

Master Thesis

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# MEASURING CUSTOMER SATISFACTION AT A SAAS PROVIDER: A B2B PERSPECTIVE

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## I. Abstract

**Objective** – The percentages of customer churn and revenue churn at SecuriX have raised the demand for more insights in the level of customer satisfaction. Customer feedback was previously obtained during ad-hoc contact with customers and the question raised how SecuriX could measure customer satisfaction among customers. Therefore, this study aims to develop a framework for SaaS providers that enables to measure customer satisfaction in a B2B environment.

**Methodology** – The survey framework is built on the SaaS-Qual model, which has been tailored to the context of providing SaaS to security firms, following the DSRP methodology. This is accomplished through the use of focus groups, a pilot survey, and validating interviews. After the use of these methods, the final questionnaire was reduced to 36 items, which included only the most important items while still providing a comprehensive overview of customer satisfaction.

**Results** – The survey indicated that SecuriX customers are very satisfied with their service. The collected responses represent ■ of the total customer base and are representative of the population from a B2B standpoint. The main areas of improvement are data entry into the system, administrative function usability, and problem resolution by support staff. Based on the findings, the organization can make improvements and conduct a brief follow-up survey to determine whether customers are satisfied with the changes.

**Conclusion** – Following the completion of this study, it is possible to conclude that a SaaS provider can measure the level of customer satisfaction using the proposed survey framework. A small sample size does not interfere with generalizability in B2B, as long as the number of unique key-informants in the sample is large enough. The survey framework enables the service provider to assess customer satisfaction, identify areas for improvement, and learn why respondents provide negative feedback. Furthermore, by using the manual, the organization can independently repeat the customer satisfaction research in order to track changes.

**Implications** – There has been no research into measuring customer satisfaction in the B2B context of security companies. This research serves as a starting point for understanding this niche market. Furthermore, the main contribution of this research is that it supplies the SaaS provider with a survey instrument to measure customer satisfaction that has been validated using multiple methods and is deemed useful by stakeholders in providing useful insights and enabling the organization to improve their processes.

**Originality** – This study optimizes and validates an existing model in a real-world business environment, contributing to the literature on measuring customer satisfaction for B2B SaaS providers by investigating the survey instrument's applicability.

**Keywords** – software provider, business-to-business, security company, software-as-a-service, customer satisfaction, SaaS-Qual, survey instrument.

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# 1. Introduction

Since the beginning of the service industry, collecting feedback from customers is the primary indicator of measuring how satisfied customers are. The information was then used by the service providers to fine-tune their services and ultimately reach the goal of having satisfied customers (Peterson & Wilson, 1992). To make the method more systematic, researchers have investigated into facilitating the process with the development of scales with standardized sets of questions. Well known model is the SERVQUAL (Service Quality) model of Parasuraman, Zeithaml and Berry (1988), that measures the quality of service in order to determine if the service meets the demand of customers. Subsequently, the SERVQUAL model was regularly used to measure customer satisfaction.

Since then, the model to measure customers satisfaction have been adapting to changing business environments such as a shift from B2C to B2B relations and from offline to online service due to technological inventions. As described by Freitas and Neto (2017), with the emergence of SaaS (Software as a Service), keeping track of customer satisfaction became much harder, as the customer and SaaS provider were not in direct contact with each other, as the service was provided online.

Therefore, more recent studies, such as Benlian, Koufaris and Hess (2011) and Chou (2019) revolve around measuring service quality and customer satisfaction in the specific context of SaaS providing companies. These researches have developed models that employ a standardized questionnaire to measure various scales and ultimately define the level of customer satisfaction. Freitas and Neto (2017) state that the SaaS-Qual model is one of the few models that is aimed at measuring customer satisfaction in B2B relations for SaaS providing companies.

Although, the studies that applied the SaaS-Qual or similar model, such as Benlian et al. (2011), Freitas and Neto (2017), Chou (2019) were carried out with a heterogeneous sample from a database, that contained many different organizations, primarily with the goal to validate the used model. With the exception of Basiran and Yusof (2021) using the sample of one organization, although being a qualitative study. But, application of the model in a real B2B environment at a single SaaS provider was not often carried out and thus, previous literature based their findings on a sample where it is not known what SaaS solution is used by respondents.

For this reason, this paper applies an improved version of the SaaS-Qual model in a context, where a SaaS provider supplies their customers, being physical security companies, with a software system to digitalize administrative tasks. The security company segment is an untouched niche in the literature of SaaS and customer satisfaction, so testing the applicability of the model enables other researchers to initiate further research from here. With determining the applicability of the model, most emphasize is on the descriptive analysis of the questionnaire results, so that results are indeed usable to implement improvements.

Providing that, SequriX has currently no clear view on the level of satisfaction among their customers, as the organization loses sight on the opinion of customers after the onboarding process has been completed and the customer is able to individually operate with the software. As a result, SequriX wants to conduct a survey to determine the current customer satisfaction and keep track of it over a longer period of time, to identify which aspects of their service require more attention to improve customer satisfaction.

With this research, the aim is to propose a framework to measure the overall level of customer satisfaction, which can also be used to track whether improvements have had an effect on their level of satisfaction. In the first phase, an extensive survey identifies the factors that customers are less satisfied with. Then, in the second phase, SequriX uses the results of the extensive survey to introduce improvements. Afterwards, a short check-up survey verifies whether the changes have had an effect on the level of satisfaction, this cycle of activities repeats itself every other year. A suitable research question must be designed in order to achieve the aforementioned goal. The following is the research question for this paper: *“How can a SaaS provider measure the level of customer satisfaction of security companies?”*.

Specific sub-questions are defined to provide a more comprehensive answer to the research question. So, the sub-questions are as follows:

- What theoretical concepts are important for SaaS providers in the security industry?
- What requirements should a usable survey framework meet?
- What is the level of satisfaction of SequriX' customers using SaaS at the moment?
- What is the effect of a small sample size on the representativeness of the sample?
- How representative is the sample and what share of revenue does it account for?

At the moment, SequriX serves a customer base of more than ■ security companies in the Benelux and DACH region. These customers have been introduced to the software during the onboarding process, as shown in figure 1. During this process, a customer success manager of SequriX keeps track of customer satisfaction and solves any issues that customers encounter, this is done in an unstructured way. However, the obstacle is that when the onboarding process is finished, the customer has to independently work with the software, which implies that occurring issues are not directly solved by the customer success manager.

As a result, from the point where the customer becomes independent in working with the SaaS system, the organization loses sight on their level of satisfaction. Subsequently, SequriX often only hears from the customer at the moment they want to discontinue their subscription, have big troubles and are very negative. To counter this occurrence, SequriX wants to keep track of the customer satisfaction level to get insights in what customers identify as flaws to improve these aspects afterwards. Currently, there is

no such method as most feedback is collected during ad hoc conversations with customers, this means that feedback is not stored and processed to formulate conclusions for further actions.

### 1.1 Background

SequriX software is already being used by more than █ security companies in the Benelux and the DACH region. Accordingly, SequriX is seeking to expand its business to the German market more actively. This market is not yet familiar with digital solutions to support their activities, so there are many opportunities for SequriX to tap into this market. When focusing more on the German market, especially the size offers many possibilities. While the security sector in the Netherlands is worth 1,3 billion euros in 2021 (Ilisia, 2022), the market size in Germany is worth 9,1 billion euros with nearly six thousand security companies (Statista, 2021). However, attracting new customers takes time and costs money, so it is critical to first understand what customers think about the software, service and SequriX as a whole, improve where needed and ultimately have a bigger chance of potential customer to choose SequriX over competitors.

To illustrate the current procedures of setting up the software for new customers, figure 1 shows the onboarding process. When a security company discovers SequriX’s services, they can get a demo about the functionalities and advantages of the software. Thereafter, the company can decide to purchase the software, and start the onboarding process with a SequriX representative. Throughout this process, the SequriX representative collects feedback on the go. During this phase, questions and difficulties can be resolved before the security company has to work with the software independently. The issues arise after the finishing the onboarding process, when SequriX loses sight of the customer’s ambiguities and, as a result, the customer stops using the software and only contacts the support desk when they have numerous problems and wish to cancel their subscription. Therefore, SequriX wants to implement a method to keep track of the level of customer satisfaction

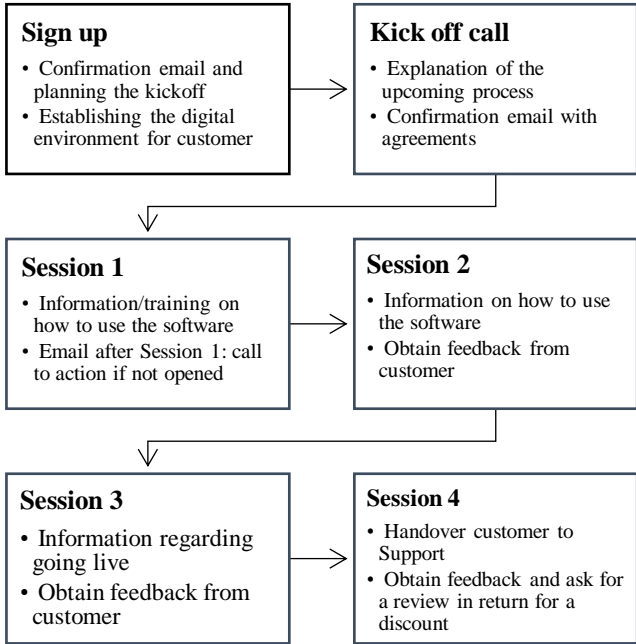


Figure 1 SequriX onboarding process

Prior research has not been conducted at SequriX into the level of customer satisfaction, so the company wants to know what factors play a role in defining the level of satisfaction for customers. When measuring the factors that affect customer satisfaction, an overview can be created of the level of customer satisfaction and identified areas of improvement. In the end, this may lead to more satisfied



customers and, as a result, a lower customer churn rate, which means that less paying customers will cancel their subscription.

## 1.2 Description of the company

The Sigmax Group, based in Enschede, the Netherlands, was founded in 1998 by Leo van den Ende and Walter Rijk. Their core business is to create software for customers that can be used to digitalize and streamline existing processes. With a total of 160 employees, the organization is divided into four business units that work on specific software solutions tailored to the needs of the customers. The business consists of the business units: Law Enforcement, Public Transport, Field Service Solutions and SecuriX. The latter, provides software to security companies in Benelux and the DACH region. Security firms were able to digitalize their paper-based processes and make use of a centralized backoffice system where information can be viewed and stored on the go, with the use of SaaS solutions provided by SecuriX. As a result of this cloud solution, all activities are available in a digital environment, the only thing a security officer requires is a smartphone with the SecuriX application. The application communicates with an online backoffice system where all data is stored, processed, and synchronized.

### 1.2.1 Importance of the research

The business model of SecuriX is shown in figure 6 of Appendix A, therefore the earnings model is briefly be discussed here. The customers of SecuriX, security companies, are charged with a monthly subscription fee. The amount charged is based on the number of hours that companies use the software for, there are several bundles with an x amount of hours. To illustrate, the trend of the number of working hours that customers use with the software of SecuriX can be seen in Figure 2. The graph represents the hours that employees of security companies are scheduled, although those hours are not the actual use of the software, it shows that there is a consistent upward trend, which translates into a steady increase of turnover.

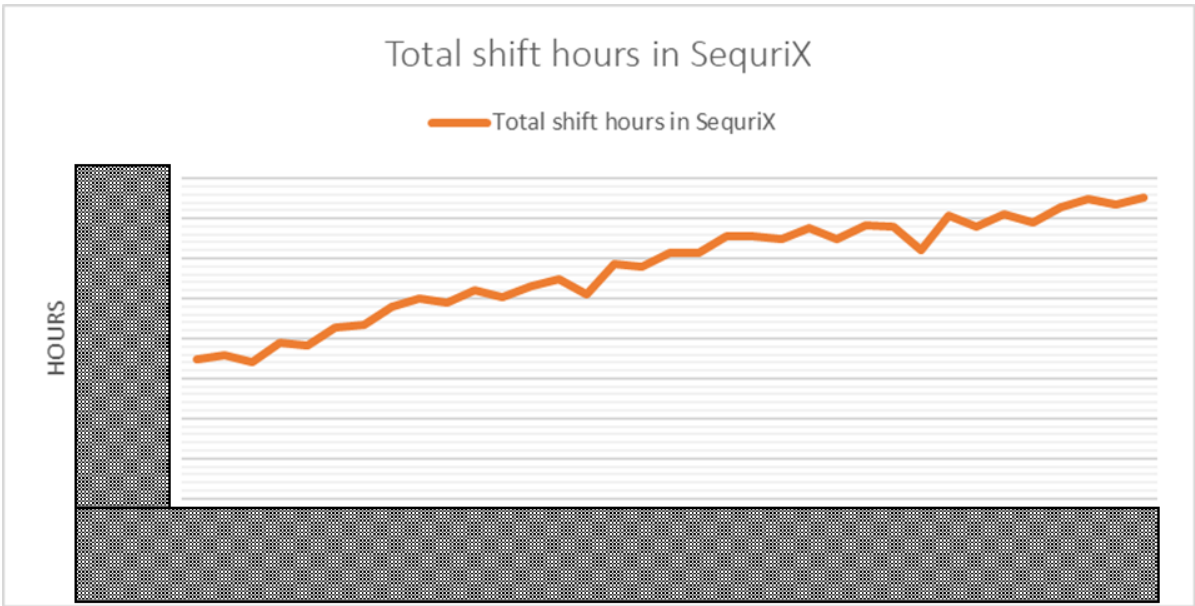


Figure 2 Total shift hours of customers

When a customer uses beyond the maximum amount, the extra hours will be charged on top of the regular subscription costs. Besides that, SequriX offers multiple modules that cover more activities, that can be purchased by security companies in addition to their current modules.

