor loadings and communalities (Field, 2009). The TCO consideration scale was measured by a 5 point Likert scale that ranged from (1) "Would not consider" to (2) "Definitely consider". Furthermore, this section deals with two items measuring the TCO experience and the TCO support of management. These items are based on a study by Wouters, Anderson, Wynstra (2005) and uses a 7 point Likert scale.

The second measurement part of the survey measures the customer satisfaction and loyalty. In total 5 items are used to measure these constructs. The scale is based on a study by Coelho & Henseler (2012) and uses 3 items to measure the customer satisfaction and 2 items to measure the customer loyalty. The scale uses a 7 point Likert scale that ranged from (1) "very unlikely" to (7) "very likely". Factor loadings and communalities were examined and proved these are reliable constructs. The relationship strength between the customer and supplier was measured using a single item with a 7 point Likert scale based on a study by Zachariassen and Arlbjorn (2011).

Finally, the study includes several control variables, which are dmuf function, iata service level and the customers ID. This customer ID was then used to compute additional control variables, which are Welfare, Political instability, Energy prices, Customer size and, the Area in which the customer is located. These control variables are used to test different assumptions based on interviews with experienced sales managers of the supplier VI.

To provide insight in the items used in the survey, a brief overview of all the measures is provided in the next section.

### 4.3 Measures

In order to test the hypotheses as formulated in the conceptual model, data is gathered by means of an online survey. This section provides an overview of how each dimension was measured.

#### **Independent variables**

*TCO consideration by the customer:* The TCO consideration scale is self-developed for this study. The scale operationalize the concept of TCO categorization by Ferrin and Plank (2002). The measurement instrument directly asks the respondent how they consider each of the TCO categories in the purchase decision. We measured all scale items on a five-point scale that ranged from 1 = "would not consider" to 5 = "definitely consider".

*TCO consideration by VI sales personnel:* Customers are asked for their opinion of how the VI sales personnel considered TCO categories during the sales process of their product or service. This scale is identical to the self-developed *TCO consideration by the customer* scale. However, since the sale has already taken place, the scale anchors are slightly adapted to a past tense. Thus, the five-point scale ranged from 1 = "did not consider" to 5 = "definitely considered".

*TCO experience:* We measured TCO experience using the item by Wouters, Anderson, Wynstra (2005) on a seven-point scale that ranged from 1 = "No experience at all" to 7 = "Use very frequently".

*TCO management support:* We measured TCO management support using the item by Wouters, Anderson, and Wynstra (2005) on a seven-point scale that ranged from 1 = "No support at all" to 7 = "Full support".

*Strength of the relationship:* This single item is based on a study by Zachariassen and Arlbjorn (2011). We measured this item on a seven-point scale that ranged from 1 = "No relationship" to 7 = "Very strong relationship".

### **Outcome variables**

*Customer loyalty & satisfaction:* This item scale is based on a study by Coelho & Henseler (2012). Two items measure loyalty and three items measure satisfaction. We measured all items on a seven-point scale that ranged from 1 = "very unlikely" to 7 = "very likely".

### **Control variables**

Some variables are not based on grounded theory but on roundtable discussions with experts in the thesis firm. The following variables are stated for clarification purposes.

*IATA Service level:* Respondents are asked to choose the service level the airport offered to passengers on a scale from 1 to 6. This information is standardized according to IATA regulations.

*DMU role:* This categorical variable asks respondents to indicate their role within the DMU, multiple roles could be selected. The DMU roles are based on (Van Weele, 2009) and labeled as 1=Influencer, 2=Buyer, 3=Decision maker, 4=Influencer, 5=Gatekeeper and 6=User.

*Welfare:* This item states the Gross Domestic Product (GDP) per capita for the country in which the customer is located.

*Stability:* This item state the Political Instability Index for the country in which the customer is located.

*Energy prices:* This item states the price of electricity in US cents/kWh for the country in which the customer is located.

*Customer size:* This item states the number of passengers per year.

*Customer area:* This categorical variable is used to locate the customer in a certain sales area. For example, 1=Africa and 5=Middle-east.

#### 4.4 Factor analysis

In this study factor analysis (FA) was used to determine the measurement quality of the constructs (Field, 2009). First, the TCO consideration scale for the customer and the sales personnel were examined containing 14 items. Second, the outcome variables 'customer loyalty' containing 2 items and 'customer satisfaction' containing 3 items were examined.