To demonstrate the value of this research, the customer base of the company was analyzed from 2019 to August 2022\*. The analysis in figure 3 shows that the number of customers increased substantially

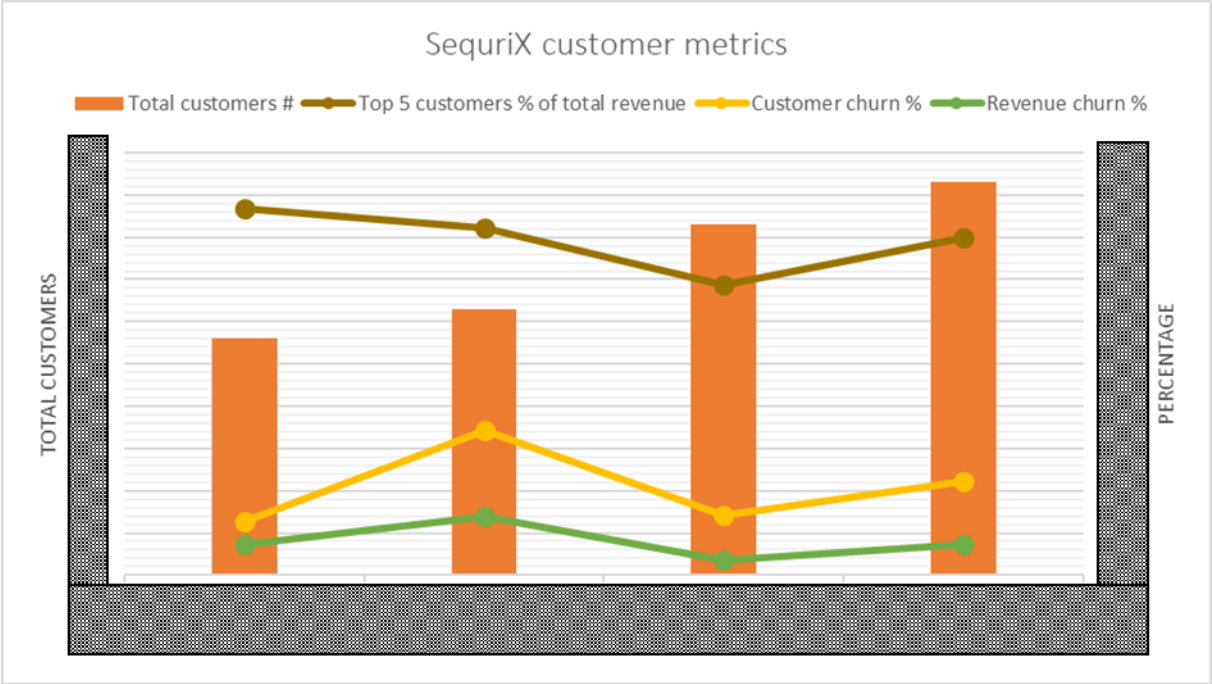


Figure 3 Metrics overview

from █ in 2019 to █ in 2020 to █ in 2021 and █ in the current year. Important to note is that customer and revenue churn rates showing a higher percentage is negatively affecting SequriX, such as in 2020. Although the customer churn rate increased significantly in 2020, possibly due to the impact of Covid-19 on the economy and company closures, it decreased again in 2021. To be more specific, this rate increased from █% in 2019 to █% in 2020, then decreased to █% in 2021 before rising to █% in the first eight months of 2022. The figure summarizes the most important customer metrics for SequriX.

When looking at turnover, figure 3 shows what percentage of total annual revenue is generated by the top five customers. It demonstrates that, despite having █ customers in 2022, those five customers generate more than █% of total revenue. To emphasize the significance of this study, if one or more of the five companies, which account for about █% of the total customer base but █% of revenue, are dissatisfied with the service provided and wish to cancel their subscription, SequriX will lose a significant portion of its revenue. To reduce the likelihood of this event occurring, researching current levels of customer satisfaction can provide insights into areas for improvement and ensure that customers continue their subscription.

### 1.3 Outline

This paper is structured as follows: first, the introduction describes the current situation and the subject of this research, along with the research gap. Second, the theory chapter addresses relevant studies and concepts. Third, the methodology chapter covers methods for data collection, sampling, analysis and validation of the study. Fourth, this chapter presents the results that were obtained from carrying out the research. Fifth, the most important findings are addressed in the conclusions. Lastly, the discussion chapter describes the implications, limitations and opportunities for future research.

## 2. Theoretical background

Before writing the literature review, it is important to systematically explore and select relevant sources and articles. As a result, the five-stage grounded theory model of Wolfswinkel, Furtmueller and Wilderom (2013) was used as a starting point for the literature review, which can be found in Appendix B. The existing literature is discussed in this chapter with the relevant topics and in an organized fashion of subjects that lead to the format of a questionnaire, to measure customer satisfaction.

### 2.1 The effects of customer satisfaction

According to Bhattacharjee (1988), customer satisfaction stems from job performance and is defined as a positive feeling a person has that leads to appreciate the job. In the context of SaaS, this concept would imply that the level of satisfaction a customer experiences is determined by whether the service provider meets the characteristics that were anticipated when the software was purchased (Chou and Chiang, 2013). When developing a product or service, it is important to prioritize customer satisfaction, because customers have high demands these days and there is no way to disregard their expectations. As discussed by Shil, Ali and Paiker (2010), companies can maximize profits by keeping customers satisfied with their product or service, so that the customer becomes a 'representative' by word-of-mouth. Prior studies measured satisfaction with technical factors rather than socio-technical factors, particularly communication, which was lacking in those studies (Basiran & Yusof, 2021).

The quality of service plays an important role in measuring customer satisfaction because it meets the user's needs and thus increases the customer's satisfaction. The impact of e-service quality on customer satisfaction has been extensively researched in the literature, with Carlson and O'Cass (2010), Kao and Lin (2016), and Zhou et al. (2019) underlining the positive effect. Much has changed in the field of providing services since the introduction of service quality research, with a shift from physical services to primarily electronic services. Traditional models for measuring service quality no longer meet the requirements for establishing a comprehensive representation of the quality delivered through e-services (Du et al., 2013). Bowen and Chen (2001) conducted a study that revealed that when customer satisfaction increased by one point on their measurement scale, customer loyalty increased by more than one hundred percent. Bowen and Chen (2001) describe how, on the other hand, when customer satisfaction falls, customer loyalty falls dramatically. As a result, businesses must ensure that their customers are extremely satisfied in order to save money on marketing expenses by 'using' extremely satisfied customers as a marketing force. Word of mouth and recommendations from existing customers are the most valuable marketing methods for a company (Bowen and Chen, 2001; Shil, Ali & Parker, 2010).

### 2.2 Functions of Software-as-a-Service

SaaS (Software-as-a-Service) is a type of cloud computing in which a connection is made with an offsite location and thus a service is provided over the internet (Freitas & Neto, 2017; Martins, Oliveira, Thomas, & Tomás, 2019). This means that the SaaS provider owns the infrastructure and software and

allows multiple customers to use it concurrently. The most common example of SaaS is email, which is available in the cloud (internet) for everyone in every location at the same time. According to Chou (2019), Google coined the term "cloud computing" in 2007 and it has since grown in popularity among users, large corporations, and SMEs (Small and Medium-sized Enterprises).

Although the concept of cloud computing was already mentioned in the 1960s, it took a long time for sufficient infrastructure to become viable and widely used by Google, Amazon, and Microsoft (Qian, Luo, Du & Guo, 2009). Moreover, within cloud computing there are three variations, namely Infrastructure-as-a-Service (IaaS), Platform-as-a-Service (PaaS) and Software-as-a-Service (SaaS). In contrast to SaaS, which hosts everything, IaaS and PaaS both only provide a portion of the requirements for running an application. As a result, SaaS users are not required to purchase anything other than the service itself (Benlian et al., 2011; Basiran & Yusof 2021) Since a longer period, many SMEs are shifting to the use of SaaS solutions because of the advantages, such as cost reduction and flexibility to work abroad. Companies can now pay for the services when they require them, as opposed to the past when hardware had to be purchased and configured and only functioned in one location. Furthermore, SaaS pricing is more personalized because the user frequently pays for usage, which means that the user purchases a certain amount of the service, hours for example, and utilizes the package until all the hours are used (Benlian et al., 2011; Freitas & Neto, 2017; Basiran & Yusof, 2021).

### 2.3 Models for measuring Service Quality

The concept of service quality has been extensively researched. Starting nearly 30 years ago with articles such as Parasuraman, Zeithaml, and Berry (1985), who invented the SERVQUAL tool with a twenty-two-item scale to measure the quality of service that a company provided to their customers. Unlike measuring the quality of products and goods, measuring the quality of service was difficult because it was perceived differently by different people. Therefore, the model takes into account the perceived quality and objective quality, those being allocated in five dimensions: assurance, empathy, reliability, responsiveness and tangibles (Parasuraman, Zeithaml & Berry, 1985). Over time, the SERVQUAL model served as the foundation for other models designed to measure service quality, such as the IS-SERVQUAL (Kettinger & Lee 1997) and the ASP-QUAL model (Sigala, 2004). However, Benlian, Koufaris, and Hess (2010) argued that the use of the aforementioned models is inappropriate for investigating the service quality of SaaS due to differences in the characteristics of those services. By comparing and analyzing ten models designed to measure service quality, Benlian et al. (2011) created a model to measure service quality, specifically for SaaS providers. This resulted in the SaaS-Qual model, which has 42 items, distributed over the following six factors: rapport, responsiveness, reliability, flexibility, features and security.

Since the creation of the SaaS-Qual, several research papers have built adjusted models that were based on SaaS-Qual, with or without a combination of additional models. Basiran and Yusof (2021) specifically examined the SaaS-Qual model, in addition to the SERVQUAL model of Parasuraman

(1988), the IS success model of Delone and Mclean (2003) and the HOT-fit evaluation framework by Yusof et al. (2008). This resulted in a study in which socio-technical factors are prominent variables, about the provider-user relationship with more than just technical knowledge, but also emotional sensitivity, problem-solving capacity, and quick responses. Basiran and Yusof's (2021) qualitative research examines the following five factors: assurance, empathy, responsiveness, reliability and communication, alongside the subfactors training, knowledgeable, availability, effectiveness and efficiency. In contrast, Chou (2019) used the SaaS-Qual model as the foundation of his research model, however, he incorporates the relationship quality as a construct, which is based on prior research by Crosby, Evans and Cowles (1990) where trust is used as an extra indicator in combination with satisfaction, being the two most significant measures for relationship quality. Chou (2019) describes that when the relationship quality is high, the customer trusts the provider and could yield long-term benefits.

## 2.4 Intentions for continued usage

The continued use of a product or service has been widely researched in the existing literature with papers about customer satisfaction and consumer behavior after purchasing a product or service. The intention to continue using technology follows the event of accepting technology, as described by Davis, Bagozzi, and Warshaw (1989) using the TAM model, which explains technology acceptance or rejection based on underlying factors. Since then, many improvements and additions to the original model have been made, such as the model of Du et al. (2013), in which the authors apply the TAM model to be applicable with SaaS.

Furthermore, Bhattacharjee (1988) describes in Information System literature that the level of customer satisfaction is the most important factor for customers to purchase a product or service again, with customer satisfaction having a validated significant effect on usage continuance (Benlian, et al., 2011; Chou and Chiang, 2013; Chou, 2019). The decision to continue the use of a product or service is like the decision to repurchase because both share the following elements; the decision to continue usage comes after an initial decision to use or purchase. Secondly, the first use of the product or service influences the decision to continue using it, this event, as third, can lead to the discontinuation of the initial purchase. Baumann, Kern, and Lessmann (2020) conducted a research on the usage continuation intention for SaaS users as an extension of Information Systems literature. Because SaaS users pay regularly, service providers are highly reliant on their customers' continued intent and subscription renewal, resulting in a SaaS provider spending a significant amount of time, money and effort interacting with customers to create commitment after the initial purchase (Baumann, Kern & Lessmann, 2020).

## 2.5 Identification of subfactors

Based on prior research and existing literature about service quality, customer satisfaction and usage continuance it is possible to draw up a list of possible (sub)factors that can be used to determine the quality of service that a SaaS provider delivers. The SERVQUAL model from Parasuraman (1988) serves as the foundation for this, but Benlian et al., (2011) have modified it to apply to SaaS providers. So far, the SaaS-Qual model has the most comprehensive list of service quality measurement factors. Despite having the most comprehensive list of factors, other articles measured different factors to produce results for service quality and customer satisfaction levels. The articles of Chou (2019) and Freitas and Neto (2017), in particular, draw on new (sub)factors that they used in surveys to gain new insights into the relationships between constructs such as trust and cost of service. Both papers use the SaaS-Qual model as a reference, without replicating or adjusting it. Table 1 provides an overview of the factors covered in the existing literature, and their definitions are elaborated further below the table.

Table 1 Definition of variables and constructs

<b>Independent variables</b>	<b>Definition</b>
Rapport	The ability to provide comprehensive support
Responsiveness	The ability to provide an available and performing application
Reliability	The ability to provide services accurately, on-time
Flexibility	Freedom of customers in functionalities and contractual changes
Features	Key functionalities and design features of the software, meeting customer requirements
Security	The ability to provide secure services and protect customer data
<b>Constructs</b>	<b>Definition</b>
Perceived usefulness	How useful does the customer think the service is
Cost Savings	How customers perceive the cost of the service
Satisfaction	How satisfied is the customer with the service and provider
SaaS continuance intention	Thought of customers to keep using the software

The factor *rapport* is a combination of assurance and empathy, according to Benlian et al. (2011) this was concluded based on interviews that were conducted. This includes all aspects of the provider's knowledge and understanding in order to provide support to the customer.

*Responsiveness* is more focused on the functioning and availability of the software itself, instead of the provider. As shown in multiple studies (Benlian et al., 2011; Chou, 2019), responsiveness affects service quality substantially. For this paper the same outcome is expected, as the survey items are mainly the same, in addition to the functionalities of the software playing an important role.

*Reliability* refers to the importance of reliable services for customers in order to ensure that the service is always available. This includes providers' ability to maintain a stable relationship that can lead to long-term cooperation.

Customers who have the freedom to choose their functionalities, make adjustments, and scale the service to their preferences are examples of versatile services. *Flexibility*, along with reliability, is cited as having an impact on perceived usefulness (Chou and Chiang, 2013).

A more software-centric factor is *features*, which represent the technical side of the service in terms of ease of use and design to facilitate efficient processes. Even though the features factor has a low effect on SaaS quality (Benlian et al., 2011; Chou, 2019), it is expected to provide interesting insights into key features that are missing in the software.

*Security* concerns things that are out of the customers' reach and are maintained by the service provider or data center in the context of security companies. The effect of this factor has mixed outcomes in prior literature, where Benlian et al. (2011) identify security as the second most significant factor, moreover, the article of Chou (2019) demonstrates that the factor has much impact. On the other hand, various articles do not include this factor in their research but refer to it as important (Chou and Chiang, 2013; Freitas and Neto, 2017; Liu and Prybutok, 2021; Basiran and Yusof, 2021).

*Perceived usefulness* is an indicator of what the customer thinks of the usefulness of the software, in other words, whether the software is an addition to their activities.

*Cost Savings* was derived from Abu-Salim, Onyia, Harrison and Lindsay (2017) and Martins, Oliveira, Thomas and Tomás (2019), one of the survey items in the study explores the opinion of customers after the cost of the SaaS service. Therefore, the idea emerged to incorporate cost as a construct. With the intention to find out if cost impacts the level of satisfaction when other constructs are positive.

The article of Chou (2019) combines the construct *satisfaction* with the factor trust into an overlapping factor called relationship quality. The construct can be described as the most important, as it indicates the perception of customers with influences of service quality, and affects the construct of continuous intention.

*Continuous intention* determines whether the customer wishes to continue using the service or would prefer to discontinue or use an alternative. The continuance intention also indicates whether the customer is satisfied with the current service.

An important notice regarding the factor Security is that it was not included in most studies, although it was pointed out as a field of concern for customers and thus of importance, with the research of Goode, Lin, Tsai and Jiang (2015) the significant effect of security on the SaaS-Qual model has been validated, but only when it is mediated by the factor 'perceived value'. However, after discussing this during the focus group as detailed in Appendix E, the factor Security was determined to be not relevant for SecuriX customers, and thus it is not included in this study.



## 2.6 Theoretical analysis

This theoretical analysis makes the transition from the theory of SaaS quality and customer satisfaction to the application of these theories in the context of SaaS-using security companies. As shown in table 18 of Appendix H, the relevance of the factors are discussed, based on the articles that included them. Also the factors are organized in order of importance.

The most important concepts, as shown in Appendix H are shown in the shortened table below. According to existing literature, the factors that were used most often are reliability and flexibility, both measuring the construct of service quality, although in combination with the factors rapport, responsiveness and features. Besides that, the constructs satisfaction, continuous intention and perceived usefulness are also incorporated in multiple models. As a result, the factors below deemed to be most important in measuring customer satisfaction in entirety, and therefore were be adopted in this study.

Table 2 Most important concepts from literature

Publication		Benlian, Koufaris and Hess, 2011	Chou and Chiang, 2013	Freitas and Neto, 2017	Chou, 2019	Liu and Prybutok, 2021	
Model		SaaS-Qual	SaaS Model	Alternative to SERVQUAL and SERVPERF	SaaS-CRM	Integrated SOR and IT continuance decision model	Used in # models
<b>Factors</b>	Reliability	X		X	X	X	4
	Flexibility	X	X		X	X	4
	Rapport	X	X		X		3
	Satisfaction	X	X		X		3
	Continuous Intention	X			X	X	3
	Perceived usefulness	X			X	X	3
	Responsiveness	X			X		2
	Features	X			X		2

### Reliability

In relevant models for measuring SaaS user satisfaction, reliability is the most commonly used factor. It assesses the customer's perception of how the service is delivered in a dependable and promised manner. Looking at the effect that this factor has on service quality in existing literature reveals that it never has the greatest effect when compared to other factors. The factor reliability has the second-lowest effect in the SaaS-Qual model, with an effect of 0.121. Furthermore, Chou (2019) finds a similar result, with reliability having less of an impact on service quality. On the other hand, the studies of Freitas and Neto (2017) and Liu and Prybutok (2021) emphasize the importance of reliability and thus is relevant to

include. The survey questions were adopted from Benlian et al. (2011), as these were more suitable to measure the reliability of software than the questions of Freitas and Neto (2017).

### **Flexibility**

As defined by Liu and Prybutok (2021), flexibility is a core characteristic of cloud services, as services have to fit in changing business environments. It has been shown to have a significant effect on service quality by being one of the most powerful factors (Benlian et al., 2011; Chou, (2019); Liu and Prybutok (2021). In the context of security firms, flexibility was more focused on having flexible characteristics in the software instead of providing flexibility in contractual matters. As a result, the items regarding contractual flexibility were removed.

### **Rapport**

Rapport is discussed in a number of papers, but its impact on service quality is limited. However, when looking at the survey items for the factor rapport, it gives insights into the perception of the customer on the competency of the provider. Both Benlian et al. (2011) and Chou and Chiang (2013) use similar survey items to measure this factor, however, the item of a shared problem approach was deleted by Chou and Chiang (2013) because of low loadings, whereas Benlian et al. (2011) did not. Despite this, Chou (2019) describes rapport as the factor with the least effect on service quality. Furthermore, two items from Neitas and Freto (2017)'s factor business processes were added, as these items were expected to be an extension of rapport.

### **Responsiveness**

This factor is mainly oriented towards the quality of the software and the quality of the support personnel, which are two important indicators of the level of service quality, as demonstrated in papers where this factor has the greatest impact on service quality (Benlian et al., 2011; Chou, 2019). Chou and Chiang (2013) and Liu and Prybutok (2021) chose not to include the factor in their research because it was deemed inappropriate in the context of cloud computing. However, in the context of SaaS aimed at security firms, insights into how the quality of software and support is perceived is a valuable measurement. Moreover, Freitas and Neto (2017) do not explicitly address responsiveness but do use responsiveness items to measure the variable 'customer assistance' that was used to measure responsiveness in prior literature.

### **Features**

The factor features directly measures the perception of respondents about the functionalities of the software. The questionnaire used by Benlian et al., (2011) about the software's interface and operability sheds light upon issues that are valuable for SaaS providers to deliver professional products. Aside from the aforementioned articles, it is useful to know if users believe the software has sufficient features or that something is lacking. The low effect on service quality may explain why this factor is not addressed in many articles (Benlian et al., 2011; Chou, 2019).

## **Security**

Even though security has been mentioned as an important factor in several papers, including Benlian et al. (2011) and Chou (2019), it is determined that the security of SaaS is not relevant to the subject of this paper based on survey items. According to SequriX, SaaS users of security software are unaware of where data is stored and think it is irrelevant, which is not a part of when performing their jobs as security officer. Therefore, the factor of security is not incorporated in this study.

## **Satisfaction**

The level of customer satisfaction stems from a study conducted by Parasuraman et al. (1988) to determine customer satisfaction by measuring the quality of service provided. This construct represents the customer's perception of how satisfied they are with the software and whether they would recommend it to other security companies. Furthermore, the respondent is asked to rate their overall experience with the SaaS provider and the SaaS product. The construct is included in nearly every article about customer satisfaction in the context of SaaS.

## **Continuous intention**

The intention of customers to keep using the software is the result of the customer perceptions in previous constructs. As described by Liu and Prybutok (2021), providers who did not excel at service quality lost subscriptions from customers who were dissatisfied with the quality provided. Therefore, satisfaction is regarded as the primary driver for retaining long-term customers, as it leads to future purchases (Liu and Prybutok, 2021). This is measured using survey items that address whether users intend to continue using the software and whether it makes their jobs easier, indicating a positive experience.

## **Perceived Usefulness**

Because the research model is a component of this paper, the associated constructs and their expected outcomes are also addressed. The first construct is perceived usefulness, which assesses whether the software is beneficial to the user on an individual and organizational level. Davis (1989) developed this construct from the TAM model, which was later used in many studies about technology intentions, including Benlian et al. (2011) and Chou (2019).

## **Cost Savings**

This construct was added to see if software users consider the perceived costs in relation to the benefits they receive. In other words, to determine whether respondents find the software useful and thus believe it is worth the monthly charge. So, if respondents do not believe the software is useful, they may believe it is overpriced. As described by Abu-Salim, Onyia, Harrison, and Lindsay (2017), the effect of perceived cost on customer satisfaction has rarely been studied in previous research, despite the fact that the construct of perceived cost is expected to have an impact on the level of customer satisfaction.

## 2.7 Conclusions

In addition to the existing literature on customer satisfaction, this research delivers new insights in the measuring customer satisfaction in sectors that were not addressed before, such as the security company sector. Prior to this research, the sectors that were involved in studies covered mainly retail, IT, services or a mixture of firms in databases (Benlian et al. 2011; Neitas and Freto, 2017; Chou, 2019; Martins et al., 2019; Baumann et al., 2020; Xiao et al., 2020; Basiran & Yusof, 2021). The article of Parasuraman et al. (1988) forms the foundation for many models in recent studies that shared the commonality of being focused on a B2C relationship instead of B2B. Freitas and Neto (2017) criticize the initial SERVQUAL model for this reason, although they state that the SaaS-Qual model of Benlian et al. (2011) indeed is relevant due to the B2B relationship. Accordingly, with SecuriX serving security companies with software solutions, and thus operating in a B2B context enables the use of the SaaS-Qual model.

The main difference between prior studies (Benlian et al., 2011; Freitas & Neto, 2017; Chou, 2019) and this research is the representativeness of the sample. Whereas, existing literature mainly uses a sample from a database with many different large (international) organizations instead of sampling the customers of a specific SaaS provider. Besides that, through including key informants in the sample, the generalizability for the population is increased, as this implies that the whole organization is represented by one respondent (Xiao, Sarker, Wright, Sarker & Mariadoss, 2020).

Until now, most studies focused on either a quantitative or qualitative approach when applying a model to measure customer satisfaction. Therefore, this research combines both methods, firstly conducting a survey following the SaaS-Qual model of Benlian et al. (2011) and subsequently conducting validating interviews following the format of Basiran and Yusof (2021). On the other hand, studies that did combine the two methods are emphasized by the explorative character as the interview method was done prior, in order to define the questions that should be incorporated in the survey.

### 3. Methodology

This chapter addresses the method that is followed during this research. The methodology describes the type of research, how data is collected, and how it is analyzed, following the structure of the DSRP model.

#### 3.1 Research design

This paper employs the DSRP method of Peffers et al. (2007) to carry out this research, which is the most fitting design to answer the research question: “How can a SaaS provider measure the level of customer satisfaction of security companies?”. The following steps are described: 1) problem identification and motivation, 2) objectives of a solution, 3) design and development, 4) demonstration, 5) evaluation and 6) communication. Figure 4 depicts the Design Science Research Process model's four entry points for where to begin with the research. Regarding the problem and situation of this research, the starting point is a design and development approach, because the goal is known, however a comprehensive method for systematically measuring customer satisfaction is lacking.