First, the TCO consideration consisted of 7 items, which are 'Operational costs', 'Quality', 'Technological advantage', 'Reliability and capability of VI', 'Maintenance', 'Life cycle' and, 'Initial price'. TCO consideration by the customer (i.e. TCO\_C\_1 to TCO\_C\_7 ) and 7 items measuring the TCO consideration by the sales personnel (i.e. TCO\_S\_1 to TCO\_S\_7).

Communalities measured for all 14 items were all sufficient, except for TCO\_C\_7 and TCO\_S\_7, which were below the cut-off point of 0.5. Therefore, TCO\_C\_7 and TCO\_S\_7 were deleted from the TCO consideration construct. All factor loadings are above 0.6, which is still good according to (Field, 2009). The cronbach's alpha for TCO sales is 0.89 and for TCO customer is 0.81, indicating good scale reliability. The results of factor analysis and reliability tests are presented in Table 1.

Second, the customer loyalty construct consists of 2 items. All communalities were above 0.92. The KMO is 0.5, which is barely acceptable and Barlett’s test of sphericity is significant. All factor loadings are above 0.96, as can be seen in Table 1. The cronbach’s alpha is 0.91. The customer satisfaction construct consists of 3 items. All communalities were above 0.81. The KMO is 0.74, which is good and Barlett’s test of sphericity is significant. All factor loadings are above 0.89, as can be seen in Table 1.

**Table 1: Factor analysis and instrument reliability**

<b>Construct</b>	<b>Original items</b>	<b>Items dropped</b>	<b>Actual items</b>	<b>Loadings</b>	<b>Chronbach's <math>\alpha</math></b>
TCO Customer (TCO_C)	7	1	6	0.62 - 0.74	0.81
TCO Sales (TCO_S)	7	1	6	0.69 - 0.84	0.89
Customer satisfaction (SAT)	3	0	3	0.89 - 0.94	0.90
Customer loyalty (LOY)	2	0	2	0.96 - 0.96	0.91

**Note:** TCO\_C\_7 and TCO\_S\_7 were deleted due to low factor loading scores

In conclusion, all constructs used in this study are checked using Factor analysis and reliability tests. Then, all variables are computed in the dataset by summing all the items in a construct and dividing them by the number of construct items. These computed variables will be used in the analysis in the next chapter.

## 5 Results

This chapter briefly describes the descriptive statistics in section 5.1 before going into the regression results that are described in section 5.2.

### 5.1 Descriptive statistics

Data was collected via online self-report questionnaires from customers of supplier VI. Of the 150 customers that were invited to participate, 62 customers responded yielding a 41.3% response rate. Since the sample is relatively low no cases will be excluded from the data. Due to missing values the analysis results are based on an effective sample size of 50 cases that completely filled out the survey questions (33.3%).

### 5.2 Regression results

Table 2 provides an overview of the multiple regression analysis results. These results are represented in Figure 3.

As can be seen in Table 2 on the next page multiple results were found. Hypothesis 1a stated that TCO Asymmetry has a positive influence on the customer loyalty. This hypothesis is ( $\beta = .456$ ,  $p < .002$ ) supported by the analysis. Also hypothesis 1b is supported, TCO Asymmetry has a positive influence on the customer satisfaction ( $\beta = .500$ ,  $p < .002$ ). Thus, when the sales personnel pays more consideration to TCO than the customer does this has a positive effect on the loyalty and satisfaction of the customer. Moreover, this indicates that when the customer pays more consideration to TCO than the sales personnel does this it has a negative effect on the loyalty and satisfaction of the customer.

As for the TCO consideration by the customer on the level of customer loyalty, a significant influence was found. Thus, hypothesis 2a is supported ( $\beta = .235$ ,  $p < .05$ ). Moreover, a positive influence was found on customer satisfaction, in support of hypothesis 2b ( $\beta = .370$ ,  $p < .05$ ). This result indicates the importance of the customer's consideration of TCO during the sales process.