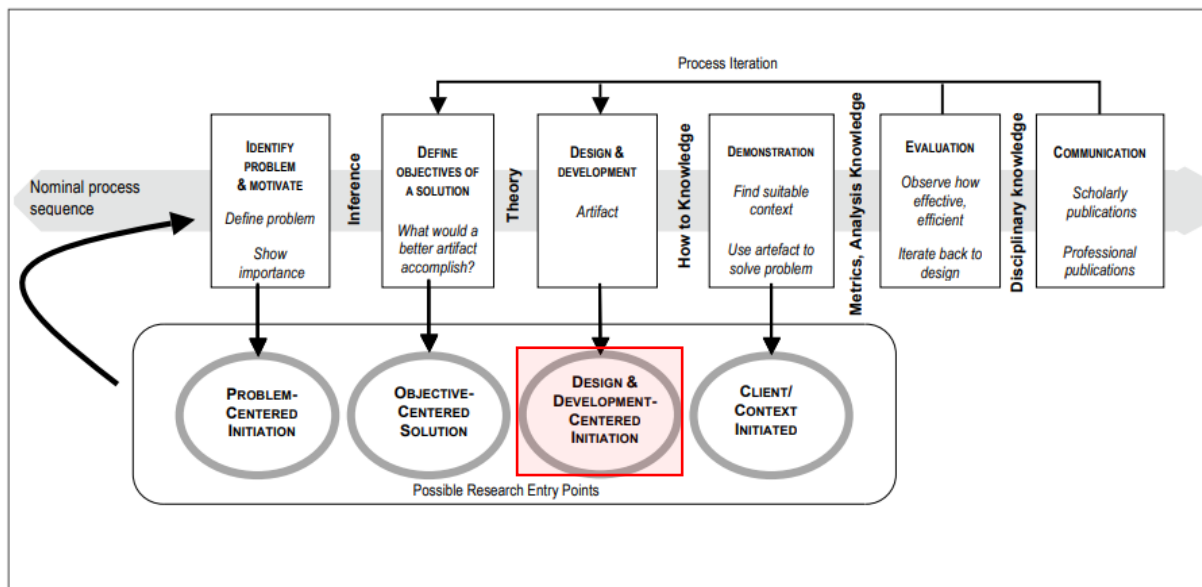


Figure 4 DSRP model (Peffers et al. 2007)

This research is designed as follows:

- 1) Existing literature is collected and then examined into the used methodology and procedures. The models that were developed are evaluated on their relevance, to be used as a foundation of the development of the survey instrument. The SaaS-Qual model (Benlian et al., 2011) turns out to be most relevant.
- 2) The SaaS-Qual model is presented to experts in the organization through a focus group, so the instrument can be assessed from multiple business perspectives (Wilkinson, 1998). Such as customer success, software development and marketing. Subsequently, improvements are implemented to match the firms' situation.

- 3) The adjusted survey instrument sent to multiple employees of the SaaS provider as a pilot, to further validate the instrument and verify if the right questions are addressed .
- 4) After optimization, the survey instrument is deemed as appropriate to sent to customers of the SaaS provider. For this, the online survey tool Qualtrics is used to reach the sample, as this is regarded as a convenient, quick and flexible method (Evans & Mathur, 2018).
- 5) After conducting the survey to customers, the completed responses are analyzed with SPSS to reveal the results for stakeholders and identify points of improvement. Both quantitative and qualitative data is handled to increase the understanding of the results.
- 6) To improve the reliability and validity of the survey results, follow-up interviews are conducted to validate whether respondents answered according to their feelings. Also, follow-up interviews can be used to discover underlying causes of dissatisfaction.
- 7) With the obtained knowledge about the level of customer satisfaction from the survey, another session of the focus group is conducted to reassess the relevance of questionnaire items. Further improvements are made to the survey instrument.
- 8) Results of the survey instrument are presented to stakeholders with recommendations on points of improvement for the activities of the SaaS provider.

### 3.2 Data collection

A guide to develop a survey was created by Singh, Taneja, and Mangalaraj (2009), where important choices in survey designs are discussed. Following this guide, this delivered a well considered design.

For this study, all employees that use SequriX software in customer companies can be considered to be the population. Moreover, since not every user is known, only information from a random sample of participants can be obtained. As a result, the survey was be sent to the point of contact for SequriX customers. To increase the likelihood of a respondent completing the survey a gift card was be raffled. Customers who did not receive the email received one reminder after a week. After the survey is closed to new responses, the entries are managed, which includes deleting duplicate responses and comparing entries for similarities such as same across the board (Singh et al., 2009; Chang & Vowles, 2013).

In terms of ethics, the University of Twente checks the questionnaire for compliance with the guidelines before sending it to customers. The data is gathered through a survey of SequriX customers in the Netherlands and Germany. Because of the time, cost, and flexibility constraints, an online survey is most suited to be conducted to reach all customers (Granello & Wheaton, 2004; Chang & Vowles, 2013). Despite the fact that web-based surveys have a low response rate due to concerns about privacy and security (Singh, Taneja, & Mangalaraj, 2009), respondents can complete the survey anonymously.

After finalizing the list of questionnaire items, SequriX customers were contacted via email via a specific email with the request to participate in the survey and a link to the survey. The list of survey items is

created with the use of Qualtrics, which is best suited for conducting surveys and exporting data directly to Excel and SPSS.

### 3.2.1 Operationalization of variables

This survey contains items adapted from existing studies, as shown in Appendix H. The original set of survey items was presented to a group of experts for feedback on the appropriateness of the survey items, as well as to check for errors and other confusions. Appendix D contains the initial questions derived from existing literature as a concept, specifically from the article by Benlian et al., (2011), which served as the foundation for several recent papers.

However, the number of questions was deemed as excessive, so a focus group was set up with experts from SequriX. The participants had different roles in the team and thus, could assess the survey items from different perspectives; the summary of the focus group can be found in Appendix E. From the 75 concept questions, a revised list of 36 items remained.

*Table 3 Revised survey items*

ID	Variable	Abbr.	Survey item
0.1	Function	Func	What is your role?
0.2	Employees	Emp	How many employees does the organization have in total?
0.3	Security employees	Semp	How many of them are employed in the security department?
0.4	Module	Mod	What part of the software do you use?
0.5	Use	Use	What does the organization use the software for?
1	Responsiveness	Res1	How satisfied are you with SequriX with regard to... support staff who have up-to-date knowledge of the software and hardware
2		Res2	... a sufficient number of support staff (you don't have to wait for an employee)
3		Res3	... the availability of support (24 hours a day)
4		Res4	... solving software problems
5		Res5	... the availability of the software (after updates or malfunctions quickly available again)
6		Res6	... the network performance of the software (i.e. software can be reached 24/7)
7	Reliability	Rel1	How satisfied are you with SequriX with regard to... fulfilling agreements
8		Rel2	... delivering services on time
9		Rel3	... delivering correctly the first time (first time right)
10	Flexibility	Fle1	How satisfied are you with SequriX with regard to... adding and modifying your data in the system (customer/object data can easily be modified or deleted)
11		Fle2	... the availability of new software versions
12		Fle3	... the availability of payment methods to pay for your subscription/licenses (monthly, yearly, one-off)
13		Fle4	... the ability to use a single part of the software

14	Rapport	Rap1	How satisfied are you with SequriX with regard to... the training to work with the software
15		Rap2	... solving problems together
16		Rap3	... a personal customer relationship
17		Rap4	... the communication around software updates
18		Rap5	... the knowledge that SequriX possesses
19		Rap6	... the quality of the documentation
20		Rap7	... the support tailored to your business needs
21		Rap8	... SequriX's insight into your processes and objectives
22	Features	Fea1	How satisfied are you with SequriX with regard to... the user-friendliness of the software (without extensive training you can also work with the system)
23		Fea2	... the design of the user environment (clear, you can quickly find what you need in the system)
24		Fea3	... the administrative functions in the software (creating contracts, tasks and services)
25		Fea4	... the overviews on the dashboard (you get direct insight into useful information)
26	Perceived Usefulness	Pu1	Do you agree with the following statements? ... using the software improves my performance
27		Pu2	... using the software improves my productivity
28		Pu3	... the use of the software improves my efficiency
29		Pu4	... the use of the software generally helps me with our activities
30	Cost Savings	Cst1	Do you agree with the following statements? ... I think the cost of SequriX is in proportion to the benefits it brings me
31		Cst2	... by using SequriX we save on administrative costs
32	SaaS Continuous Intention	Sci1	Do you agree with the following statements? ... I find my work easier by using SequriX
33		Sci2	... I would like to continue using SequriX in the future
34	Satisfaction	Sat1	My general experience with SequriX is
35		Sat2	I would recommend SequriX to fellow companies
36		Sat3	... what would you rate SequriX in total

### 3.3 Sampling

SequriX customers in the Netherlands and Germany are contacted via email, providing that an email address is known. To be more specific, the customers include the points of contact at security firms that work with SequriX software. In other words, these respondents are key informants, persons who's opinion is representative for the whole organization (Xiao et al., 2020). Based on those metrics, a sample can be calculated and, as a result, the response rate. The sample of this research covers the number of people that the survey was completed by, this being part of the population.

This study gathers data from SequriX customers in the Netherlands and Germany. The survey link was sent to 233 e-mail addresses that were categorized by previously agreeing to receive emails and



newsletters from the organization. Following the initial e-mail and a reminder after one week, 41 responses were received. The initial 41 responses were screened and cleaned in Excel before being used in SPSS, after this process a list of 35 responses remained.

### 3.4 Data analysis

Planning the processes in each step of the research helps in maintaining a consistent structure throughout the paper. As a result, it is practical to describe the activities related to data analysis in an orderly manner to ensure that the results section presents the key topics as described in the research goal. For this reason, the data analysis section follows the steps as described by Pallant (2010), with an emphasis on descriptive analysis. The questionnaire included closed questions to first measure sample characteristics and then the variables using a five-point Likert scale; both being on an ordinal level. At the end of each section, there was an open-ended question included for respondents to leave feedback.

First, data screening and cleaning involve inspecting the data for errors such as minimum and maximum values, outliers, and missing values (Pallant, 2010). In order to perform missing value imputation, a suitable threshold for missing values would be 10%. After screening and cleaning was completed, the open-ended questions were separated from the closed questions, as those require a qualitative analysis method.

Second, according to Pallant (2010), descriptive statistics are examined to show the sample breakdown with nationality, respondents role, and number of employees, followed by the mean, variance, and standard deviation of each variable to show odd variables. A Kolmogorov-Smirnov test is done to determine whether or not the data is normally distributed before conducting statistical tests. The variables are then grouped into scales for the Cronbach's Alpha test, which is based on the framework as proposed by Benlian et al (2011).

Third, qualitative data is processed by conceptualizing and coding concepts. This is done by listing all of the responses that provided qualitative data and then using open, axial, and selective coding to generate overarching themes that outline the overall feedback of the open-ended questions. The qualitative feedback is coded using the following format:

Open coding (individual responses)	Axial coding (categories)	Selective coding (themes)

Lastly, although the focus of this research is more on descriptive statistics, a correlation analysis is conducted to validate if similar relations between variables and scales are present, compared to prior studies such as Benlian et al. (2011) and Chou (2019) where the SaaS-Qual model was used. To clarify, researchers debated which tests can be used with ordinal data, such as Allen and Seaman (2007), who argued that non-parametric tests are useful when dealing with such data. However, Norman (2010) refutes this claim with his study, which shows that parametric tests can be performed on ordinal scale data. As a result, a Pearson's R correlation test is performed even though the data is ordinal.

### 3.5 Designing the survey instrument

For the practical relevance of this research, a survey instrument is developed for SequriX that enables the organization to independently measure customer satisfaction. With the working method and instrument, the level of customer satisfaction can be tracked over the years and handled as a metric to verify if previous improvements have had an effect.

#### 3.5.1 Questionnaire and requirements

The purpose of this research is to create a tool that allows SequriX to conduct a survey among customers and measure the level of satisfaction. The survey consists of a questionnaire that is standardized and yields both quantitative and qualitative data. To deliver usable and reliable data, it is necessary to incorporate a clear introduction that emphasizes the need of the survey, define relevant questions that measure the right variables and lastly formatting the questions to minimize non-response. However, in order to standardize the questionnaire and perform this process systematically the next time, the survey must be conducted in the same manner. By doing this, SequriX can follow the method without missing important activities, while complying with the requirements that are defined:

- The instrument allows the researcher to set up a survey in a limited period of time
- The instrument assesses customer satisfaction from multiple perspectives
- The instrument is reliable and valid
- The instrument accurately represents the population
- The instrument is adaptable to changing business environments

#### 3.5.2 Validation of the instrument

Following the DSRP model, evaluation of the instrument is conducted after the demonstration phase. Developing the survey instrument consists of two stages, the first stage is to conduct a survey through a questionnaire, which delivers both quantitative and qualitative data. Afterwards, to validate the results and possibly identify underlying causes, the second phase of the includes to validate the instrument by carrying out interviews. During this session, a semi-structured interview is used with standardized questions to address variables that were rated negatively.

After following up on a random selection of respondents who indicated to be contacted, the notes of the interviews are then combined and prepared for coding. With all individual responses put together in a list, axial and selective coding is done to distinguish categories and eventually overlapping themes.

## 4. Results

The results section of this study focuses primarily on descriptive statistics, with an emphasis on sample representativeness and item scores in relation to SequriX's research objectives. In addition, a quick analysis was performed to see if the questionnaire results matched the findings of previous research from Benlian et al. (2011) and Chou (2019). First, a recap of the study's objectives highlights SequriX's objectives and how the results contribute to the research goals. As shown in figure 3 in the introduction, SequriX's five largest customers account for more than ■ percent of total turnover; therefore, when one of those large customers cancels their subscription for any reason, SequriX loses a significant share of turnover. As a result, it is critical for SequriX to understand what customers want and whether they are satisfied with the service provided; this can be accomplished inexpensively and effectively through the use of the survey method. The objectives are as follows:

- Whether the sample size affects the representativeness
- What the current level of customer satisfaction is
- What are points of improvement for SequriX

Gaining insights into current levels of satisfaction assists SequriX in determining which aspects of their service require attention, and with a thorough analysis of improvement points, this research yields recommendations to directly target the needs and desires of customers. Furthermore, the designed deliverable is presented in accordance with the requirements stated in the Methodology chapter.