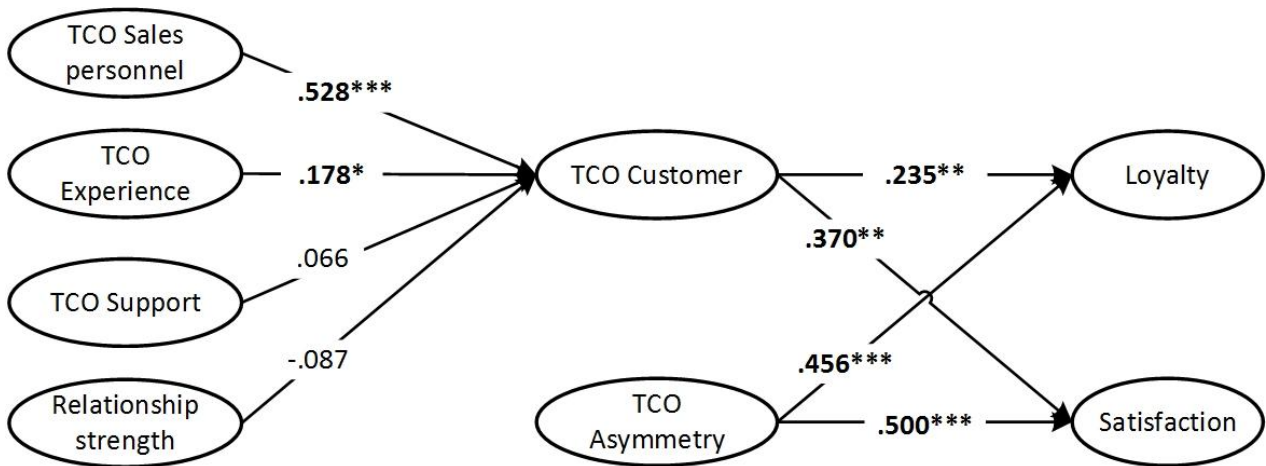
**Table 2: Results of the multiple regression analysis**

Independent variable	TCO		Customer loyalty (a)	Customer satisfaction (b)	Hypothesis
	Customer	Hypothesis			
<i>Main effects</i>					
TCO Asymmetry	N/A		.456***	.500***	H1a: Supported H1b: Supported
TCO Customer	N/A		.235**	.370**	H2a: Supported H2b: Supported
TCO Sales	.528***	H3: Supported	N/A	N/A	
TCO Experience	.178*	H4: Supported	-.046	.011	
TCO Support	.066	H5: Not Supported	.002	-.110	
Relationship strength	-.087	H6: Not Supported	.435***	.294**	
<i>Control variables</i>					
IATA servicelevel	.277**		N/A	N/A	
DMU: Buyer	.301***		N/A	N/A	
Welfare	-.057		N/A	N/A	
Political instability	-.179*		N/A	N/A	
Energy prices	.195**		N/A	N/A	
Size customer	.165*		N/A	N/A	
Area: Asia	-.234**		N/A	N/A	
<i>Model fit</i>					
R <sup>2</sup>	.722		.557	.477	

**Note:** (\*p <.1) (\*\*p <.05) (\*\*p <.002)

Hypothesis 3 stated that TCO consideration by sales personnel has a positive influence on the TCO consideration by the customer. This hypothesis is ( $\beta = .528, p < .002$ ) supported by the analysis. This result indicates the importance of the sales personnel to consider TCO during the sales process, as it influences the consideration of the customer and thus influences the satisfaction of the customer. TCO experience by the customer has a positive influence on the TCO consideration by the customer, thus hypothesis 4 is supported ( $\beta = .178, p < .1$ ). This indicates that customers who have experience with TCO also consider TCO in their buying decisions. The other variables TCO support management of the customer and the relationship strength between the customer and supplier VI al proved to have no influence on the TCO consideration by the customer. So, hypotheses 5 and 6 are not supported. Finally, the regression tests assumptions based on interviews with experienced sales managers in the supplier firm.





Significance levels \*  $p < .1$ , \*\*  $p < .05$ , \*\*\*  $p < .002$

**Figure 3: Results data analysis with SPSS Statistics**

These assumptions are included as control variables that are expected to influence the level of TCO consideration by the customer: (a) IATA service level, (b) DMU function, (c) Welfare, (d) Political instability, (e) Energy prices, (f) Customer size and (g) Customer area. It was found that IATA service level has a positive influence on TCO consideration by the customer ( $\beta = .277, p < .05$ ). This indicates that customers who operate an airport that offers a higher level of service to its passengers also have a higher level of TCO consideration. Furthermore, it was found that the DMU function: buyer ( $\beta = .301, p < .002$ ) and Energy prices ( $\beta = .215, p < .05$ ) both positively influence the level of TCO consideration by the customer. These results indicate that customers located in a country with higher electrical energy prices have a higher level of TCO consideration. Buyers compared to the other DMU functions have a higher level of TCO consideration. Larger customers ( $\beta = .165, p < .1$ ) and customer located in politically stable countries ( $\beta = -.179, p < .1$ ) also have a higher TCO consideration. Customers located in Asia have a lower TCO consideration compared to the other sales areas ( $\beta = -.234, p < .05$ ). The remaining control variable: Welfare proved to have no significant influence.