### 4.1 Descriptive statistics

The data in table 4 describes the characteristics of the sample. In total, the list of 35 responses was valid to use for further analysis. The number of employees is primarily distributed between large companies with more than 100 employees and smaller companies with 6 to 25 employees; a similar representation is present in the percentages of security employees employed by those companies. Finally, the most used modules among respondents are the Backoffice for administration and the mobile application for security, which corresponds to the descriptive question about what organizations use the software for, which is property security and mobile security.

*Table 4 Descriptive statistics*

<b>Variable</b>	<b>Items</b>	<b>Frequency</b>	<b>%</b>
<b>Language</b>	NL	23	65,7
	DE	12	34,3
<b>Employees</b>	<5	1	2,9
	6-25	8	22,9
	26-50	3	8,6
	51-75	6	17,1
	76-99	3	8,6
	>100	14	40,0

<b>Employees (security)</b>	<5	1	2,9
	6-25	12	34,3
	26-50	5	14,3
	51-75	5	14,3
	76-99	4	11,4
	>100	8	22,9
<b>Function*</b>	Owner/executive	12	28,6
	Supervisor	15	35,7
	Invigilator	2	4,8
	Property security officer	3	7,1
	Dispatcher	3	7,1
	Other	7	16,7
<b>Module*</b>	BO** – Administration	29	34,9
	BO** – Property security	14	16,9
	BO** – Dispatcher module	9	10,8
	Mobile application	31	37,3
<b>Use*</b>	Property security	21	28,8
	Mobile security	31	42,5
	Monitoring room	13	17,8
	Reception	7	9,6
	Events	1	1,4

\* *Function, Module and Use have more responses than the total number of respondents, as these were multiple response questions.*

\*\* *Back Office (BO)*

### **Normality and Reliability**

Prior to further data analysis, SPSS was used to perform normality and reliability tests. Appendix L shows the results of the SPSS tests; both the Kolmogorov-Smirnov and Shapiro-Wilk tests show that the data is not normally distributed, with every item having a significance value of  $p < 0,001$ . A Cronbach's Alpha test was used to assess the data's reliability, and the study's constructs were measured. As shown in table 21 of Appendix L, all constructs have a high Cronbach's Alpha, with the exception of Cost Savings, which scores significantly lower. We use a score of 0.7 as a threshold to conclude that there is reliable data. According to Bonett and Wright (2014), there is no universal minimum value for Cronbach's Alpha to be considered acceptable, though 0.7 is deemed acceptable by other researchers, and thus Cost Savings should be considered unreliable if it is far below the 0.7 mark. Although it is possible to add items to the scale and increase the reliability score, the construct in this study consisted of only two items, which could explain the lower score. Finally, Cost Savings remains in the correlation matrix.

### **Validity of the instrument**

A correlation matrix was created to test the strength of two variables. Pearson's R was calculated in SPSS for this test. Despite the fact that the variables were measured on an ordinal scale, the data from this study was appropriate for a Pearson correlation. According to Norman (2010), parametric tests can

be performed with Likert data, small samples, and non-normal distributions without producing incorrect results. Table 23 in Appendix L shows that all variables have a significant positive relationship with satisfaction, with perceived usefulness correlating the most with satisfaction at a Pearson's R of 0.597. According to existing literature, the same occurrence of service quality not directly correlating with continuous intention is visible. Continuance Intention is strongly correlated with service quality, according to previous research. The additional construct of cost savings is not related to service quality, but it is related to satisfaction, with a p-level of 0.047 being significant.

## 4.2 Representativeness

To check the representativeness of the survey, the sample size is an important metric. With a total of 35 completed responses, this number is rather low when comparing it to all the users of the software. However, assuming that most respondents are considered key informants, they represent the general opinion of the organization. To find out what the share of key informants is, a matrix was created to check whether the right respondents were contacted. Table 19 in Appendix J depicts the distribution of company responses, distinguishing double responses, unknown companies, and the respondent's role. It is assumed that both the owner/executive and the supervisor can be identified as key informant and that their response is representative for the entire company. The table shows that 12 owner/executives and 15 supervisors responded, but to determine the number of unique companies, double responses must be filtered out. Furthermore, responses that are unknown to the company are regarded as unique. Companies 1, 3, 4, 8, and 15 have two responses in which both respondents indicated to be an owner/executive or supervisor, so these responses are accounting for one distinct company.

As a result, from the total 35 responses, 28 companies can be identified as unique. This translates to almost two thirds of unique response rate out. To emphasize, from a customer base perspective, a ■ of all customers participated in the survey. Meaning that the small sample size is representative when looking from a B2B perspective. In addition, the share of unique companies that participated in the survey, accounts for almost ■ of the total revenue. So to summarize the numbers: the unique companies that took participation in the survey account for 1) two thirds of the total survey response, 2) ■ of the whole customer base, 3) ■ of total revenue, thus making the survey representative for all SequriX customers.

As a general assumption, when security firms have more security personnel, it requires more software licenses. Therefore, the number of security employees indicates the size of the organization. So, the respondents can be classified as small, medium, or large customers. The table below shows that the responses can be divided in nearly equal groups, based on firm size. To find out what firm size is best served by SequriX, an analysis of variance is conducted to check differences between groups in the sample. A one-way ANOVA shows that there are no significant differences in a specific variable between the groups of small, medium, and large firms, as shown in table 24 of Appendix L. This means that there are no statistically significant differences in outcome between the three customer segments.

Table 5 Grouping of respondents on firm size

Segment	Security employees	N	% of unique companies	% of total revenue	Average rating for SecuriX
Small	≤ 5	10			8,15
	6-25				
Medium	26-50	9			8,30
	51-75				
Large	76-99	9			8,33
	≥ 100				

### Differences between customer segments

To find out what firm size is best served by SecuriX, an analysis of variance is conducted to check differences between groups in the sample. Based on the segments as discussed in section 4.1, a one-way ANOVA shows that there are no significant differences in a specific variable between the groups of small, medium, and large firms, as shown in table 24 of Appendix L. This means that there are no statistically significant differences in outcome between the three customer segments.

## 4.3 Survey results

Table 20 in Appendix K contains the complete table with survey item results, including the average score, standard deviation, and variance per variable. The most important items are listed in tables 6 and 7 below, that show the five highest and five lowest scoring items. The overall result is that the customer base is satisfied with the service's quality, believes the service is useful, is satisfied to very satisfied with SecuriX overall, and intends to continue using the SaaS solution. SecuriX received an average grade of 8.3 for their service provision.

### 4.3.1 Questionnaire results

#### Highest scoring items

Table 6 shows that respondents assigned the highest ratings to three items: having enough knowledge, the software assisting with activities, and wanting to continue using SecuriX. These are followed by timely and accurate service delivery. It is important to note that the survey questions were mostly answered positively. To illustrate, the response option 'very unsatisfied' was not used once. In addition, 'unsatisfied' was rarely used, instead respondents prefer to choose the neutral option.

Table 6 Survey results top 5

5 Highest scoring items	N	Min.	Max.	Mean	Std. Dev.	Variance
(res1) Support staff who have up-to-date knowledge	35	2	5	4,46	0,741	0,55
(pu4) The use of the software generally helps with our activities	35	4	5	4,46	0,505	0,255

(sci2) I would like to continue using SequriX in the future	35	3	5	4,46	0,561	0,314
(rel2) Delivering services on time	35	3	5	4,4	0,651	0,424
(rel3) Delivering correctly the first time	35	3	5	4,4	0,604	0,365

### Neutral scoring items

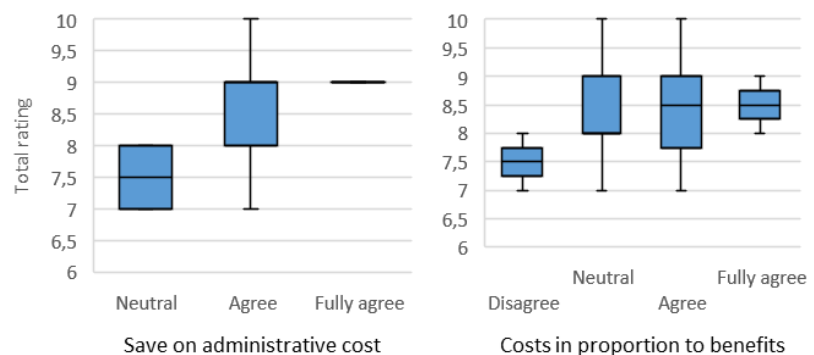
However, there are some areas of interest where the average score of specific items is lower than the overall average. Table 7 shows the variables that received the most negative feedback, which are the two that measured Cost Savings, one about adding and modifying data in the system, one about administrative functions, and finally about the training. Furthermore, the boxplots show the dispersion of the variables set against the total score that respondents rated SequriX. It appears that respondents who gave SequriX a lower overall score also gave it a low rating for the following variables. In addition to this, SPSS shows outliers for two variables, which means that scores are outside 1,5 box lengths from the edge of the box. However, because the data is collected on a fixed scale, it is debatable to identify the scores as outliers because especially the out of average scores are valuable for the organization.

Table 7 Survey results low 5

5 Neutral scoring items	N	Min.	Max.	Mean	Std. Dev.	Variance
(cst2) By using SequriX we save on administrative costs	35	2	5	3,29	0,667	0,445
(fle1) Adding and modifying your data in the system	35	2	5	3,74	0,95	0,903
(fea3) The administrative functions in the software	35	2	5	3,77	0,91	0,829
(cst1) I think the cost of Sequrix is in proportion to the benefits it brings me	35	3	5	3,77	0,547	0,299
(rap1) The training to work with the software	35	2	5	3,8	0,797	0,635

### 1. Cost of SequriX (Cost 1 and 2)

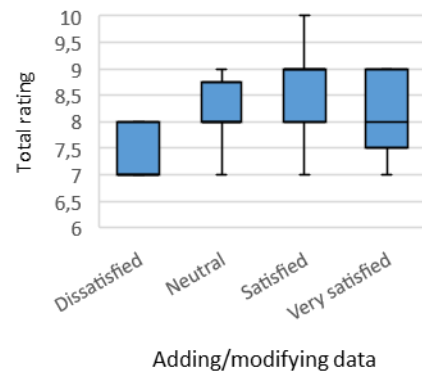
In comparison to the overall sentiment of the survey, the items about how respondents perceive cost savings were answered rather neutral. Because these items were only shown to respondents who indicated that they were an owner/executive or supervisor, the imputation of values for these questions for other respondents could have changed the outcome. Respondents, on the other hand, stated that they use SequriX to



increase efficiency rather than cut costs. As a result, the items that measure perceived cost appeared currently less relevant, but are included for when increases in subscription prices are implemented.

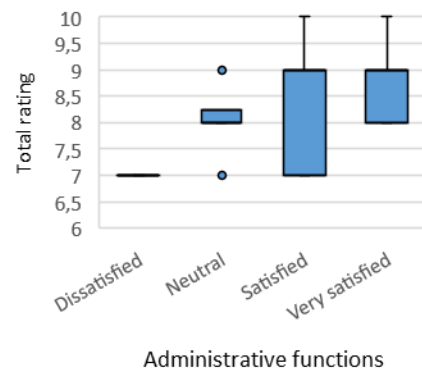
## 2. Adding and modifying data in the system (Flexibility1)

Adding and modifying data in the system is the second item to receive a neutral rating. Respondents stated that performing those activities is difficult, with simple tasks requiring effort to complete. However, the standard deviation of 0.95 indicates that the results differ significantly from the mean score, implying that some respondents are also satisfied with the functionalities.



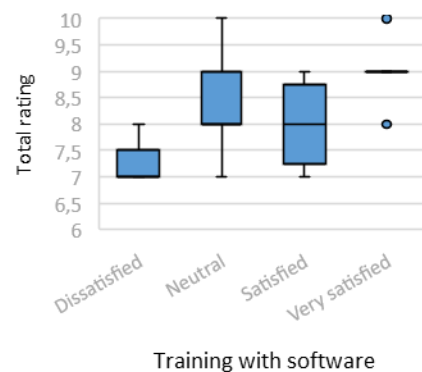
## 3. The administrative functions in the software (Features3)

Comparable with the modification of data, the administrative functions received a lower score as well. According to several respondents, the software's functions are not intuitive enough to be usable without training. The variation in this item's outcome is the same as described in the preceding section; the high standard deviation of 0.91 indicates that respondents' opinions are divided.



## 4. The training to work with the software (Rapport1)

Lastly, the training that is provided when security companies become customers is evaluated neutral. However, a difference with the previous two items is that the standard deviation is lower, but even though 0,797 still shows data to be widely spread, it displays a more reliable opinion on the training.



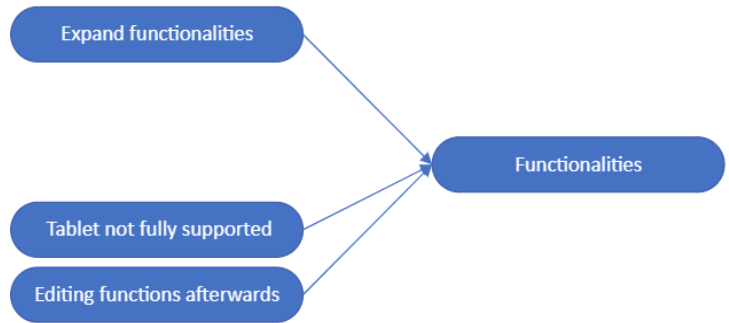
### 4.3.2 Open feedback results

Open questions for respondents to leave their thoughts were included in the questionnaire at the end of each set of items, to provide SequriX with more detailed insights. The most important results from the qualitative analysis, as shown in Appendix I are displayed below, following the open coding method as described by Corbin and Strauss (2014) on an open, axial and selective level. Coding the data allowed to funnel individual responses into categories and ultimately into overarching themes that characterize the feedback of respondents. Out of the total 35 respondents, 19 left feedback through the open questions. It shows that respondents primarily leave feedback with regard to the topics of functionalities, user friendliness, and support. The figures address the axial and selective codes.



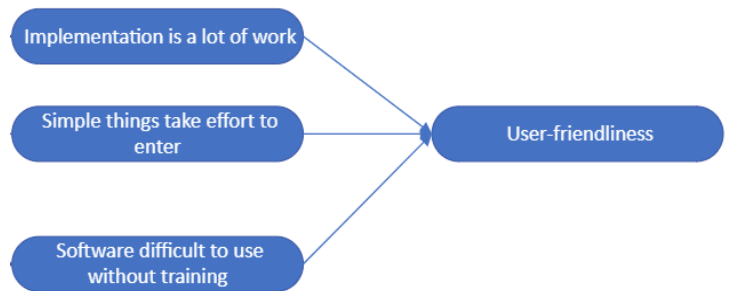
### 1. Functionalities

The most frequently mentioned feedback is related to the lack of or complexity of certain features in the software. Mainly the administrative functions are subject of improvement. Therefore, the category of expanding functionalities is partly related to the next section, where user friendliness of the software is discussed.



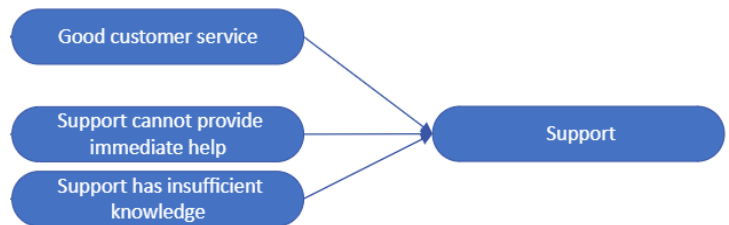
### 2. User friendliness

Both user friendliness and aforementioned functionalities are topics that have received negative feedback. Existing functions such as administrative tasks, according to respondents, are time-consuming and require unnecessary actions. Furthermore, respondents indicate that the software lacks an intuitive feel, despite the fact that instructions are available and training is provided for new users. As a result, when software problems arise, support is perceived insufficient by some respondents.



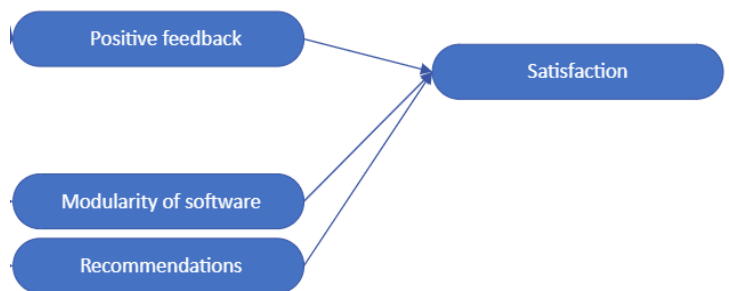
### 3. Support

Customers of SequriX provided mixed feedback about support when problems with the service or software occurred. Both positive and negative feedback is included in the analysis. In addition, some respondents indicated to not utilize the support of SequriX due to past experiences and using an external party that helps with software problems.



### 4. Satisfaction

Overall, the respondents are very satisfied with SequriX and the software. The respondents provided as positive feedback that SequriX software is better than previous SaaS software provides that they used. Also, respondents indicate that feedback is taken seriously and therefore feel the importance to participate in the survey.



## 4.4 Development of the survey framework

This study, as described in the chapter Methodology, follows the structure of the DSRP model (Peppers et al., 2007), with the entry point being centered to design and development. This results in the design and development of the instrument that is a modification of the SaaS-Qual model of Benlian et al. (2011). This differs from the models in the theory in multiple ways: first, the model proves that it is appropriate to measure customer satisfaction, providing that it is customized to the context of the user's organization. Second, the survey instrument uses a compact questionnaire to measure the factors, opposed to the thorough SaaS-Qual model. This also includes the removal of the factor Security. Third, the addition of the construct Cost Savings, as adopted from Abu-Salim et al. (2017), to find out whether the respondent perceives the cost of software positively or negatively in relation to the benefits. Fourth, the survey instrument is tailored to the specific situation of measuring customer satisfaction among security companies that use SaaS.

### 4.4.1 Before and after-survey focus group

To develop the survey instrument, multiple methods were used to analyze and improve existing models. One of those methods was a pre-survey focus group, where a group of experts from SequriX participated in a focus group with the goal of designating and filtering out irrelevant survey questions, to come up with a more compact questionnaire. Improvements of the survey instruments were already made before conducting the survey, with a reduced list of 36 items as is shown in table 3 of the Methodology chapter. However, after the survey was administered, to further validate the survey, an after-survey focus group was conducted with the same participants. So, the scaled-down questionnaire was then once again presented to the experts, this reduced the initial item list even more to 34. The table below addresses an overview of the constructs in the extensive questionnaire, with the addition of the questions, in a check-up survey, that revisit feedback from the previous survey. The complete survey framework is presented in Appendix N, both the extensive and check-up questionnaire.

## 1. Extensive survey

### 0. General questions

Variable	Abbr.	Items #	Description	Measurement level
Function	Func	1	The role that the respondent has.	Nominal
Security employees	Semp	1	The total number of security employees in the respondents' organization.	Ordinal
Module	Mod	1	The part of SequriX software that is used by the respondent.	Nominal
Use	Use	1	The activities that the respondents' organization uses SequriX software for.	Nominal

### 1. Service Quality

Variable	Abbr.	Items #	Description	Measurement level
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Responsiveness	Res	5	The quality of support and solution orientation of SequriX.	Ordinal
Reliability	Rel	3	The provision of reliable services by SequriX.	Ordinal
Flexibility	Fle	3	The ability of the respondent to modify functionalities and activities.	Ordinal
Rapport	Rap	6	The quality of SequriX and its processes as an organization.	Ordinal
Features	Fea	3	The usability of the software.	Ordinal

## 2. *Perceived Usefulness*

Variable	Abbr.	Items #	Description	Measurement level
Perceived Usefulness	Pu	3	The perception of the respondent on how useful the software is.	Ordinal

## 3. *Cost Savings*

Variable	Abbr.	Items #	Description	Measurement level
Cost Savings	Cst	3	The perception of the respondent on the cost of the software.	Ordinal

## 4. *Continuous Intention*

Variable	Abbr.	Items #	Description	Measurement level
SaaS Continuous Intention	Sci	2	The intention of the respondent to continue using the software.	Ordinal

## 5. *Satisfaction*

Variable	Abbr.	Items #	Description	Measurement level
Satisfaction	Sat	3	The overall satisfaction of the respondent with SequriX.	Ordinal Scale

# 2. Check-up survey

## 0. *Previous feedback*

Variable	Abbr.	Items #	Description	Measurement level
Previous feedback	Pre	Varies	The most frequently mentioned items from survey and interviews that were improved by SequriX.	Ordinal

## 4.5 Validation of the survey instrument

According to the DSRP model, evaluation is done after demonstration of the instrument, and therefore the second phase involves conducting of follow-up interviews according to the interview framework as proposed in Appendix M. The complete analysis is shown in Appendix M, where the overarching themes

are identified. Conducting follow-up interviews is important, because this opens up the opportunity to ask specific questions about topics that stood out.

### Interviews

The table below shows a selection of statements that were made during the interview, with the coding done on an open, axial and selective level. In accordance with the survey results, the respondents validated previous answers and provided an in-depth explanation on what was exactly perceived as a problem in the functionalities, in addition to proposing a solution. According to the interviews, it is noticeable that respondents are unsatisfied with the function being far from intuitive, to the point where employees do not fully use the software because of their lack of knowledge. On the other hand, interviewees suggest clear recommendations on how the problems could be fixed, such as adding a duplicate function and simplifying the basic product. So, the follow-up interviews validate the results of the survey and add new knowledge about underlying causes of dissatisfaction, together with suggesting solutions.

*Table 8 Selection of quotes from validating interview*

<b>Interview</b>	<b>Statement</b>	<b>Open</b>	<b>Axial</b>	<b>Selective</b>
1	That you have to add 6 tasks below a contract line. You have to manually create these 6 lines instead of being able to duplicate one.	Not able to duplicate	Unnecessary actions	Functionalities
1	Indeed, so you can add a contract line, which can be duplicated. Such a function should be build in.	Add line duplication	Idea for functionality	
2	We would like to automatically verify alarm notifications in the back-office, like we can in the mobile application. So, we do not have to call and retrieve the status.	Automatically verify alarm notifications in Backoffice	Adding features	
2	The software should be more accessible in the basis for people with less IT knowledge.	Simplify the basis of the product	Solution for problem	
3	There is so much information in the system ... we can get almost no data and reports out of it. Financial reports in particular and dynamic ones.	Potential of software is not fully utilized	Shortcoming software	
3	As for adding and modifying data, it could all be made simpler.	Adding and modifying data takes time	Recommendation	
3	Financial reports and also planning would be a nice addition so we don't have to enter planning twice as we do now ... In addition, an automatic form for reporting to police would be an addition.	Reports, planning and automatic form	Adding features	

2	We think that is really cumbersome to add new customers or tasks in the system.	Adding customers and tasks is cumbersome	Unnecessary actions	User friendliness
2	The software is made by IT specialists ... Now you see that colleagues do not fully use the system because it is too complicated or it costs too much time to set it up.	System is too complicated for security professionals	Colleagues do not use the system	
3	The usability is very good ... I think that usability is a generational thing, because for us it is all user-friendly.	Satisfaction with user friendliness of software	Software is user friendly	
1	It is ideal, you can see where guards are, if they are moving. For the rest we are really satisfied with SequriX.	Possibilities with SequriX	Satisfaction with software	Satisfaction
2	We are satisfied with the mobile application, therefore the total rating of 8.	Satisfied with mobile application	Satisfied with system	
3	I am very satisfied with the ongoing development of the product and the cooperation with SequriX.	Cooperation with SequriX	Cooperation	

By carrying out and coding the interviews, an overview of the general subjects becomes clear with specific topics that thematize the interviews. These topics of functionalities, user friendliness and satisfaction correspond the results of the survey questions. So, with the use of validating interviews, it is possible to ask more in-depth question in order to find out the root cause of why respondents are less satisfied with particular things. On the one hand, customers feel that SequriX is genuinely interested in improving the provided service, and on the other hand, SequriX gains more insights in why customers are truly less satisfied with the particular matter.

#### 4.6 Survey instrument roadmap

Carrying out the customer satisfaction research is done according to the structure of first measuring the level of satisfaction with the use of the extensive questionnaire, as shown in section 4.4. Second, SequriX uses the results and insights to introduce improvements of their service or software that were rated lower by respondents. Third, after implementing the changes, SequriX sends a quick and short survey to the customers to check on what they think of the implemented improvements made. Then, the following year following, the cycle starts again with sending the extensive survey to customers. Figure 5 shows how the procedure is designed.

1. As was done in 2022 during this research, the first step covers sending the extensive survey to all customers of SequriX. This survey generates a complete overview of the level of satisfaction among customers, with the designation of certain improvement areas according to open feedback.

2. The results of the survey were validated during the first step with performing interviews with a small number of respondents. Then during the following year, the insights from the extensive questionnaire are discussed by stakeholders at SequriX, to determine what improvements can be implemented to enhance the service and software for customers.

3. After the implementation of improvements in service and software by SequriX, a short and quick survey is send to customers, at the end of the year in step 2, to make them aware of the additions that were made. Also, this is a heads up towards the customers that SequriX truly uses the feedback from the survey to provide customers with a better service. This quick survey specifically asks customers whether they think the changes are improvements over the previous process.

4. Then, after gaining the opinion of customers on the made improvements, the cycle repeats itself with step 1 during the following year. Overall, one cycle of the survey instrument cover two years, where the first year is aimed at collecting data, the second year to make improvements and validate if the improvements were useful, the year after that the cycle starts again.

To highlight the benefits of such a cycle: customers feel that their participation in the extensive survey is useful, as improvements are made based on the outcome. Also, customers are not bothered with an extensive survey every year, to ensure that they will continue to participate every other year. Finally, SequriX has an appropriate amount of time to make improvements without rushing them.

#### 4.6.1 Survey framework manual

To ensure that SequriX can independently repeat the process of measuring customer satisfaction among their customers, a manual was developed as an essential deliverable. The manual guides the user through the process with a straightforward sequence of steps to follow. Where possible, the activities are already prepared to ensure that the user is able to conduct the next survey in a limited amount of time.