In conclusion, all results found in the multiple regression analysis were discussed. Next, the conclusion and discussion based on these results are presented in chapter 6.

## **6 Conclusion and discussion**

This thesis expands current TCO literature by focusing on the sales personnel. This thesis therefore investigated how consideration of TCO by the sales personnel impacts customer loyalty and satisfaction. The main purpose was to examine the nature of the relationship sales personnel play in considering TCO and how this interacts with the customer's consideration for TCO within a business to business context. Moreover, the antecedents of TCO consideration by the customer are investigated.

There are two major conclusions. (1) It's important that sales personnel put more emphasis on and are more knowledgeable of TCO. If the sales personnel TCO consideration is lower than the customer's this has a dramatic effect on the customer's loyalty and satisfaction. In essence the customer's needs are not met which results in a lower customer loyalty and satisfaction. So, it is important that customers are informed by the sales personnel regarding TCO aspects during the sales process. By doing so customers are educated in TCO related subjects and this increases their understanding of how the system they intend to buy will deliver long term benefits. This, results in higher customer loyalty and satisfaction. So, to answer the first sub question: what is the effect of consideration of TCO by the sales personnel compared to consideration of TCO by the customer on customer loyalty and satisfaction? It is advisable for the sales personnel to over deliver on TCO consideration during the sales process as this educates the customer and results in higher customer satisfaction and loyalty.

(2) Customers who account for TCO in their buying decision need experienced and trained sales personnel that can adequately respond to TCO related questions. By using more experienced sales personnel these customers can be educated in TCO aspects and demonstrate how the system will perform. This illustrates the importance for sales personnel to be trained in understanding and

delivering TCO information to the customer. In order to deliver the best value to the customer, sales personnel should be able to make TCO calculations and understand how system design changes affect TCO.

There are several boundary conditions included in this study. This study found that IATA service level, DMU function: buyer, Political stability, Energy prices and customer size have a significant positive effect on the TCO consideration by the customer. In contrast, customers located in SE-Asia have a lower TCO consideration. This answers the second sub question: for which other variables does this analysis need to be controlled.

To answer the research question and draw a conclusion, this study concludes that sales personnel plays an important role to improve customer loyalty and satisfaction. The results of the analysis showed that TCO consideration by the sales personnel affects the level TCO consideration by the customer and that in turn affects the level of customer loyalty and satisfaction. Moreover, by examining the Asymmetry between considerations of both parties it was found that it is harmful for sales personnel to under deliver on TCO. In conclusion, this is the first study to broaden the scope of TCO research to not only focus on the purchasing perspective but also account for the sales perspective.

### *6.1 Limitations*

There are several limitations to this study. (1) The results are based on a relatively low sample size of 62 respondents. This low sample size was due to limited sample size accessible. VI uses a customer relationship management system with access to the customer contact information of each sales manager responsible for a certain sales area. After the sales managers screened their contacts this resulted in 171 usable contacts for this research, this was further reduced to 150 as some contact information proved not to be up-to-date. Eventually 62 customers responded to the survey yielding

a 41.3% response rate. Despite the low relatively low sample size, this study shed light on the influence of TCO consideration on customer loyalty and satisfaction. (2) No objective performance measures were used during this study. Customer loyalty and satisfaction was measured based on items filled out by the customers themselves, rather than using objective measures like customer profit, which influences the validity of these results. (3) Due to the low sample size no contrasts between groups could be performed. For instance, the differences between customer types like government compared to contractors. These contrasts could provide a deeper understanding of the differences between groups of customers. (4) The findings of this study could not be used to prove causal relationships since this study uses cross-sectional data.