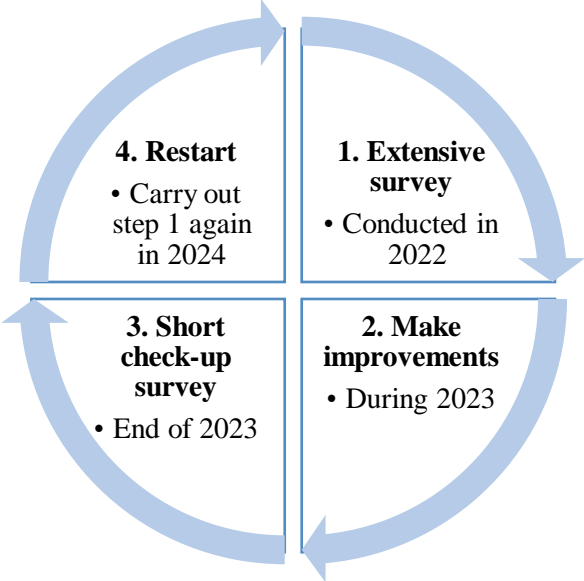


Figure 5 Survey instrument cycle

## 4.7 Analysis of results

Based on existing literature on measuring customer satisfaction at SaaS providers, the findings of this study, as presented in the results chapter, are compared to the expected outcome, as described in the theoretical background.

To start with the most important concepts, when we take a step back to link the factors that were derived from theory, with the outcome of the survey results, table 9 shows what the most important concepts are according to this survey. With the use of the following table it is possible to compare the most mentioned factors in practice with the most used factors in theory from table 2 in the theory chapter.

Table 9 Cross table of important concepts in theory and practice

		Pre-survey focus group	After-survey focus group	Open feedback	Validating interviews		
					1	2	3
Factors from theory	Flexibility	+	++	X	X	X	X
	Features	++	++	X		X	X
	Satisfaction	-/+	+	X	X	X	X
	Responsiveness	++	++	X			
	Perceived usefulness	+	++				
	SaaS continuance intention	+	++				
	Rapport	++	+				
	Reliability	++	+				
	Cost Savings	-/+	-/+				

Table 9 shows a complete overview of the topics that were deemed as most important in the pre-survey focus group and after-survey focus group, and were most mentioned in the open feedback of the survey and in the validating interviews. The factors from theory that were most frequently used in existing models are reliability and flexibility, while in practice flexibility is in fact the most mentioned factor. Flexibility being the most important factor agrees with prior theory, but reliability is never mentioned and also not considered very important by the focus groups, and therefore is not considered important in this research's context. The second most important factor from practice is features, which in turn is hardly used in existing models. Therefore, in this research's context, the most important factors differ from the ones that are most frequently used in theory.

In the second place, according to existing literature from Benlian et al. (2011) and Chou (2019), measuring customer satisfaction through an online survey produces an accurate representation of the current level of customer satisfaction, as been validated through the follow-up interviews. The relationship between constructs was investigated and yielded similar results to previous papers on SaaS-

Qual, where service quality, perceived usefulness, cost savings, and continuous intention are all related to satisfaction.

In the third place, the characteristics of the samples are very different, where Benlian et al. (2011), Chou (2019) and Martins et al. (2019) use a random sample from an online database, while this study is directly aimed at a real business environment. Therefore, the SaaS-Qual model could be considered as a method to measure customer satisfaction for SaaS users, although with a sample where it is unknown what SaaS product is used by the respondent, findings from those studies do not add practical value for a SaaS provider. As opposed to the results of this study, where SequriX is provided with straightforward recommendations.

Lastly, the surveys as addressed in prior studies, posed too many items to measure customer satisfaction, which can be perceived as too time consuming for respondents. Therefore, the total response in prior studies was rather low, with 172 (8.6%) usable responses out of a sample of 2000 (Benlian et al., 2011). Moreover, as described by Evans and Mathur (2018), survey length affects the response rate, and a shorter questionnaire may increase the likelihood of a respondent completing the survey. A more compact questionnaire, as designed in this study, would still measure customer satisfaction in its entirety, using the same number of constructs, but by putting together similar questions and removing not relevant items. So, the final questionnaire contains 36 questions and was completed in nine minutes on average. It was not considered too extensive or time consuming by respondents as revealed by the conducted interviews.



## 5. Conclusion

The aim of this research was to provide SequriX with a designed survey framework in order to measure customer satisfaction and be able to reproduce the process. Therefore the following research question was drafted: *“How can a SaaS provider measure the level of customer satisfaction of security companies?”*.

First, this study demonstrates that a SaaS provider can measure customer satisfaction in a B2B context using the proposed survey framework (Appendix N). The framework provides a comprehensive representation of actual customer satisfaction while remaining concise enough to keep customers involved throughout the process. Following the framework, the combination of conducting the online survey and then validating interviews provides the organization with useful insights into which areas require improvement. These can then be optimized to increase customer satisfaction even further. The extensive survey, as presented in the results, can be repeated every other year to track trends in changing levels of customer satisfaction.

Second, existing literature was reviewed in order to identify the most important concepts associated with measuring customer satisfaction. These are distinct from the most important concepts resulting from this study, which are flexibility and features, as presented in the theory. Furthermore, the existing SaaS-Qual model serves as the foundation for the survey framework, which, unlike previous literature, is optimized to be practically applied in a B2B environment and can provide a comprehensive overview of customer satisfaction as well as identify areas for improvement for the SaaS provider.

Third, because the design science method was considered most appropriate for this study, the DSRP model was utilized to develop the survey framework. The questionnaire was narrowed down to the most important questions to keep respondents engaged and was especially tailored to fit the context of security companies using multiple methods, such as two sessions of focus groups, a pilot survey, and validating interviews. The survey takes an average of eight minutes to complete, providing valuable insights for SequriX stakeholders to improve services and, as a result, provide customers with more efficient software, saving time on a daily basis.

Finally, while the survey yielded a small number of responses, the number of unique companies who participated in the survey could be identified when considering the B2B perspective. As a result, the survey results represent a portion of the customer base, implying that the results are representative for the population. According to SequriX, the survey framework is a valuable tool that allows the organization to measure customer satisfaction. According to the findings, the most frequently mentioned items are: adding data to the system, the software's user friendliness, and solving problems by the support staff. Stakeholders believe that these insights can be used to identify and formulate actions that will improve the services provided. The framework will be used in the future to track customer satisfaction, especially with the accompanying manual that instructs the user on how to repeat the study.

## 6. Discussion

This chapter highlights both theoretical and practical implications, and opportunities for future research are proposed.

### 6.1 Theoretical implications

While existing literature on measuring customer satisfaction at SaaS companies is rather limited, it is not available with regards to a B2B context with security companies as customers. As a result, the addition of this paper touches upon the subject of customer satisfaction for security companies, allowing other researchers and practitioners to expand the information from there.

The development of the survey instrument, which is based on Benlian et al(2011) .'s SaaS-Qual model, resulted in a compact questionnaire with many items revised. While downsizing the survey and producing appropriate results to measure customer satisfaction, the lengthy SaaS-Qual instrument may only result in the survey being terminated early. While most customers are willing to take the time to complete an online survey, if it takes more than fifteen minutes to complete, respondents may be discouraged from continuing. In doing so, this study criticizes the findings of Benlian et al. (2011) and Chou (2019), who employed the SaaS-Qual model as an instrument to measure customer satisfaction, because a more compact questionnaire could increase sample size and improve average value accuracy, providing a more reliable representation of the population's customer satisfaction.

Aside from that, this paper contributes to the body of knowledge on measuring customer satisfaction for SaaS providers and provides future researchers with a framework and knowledge on how to conduct such a study in the context of B2B. As a result, researchers could use it as a starting point for measuring customer satisfaction in the context of a B2B SaaS provider.

### 6.2 Practical implications

To start with, SequriX obtained an instrument that enables them to independently measure customer satisfaction, which is tailored to the context of providing SaaS in a B2B context. Furthermore, now lacking activities are identified, the organization can take actions to improve them. Followed by a quick check-up survey, to validate whether the improvements had an effect. Improving services may lead to an increased level of customer satisfaction and thus could result in lower customer churn. Moreover, it could initiate a shift from neutral customers to promoting customers, who attract new prospects due to positive feedback and recommendations to peers, colleagues, and friends (Agrawal & Rahman, 2015).

Besides, existing customers of SequriX are given the opportunity to provide feedback about how they experience the service. SequriX uses the feedback to introduce functionalities, more efficient software, and more customization to customer needs. Using customer feedback to introduce new functionalities could be the start of co-creation of value, where the organizations works together in order to design a service that adds more value for customers (Payne, Storbacka & Frow, 2008).

### 6.3 Limitations

When conducting a research, it often entails that there are limitations, either due to decisions that were made or things that occurred beyond the reach of the researcher. Therefore, it is useful to describe these events so that future researchers can take them into account when conducting a similar study.

The first limitation that there was no literature specifically aimed at measuring customer satisfaction at security companies who use SaaS. Because there was no literature in a similar context, validated methods and instruments from other contexts were used. As a result, during the research design phase, assumptions were made about the outcome based on customer satisfaction research from other contexts.

The second limitation was a rather low response rate after the initial invitation. To increase the initial response, a SecuriX employee could get in touch with the point of contact to determine if the survey is directed at the right person. Furthermore, this would prepare the customer for the fact that a survey is going to be send and increase the feeling of importance to participate.

The third limitation could be pointed to the outcome of the survey being relatively one-sided. Respondents chose the neutral and satisfied answer options most frequently, which can indicate truly satisfied customer. Although, another reason could be the incentive that was raffled among respondents who entered their email address. Another possibility is that respondents often answered items in a positive way to not be rude to the SaaS provider.

### 6.4 Future Research

After conducting this research, there remain opportunities for future research that would add to the available knowledge. First, a longitudinal study can be established to track customer satisfaction over time and validate whether or not this survey instrument can provide insights into changes in customer satisfaction over a longer period of time

Second, the compact survey instrument could be used in other industries than security companies. To find out if it yields similar results and is generalizable in other business environments than a SaaS provider with security company as customers.

Third, researchers can combine the method of sending the survey via email with a new approach. This can be done by including a link to the survey directly in the software, backoffice, or mobile application. This approach directly addresses system users and enables a comparison with the key informants.

Finally, in addition to conducting the survey, a future study could cover the introduction of a feedback system that is integrated into the software for a more continuous approach. With the automation of requesting feedback, based on certain actions that a user performs in the system.

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## II. Appendices

### Appendix A: Business model canvas Sequirix

<b>Business Model Canvas</b>					<i>Designed for:</i> Sequirix	<i>Designed by:</i> Rutger Olde Klieverik	<i>Date:</i> 28-10-2022	<i>Version:</i> 1
<b>Key Partners</b>	<b>Key Activities</b>	<b>Value Propositions</b>	<b>Customer Relationships</b>	<b>Customer Segments</b>				
	<b>Key Resources</b>		<b>Channels</b>					
<b>Cost Structure</b>				<b>Revenue Streams</b>				

Figure 6 Business Model Canvas



## Appendix B: Five-stage Grounded theory model

Before writing the literature review, it is important to systematically explore and select relevant sources and articles. As a result, the five-stage grounded theory model of Wolfswinkel, Furtmueller and Wilderom (2013) was used as a starting point for the literature review.

### 2.1 Five-stage Grounded Theory model

Following the five-stage grounded-theory method of Wolfswinkel et al., (2013), it starts with defining the scope of the literature review. This scope limits the topics covered, so the topics in this paper are related to measuring customer satisfaction for SAAS providers. Because the scope of measuring customer satisfaction at security companies that use SaaS is too narrow and produces insufficient (if any) results, the literature criteria have been set to a more general level of SaaS users.

#### 1.1 Define

Before looking through databases to find fitting articles it is important to define the criterion that decide whether a publication is appropriate or not.

Criteria for inclusion

- Publications involving customer satisfaction models/tools,
- Recent publications,
- Publications that focus on a Business-to-Business relationship,
- Publications with an appropriate sample size.

Criteria for exclusion:

- Publications that are too specific,
- Publications before 2000, except for the articles that form the foundation for recent ones,
- Publications that could not confirm their hypothesis.

#### 1.2 Identify

Because the topics of this research span multiple fields of study, it could be identified in the following fields: Business and Management, because the issues for SequriX are business related, and it has a connection with the managerial actions that are taken. A more specific field in Business and Management would be Service Provider and Customer Intimacy. Another field of study that applies to this topic is information systems because SequriX provides a SaaS solution that centralizes the information gathered by security companies during their activities into a backoffice system. Psychology

Number	Task
<b>1. DEFINE</b>	
1.1	Define the criteria for inclusion/exclusion
1.2	Identify the fields of research
1.3	Determine the appropriate sources
1.4	Decide on the specific search terms
<b>2. SEARCH</b>	
2.1	Search
<b>3. SELECT</b>	
3.1	Refine the sample
<b>4. ANALYZE</b>	
4.1	Open coding
4.2	Axial coding
4.3	Selective coding
<b>5. PRESENT</b>	
5.1	Represent and structure the content
5.2	Structure the article

Figure 7 Five-stage grounded theory model (Wolfswinkel et al., 2013)

would apply to this research when investigating what the level of satisfaction is between customers, while the Psychology field is too broad, a narrowed down field would be Customer Relationship Management (CRM). One can also consider Computer Science being a related field of research in this paper, although the focus is less on the technical part of designing a solution for SequriX.

### 1.3 Determine

The most appropriate sources for finding relevant publications would be general databases such as Scopus, ScienceDirect, Google Scholar and Springerlink. More specific sources in line with the fields of research as mentioned in section 1.2 are:

- IEEE Xplore journal, for scientific and technical publications.
- Information Science & Technology Abstracts (EBSCO), for literature about SAAS and backoffices.
- Journal of Management Information Systems, for specific literature about information systems.
- Psychology and Behavioral Sciences Collection (EBSCO), for literature about behaviors of service users and customer satisfaction.