## 6.2 *Managerial implications*

There are three main implications for management of the sales organization. (1) Sales personnel play an important role in delivering TCO information to the customer. Customers who consider TCO on a high level need experienced sales personnel that can adequately respond to these needs and deliver TCO information. A negative asymmetry between the sales personnel and the customer leads to lower customer loyalty and satisfaction, it is therefore important for the sales personnel to provide TCO information. (2) To better serve these customers sales personnel should be trained in the TCO aspects of the systems they sell. What are the long term benefits for the customer, how does a change in the design affect the TCO costs? Sales personnel should be aware of these aspects and be able to educate the customers in order to provide the best overall value.

(3) The results of this study can be used by the sales organization to develop specific TCO sales strategies. In general, larger sized customers who are located in politically stable countries with higher electricity prices that offer a high level of services towards its passengers are highly considering TCO in their buying decision. Customers that fit this profile should therefore best be served by experienced and trained sales personnel that can adequately deliver TCO information.

Furthermore, customers located in Southeast Asia consider TCO lower as compared to the other regions. Sales personnel should therefore not pay extra attention to TCO in this region.

### *6.3 Directions for future research*

This study provides several directions for further research. (1) Despite the low sample size that is used for this study, this study proved the importance of sales personnel to consider TCO during the sales process as it influences the loyalty and satisfaction of the customer. To strengthen the findings and conclusion a larger sample size is needed. Moreover, a larger sample size provides opportunities to investigate contrast different situations or customers, this could provide a better understanding. (2) It would be interesting to investigate the mediating effects of TCO consideration by the sales personnel with other behavior sales control systems. Does providing incentive rewards to sales personnel increase or decrease their consideration of TCO aspects during the sales process? Does the personality of the sales person influence the short versus long term TCO perspective during the sales process? This study found that customers consider TCO and that this affects the loyalty and satisfaction of the customer, furthermore TCO consideration by the sales personnel significantly influences the level of TCO consideration by the customer. Future research should therefore be focused on the sales personnel and how to best provide TCO information, for instance having a value focus instead of a price focus.

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**Appendix I: Survey**

# Customer survey

## 1. Intro

Dear Customer,

Thanks again for participating in this study. This survey takes about 10 minutes to complete. By completing this survey, you will receive a sustainable desk clock that runs on water and the executive summary with the results of this study.

This study deals with consideration of total cost of ownership aspects in your purchase decision and whether Vanderlande Industries sales personnel provided sufficient consideration for these aspects during the purchase/sales process. Furthermore, some questions are related to your general opinion of Vanderlande Industries and the performance of its sales personnel. By completing this survey you help Vanderlande Industries to better address your needs. All answers will be kept confidential.

Best regards,

Ing. Wibo Heijmann (researcher, Eindhoven University of Technology)

Dr. A. De Jong (1e mentor, Eindhoven University of Technology)

Ing. J. Jongbloets (1e mentor, Vanderlande Industries)

# Customer survey

## 2. Consideration of TCO aspects by customer

This section deals with how you as the customer consider total cost of ownership (TCO) aspects in the purchase decision of a baggage handling system (BHS).

DEFINITION: TCO is a structured approach for determining the total costs associated with the acquisition and subsequent use of a good/service from a supplier.

**Please indicate, for each item, to what extent you as a customer consider this aspect in the purchase decision.**

	Would not consider				Definitely consider
<b>Operational costs</b> such as needed operators	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Quality</b> such as sustainability	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Technological advantage</b> such as the ability for future upgrades	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Reliability and Capability of Vanderlande Industries</b> such as R&D	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Maintenance</b> such as preventive maintenance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Life cycle</b> such as the projected life cycle	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Initial price</b> such as the initial capital expenditure	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**How much experience do you have with using 'total cost of ownership' information for purchase decisions?**

No experience at all	Used a few times				Use very frequently
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**Please indicate to which degree 'total cost of ownership' has the support of top management.**

No support at all						Full support
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## Customer survey

Please indicate, for each item, to what extent you as a customer agree or disagree to the following practices:

Strongly disagree     Strongly agree

If you engage Vanderlande Industries with several other qualified sales companies to compete with downward pricing

If you as a customer and Vanderlande Industries sales personnel engage in either direct or automated settlement

## Customer survey

### 3. Consideration of TCO aspects by Vanderlande Industries sales personnel

This section deals with how Vanderlande Industries sales personnel considered total cost of ownership (TCO) aspects in the sales process of your baggage handling system (BHS).

**Please indicate, for each item, to what extent this aspect is considered by Vanderlande Industries sales personnel during the purchasing/sales process.**

	Did not consider				Definitely considered
<b>Operational costs</b> such as needed operators	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Quality</b> such as sustainability	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Technological advantage</b> such as the ability for future upgrades	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Reliability and Capability of Vanderlande Industries</b> such as R&D	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Maintenance</b> such as preventive maintenance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Life cycle</b> such as the projected life cycle	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Initial price</b> such as the initial capital expenditure	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

# Customer survey

## 4. Performance of Vanderlande Industries sales personnel

The following questions regard your opinion of the performance of Vanderlande Industries sales personnel.

**Please indicate, for each item, the level of satisfaction**

	Very dissatisfied				Very satisfied
The extent to which sales personnel make clear appointments	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Speed at which the promised information is provided	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The friendliness and politeness of sales personnel	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The competence of the sales personnel	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The time taken by sales personnel to serve you	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The attention sales personnel pay to you	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The extent to which sales personnel show empathy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The readiness of the sales personnel to help you	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**The Vanderlande Industries sales personnel...**

	Strongly disagree				Strongly agree
is always taking the initiative in selling BHS and/or services	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
does not give up easily when encountering a problem that makes it difficult to selling BHS and/or services	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
always anticipates potential problems with selling BHS and/or services	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
is constantly on the lookout to identify opportunities to selling BHS and/or services	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
actively scans your growing needs for a new BHS and/or services	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

# Customer survey

## 5. Opinion of Vanderlande Industries

These questions regard your general opinion of Vanderlande Industries.  
NOTE: This regards your opinion at the time of purchase.

### Please indicate, the overall satisfaction you have of Vanderlande Industries?

Very dissatisfied Very satisfied

### Please indicate, the fulfillment of expectations by Vanderlande Industries

Falls short of expectations Exceeds expectations

### Please indicate, the distance of Vanderlande Industries to an ideal company

Very far from ideal Very close to ideal

### Probability to choose Vanderlande Industries again when buying a new baggage handling system or related services

Very unlikely Very likely

### Probability to recommend Vanderlande Industries if a friend or a colleague asked for your advice

Very unlikely Very likely

### What do you think about the reputation of Vanderlande Industries?

Poor reputation Good reputation

### What is the relationship between your company and Vanderlande Industries?

No relationship Very strong relationship

## Customer survey

### 6. Responsibility

The following questions concern you and your company's responsibility for purchasing, operating and maintaining the baggage handling system and/or related services.

#### Is your company also responsible for operating the baggage handling system?

- Yes  
 No

#### Is your company also responsible for maintaining the baggage handling system?

- Yes  
 No

#### What is your main role within the decision making unit responsible for purchasing the baggage handling system? (multiple answers allowed)

- Initiator  
 Buyer  
 Decision maker  
 Influencer  
 Gatekeeper  
 User  
 Other

#### What level of service does your airport offer towards passengers (according to IATA standards)?

- Excellent: Conditions of free flow, no delays and excellent levels of comfort.  
 High: Conditions of stable flow, very few delays and high levels of comfort.  
 Good: Conditions of stable flow, acceptable delays and good levels of comfort.  
 Adequate: Conditions of unstable flow, acceptable delays for short periods of time and adequate levels of comfort.  
 Inadequate: Conditions of unstable flow, unacceptable delays and inadequate levels of comfort.  
 Unacceptable: Conditions of cross-flows, system breakdowns and unacceptable delays; an unacceptable levels of comfort.  
 Other (please specify)



# Customer survey

## 7. General

These last questions concern you and your background.

**How many years of experience do you have at your current company?**

**What is your job title?**

**What is the name of the department in which you work?**

**What is the name of your airport? (or the IATA 3-letter airport code)**

If you would like to receive your sustainable desk clock that runs on water, please fill in your recipient information below.

**What is your recipient information?**

<b>Name:</b>	<input type="text"/>
<b>Company:</b>	<input type="text"/>
<b>Address 1:</b>	<input type="text"/>
<b>Address 2:</b>	<input type="text"/>
<b>City/Town:</b>	<input type="text"/>
<b>State/Province:</b>	<input type="text"/>
<b>ZIP/Postal Code:</b>	<input type="text"/>
<b>Country:</b>	<input type="text"/>
<b>Email Address:</b>	<input type="text"/>

**Would you like to receive the executive summary with the results of this study?**

- Yes  
 No

**If you have any questions and/or remarks, please state them here.**

**When answering this survey, did you experience any problems? Please explain.**

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