### 1.4 Decide

The Decide phase contains the creation of search terms and combinations that are relevant to the fields of research and, in some cases, more specifically indicated topics. These search terms may produce different results depending on the database because they correspond more with a specific database. Although various search terms and combinations were used, the following search string produced the most relevant articles.

*Table 10 Search strings in different databases*

<b>Database</b>	<b>Search string</b>	<b># Results</b>	<b># Relevant articles</b>	<b>Comments</b>
Scopus	SaaS AND continuance	17	5 new	Smallest selection and most relevant articles.
Google Scholar	SaaS AND continuance	1840	2 new	Scholar delivered the most results. From the 1840 results, 5 of them were the same relevant items as in Scopus. However, 2 new relevant articles were found.

See section Refine 3.1 for the two articles that were found by backtracking the more recent articles.

## 2.1 Search

In the search phase, the keywords as stated in 1.4 are used in the database that delivered the most accurate selection of relevant articles, which being Scopus yielded the following selection. The relevant articles were subsequently back and forward tracked for more relevant articles that were used as a reference or had cited the article.

*Table 11 Relevant articles*

<b>Article #</b>	<b>Year</b>	<b>Author</b>	<b>Title</b>	<b>Journal</b>	<b>Comment</b>
1	2021	Basiran & Yusof	Measuring factors influencing quality of SAAS	Information Development	Forward tracked from Benlian, Koufaris & Hess (2011) article
2	2022	Baumann & Kern & Lessmann	Usage continuance in SAAS	Information Systems Frontiers	Longitudinal study towards factors that influence the SaaS usage continuance.
3	2010	Benlian & Hess	The role of SAAS service quality for continued SAAS use: Empirical insights from SAAS using firms	International conference on information systems	Has the goal of containing customer churn rates by finding which factors are important.
4	2011	Benlian & Koufaris & Hess	Service quality in SAAS: Developing the SAAS-Qual measure and examining its role in usage continuance	Journal of Management Information Systems	Invented the SaaS-qual model, based on the SERVQUAL
5	2019	Chou	Exploring relationship quality of user cloud service	Journal of Organizational End User Computing	The same research method was used as is intended to do for this paper.
6	2017	Freitas & Neto	Assessing the service quality in SAAS from the customers perspective: A methodological approach and case of use	Production	Forward tracked from Benlian, Koufaris & Hess (2011) article
7	2019	Martins & Oliveira & Thomas & Tomás	Firms' continuance on SAAS use	Information Technology and People	Especially focused on continuance intention of SaaS.

### 3.1 Refine

Refining the process of selecting various articles using the method of Wolfswinkel et al. (2013), to exhaust the list of new articles that appear when forward- and backtracking citations.

The list of articles in table 11 in section 2.1 is a selection of articles that strongly correspond with the actual issues at SequriX, those being the most important factors for SaaS users to intend on continuing to use the software that Sigmax provides. However, when backtracking these articles it was found that most refer to the article of Benlian, Koufaris and Hess (2011). Backtracking multiple articles from table 11, the following two articles serve as the foundation for the relevant articles that were chosen. To begin, the article addressing the SERVQUAL model is the foundation for multiple articles concerning the service quality of SaaS, as the SERVQUAL model was the first model to measure the quality of service. However, despite the fact that this article was published in a retail journal, the model was adjusted to fit in an information system context by various authors. On the other hand, there is the article about information system continuance, indicating the factors that contribute to a user continuing to use an information system. This article is also used as input for recent models that include ‘continuance intention’ as a factor.

*Table 12 Relevant articles (Continued)*

<b>Article #</b>	<b>Year</b>	<b>Author</b>	<b>Title</b>	<b>Journal</b>	<b>Comment</b>
8	1988	Parasuraman, Zeithaml & Berry	SERVQUAL: A Multiple-Item Scale for Measuring Consumer Perceptions of Service Quality	Journal of Retailing	Invented the Service-Quality model that forms the basis for many relevant models
9	2001	Bhattacharjee	Understanding information systems continuance: An expectation-confirmation model	Management Information Systems Quarterly	Demonstrates the factors contributing to the intention to continue using Information Systems

### 4.1 Coding the concepts

After reading or scanning through the article, some specific concepts stand out from the rest of the text. Therefore, these concepts are noted and checked off per article. To enhance readability, the articles are sorted from most important to less important in Table 13.

## 5.1 Represent

To enhance the readability of articles and concepts are presented in table 13 in an organized manner, with the most relevant articles and concepts in the top left corner. In addition, the aggregated concepts are organized above, with some concepts containing multiple open coding concepts.

Table 13 Literature coding

Aggregated concepts									
	Customer satisfaction	Software-as-a-Service	Service quality	Usage continuance	Identifying (sub)factors				
Open coding									
Article #	Service quality	Identify (sub)factors	User satisfaction	Software-as-a-Service	SERVQUAL	Customer-Provider relationship	Cloud computing	Usage continuance	SaaS-QUAL
4	X	X	X	X	X	X	X	X	X
5	X	X	X	X	X	X	X	X	X
1	X	X	X	X	X	X	X		X
3	X	X	X	X	X	X		X	X
6	X	X	X	X	X	X	X		
2	X	X	X	X		X	X	X	
7	X	X		X			X	X	
8	X	X	X		X				
9	X		X		X				

## 5.2 Structure

Structuring the articles and concepts so that a literature review with articles that agree or disagree with each other can be created to argue on what existing literature this research is based on. Table 13 lists the relevant articles in order of how many concepts were addressed in the content. It shows that service quality is the most discussed concept and thus the most important for this research, the concept also includes the developed models to measure the quality of service. Although service quality is most relevant to the articles, the literature review starts with customer satisfaction because it is necessary to explain the SaaS model that emerged from service quality theories first, with SaaS being an extensive term that includes software but also infrastructure and cloud computing solutions. Another important concept to address is the factors that influence a customer's level of satisfaction, which serves as the foundation for the survey.

In short, the structure of the literature review is as follows:

1. Customer satisfaction
2. Software-as-a-Service
3. Service quality
4. Usage continuance
5. Identifying (sub)factors

## Appendix C: DSRP model

Prior literature has extensively investigated design science research, with papers describing methodologies for conducting design science research. These methods, as developed by Peffers et al. (2007) and Wieringa (2014), provide a repeatable process for answering the research question stated in this paper.

After reviewing both papers, the method that best matches the goal of this paper is the research of Peffers et al. (2007), in which the authors describe the following steps: 1) problem identification and motivation, 2) objectives of a solution, 3) design and development, 4) demonstration, 5) evaluation and 6) communication. Figure 4 depicts the Design Science Research Process model's four entry points for where to begin with the research. Regarding the problem and situation of this research, the starting point is a design and development approach because SequriX stated its goal but lacked a comprehensive method for systematically illustrating the aspects on which they can improve.

### **Problem identification and motivation**

Define the problem and demonstrate the value that the solution provides during the first step of the process. Describing these aspects have two advantages. The foremost is that it motivates the researcher and other stakeholders to find a solution. In addition, it enhances other researchers' understanding of the problem. This paper addresses the fact that SequriX has no current understanding of their customers' levels of satisfaction, starting from the completion of the onboarding process and the customer's independent use of the software.

### **Objectives of a solution**

The objective of the solution can be stated, based on the problem specification but also on problems that were not previously mentioned. These goals can be classified as quantitative or qualitative. The goal of this research is to develop a method or tool that allows SequriX to repeat the process of measuring customer satisfaction on an annual basis. A survey is to be used to conduct a baseline measurement as part of this goal.

### **Design and development**

This step is focused on the development of the artifact, which might be a model, construct, method, or any other tool that functions in the desired manner to solve the problem. To achieve this goal, this paper intends to thoroughly research the relevant literature on tools and methods for measuring customer satisfaction, with a focus on SaaS, such as Benlian et al (2011). This extensive literature review serves as the foundation for the method or tool that is developed as a result of this research. Finally, this produces a method that can be used independently by SequriX.

## **Demonstration**

In the fourth step, we demonstrate the functionality of the artifact in a variety of ways, such as an experiment, case study, or another activity. As part of the demonstration, a survey is conducted among SecuriX software users, with the survey consisting of various aspects that provides insights into the level of satisfaction.

## **Evaluation**

The outcome of the demonstration of the artifact that solves the problem is included in the evaluation step. The objectives of step two are be compared to the results of the demonstration to determine whether the results are desired and provide an adequate solution to the stated problems. Following that, the results are organized and analyzed to conclude customer satisfaction factors that require more attention. SecuriX could then decide whether or not to take action to improve customer satisfaction.

## **Communication**

Finally, the communication step summarizes all of the previous steps and describes all of the outcomes, providing an overview of activities and, ultimately, an answer to the formulated problems and goals. The findings of this research are presented in the form of a thesis as part of the Master of Business Administration program, as well as a guide with a series of steps that SecuriX must take to determine customer satisfaction.

## Appendix D: Concept survey items

Table 14 Concept survey items

<b>ID</b>	<b>Variable</b>	<b>Abbr</b>	<b>Survey item</b>	<b>Comment</b>
1	Gender	Gen	Male	Deleted
			Female	
2	Age	Age	<25 years	Deleted
			26-35 years	
			36-45 years	
			46-55 years	
			56-64 years	
			65> years	
3	Function	Func	CEO	
			Staff	
			General employee	
4a	Number of employees	Emp	<5 employees	
			6-25 employees	
			26-50 employees	
			51-75 employees	
			76-99 employees	
			100> employees	
4b	Security employees	Semp	<5 employees	New
			6-25 employees	
			26-50 employees	
			51-75 employees	
			76-99 employees	
			100> employees	
5	Module	Mod	Object protection	New
			Mobile surveillance	
			Controlcenter	
			Reception	
			Events	
6	Use	Use	Backoffice	New
			Handheld app	
			Both	
7	Number of years since SaaS purchase	Use	<1 years	Deleted
			1-2 years	
			3-4 years	
			5> years	
8	Frequency of Saas usage	Freq	<1 times a week	Deleted
			2-3 times a week	
			4-5 times a week	
			5-6 times a week	



			7> times a week	
9	Duration of SaaS usage	Dur	<1 hour per use	Deleted
			2-3 hours per use	
			4-5 hours per use	
			6-7 hours per use	
			8> hours per use.	
10	Rapport	Ra1	Problem solving together	
11		Ra2	Training in order to work independently	
12		Ra3	Understanding of our business goals and processes	
13		Ra4	Personal relationship	
14		Ra5	Aligned working styles (business hours)	Deleted
15		Ra6	Provider possesses enough knowledge	
16		Ra7	Company cultures are corresponding	Deleted
17		Ra8	Support fitting to customer needs	
18		Ra9	Customer best interest is at heart	Deleted
19		Ra10	Quality of documentation	New
20		Ra11	Communication of software updates	New
21	Responsiveness	Res1	Availability of system	
22		Res2	Network performance	
23		Res3	Problem recovery	
24		Res4	Contingency and replacement policy	Deleted
25		Res5	Hardware and software sensitivity	Deleted
26		Res6	Sufficient support personnel	
27		Res7	Support is up to date, hardware, software and network-wise	Rephrase
28		Res8	Technical support availability	
29		Res9	Multichannel customer care	Deleted
30	Reliability	Rel1	Providing at promised time	
31		Rel2	Providing right the first time	
32		Rel3	Fulfilling agreements to contract	
33		Rel4	Provider is interested in solving customer problems	Deleted
34		Rel5	Error free services	Deleted
35	Flexibility	FI1	Integration of SaaS service with customer information	
36		FI2	Scalability of application (increasing number of subscriptions)	Deleted
37		FI3	Modularity of features (able to buy parts of the software)	
38		FI4	Access to latest software versions	
39		FI5	Modifying contractual parameters in later stage	Deleted
40		FI6	Choice in payment method, once/subscription/billing	
41	Features	Fe1	Appealing user interface	
42		Fe2	User friendly navigation and functionalities	

43		Fe3	Features to report and extract data	Deleted
44		Fe4	SaaS user administration features	Rephrase
45		Fe5	SaaS help functionalities	Deleted
46		Fe6	Dashboard features with metrics	
47		Fe7	SaaS application core features to support process	Deleted
48	Security	Sec1	Data backup and recovery	Deleted
49		Sec2	Security audits	Deleted
50		Sec3	Secure physical environment	Deleted
51		Sec4	Anti-virus protection	Deleted
52		Sec5	Data encryption	Deleted
53		Sec6	Data confidentiality	Deleted
54	Perceived usefulness	Pu1	Using SaaS software improves our performance	
55		Pu2	Using SaaS software improves our productivity	
56		Pu3	Using SaaS software improves our effectivity	
57		Pu4	Using SaaS software helps us in general with our activities	
58		Pu5	Using SaaS software helps us to focus on core activities	Deleted
59	Cost Savings	Cst1	The cost of the software remains in our budget	Deleted
60		Cst2	The cost of the software is similar to alternatives	Deleted
61		Cst3	The cost of the software corresponds with the delivered quality	Deleted
62		Cst4	The cost of the software is proportional to the advantages it brings	New
63		Cst5	When using the software we are saving money on administrative tasks	New
64	SaaS continuance intention	Sci1	We rather continue using the software than discontinuing	Deleted
65		Sci2	We rather continue using the software than use an alternative	Deleted
66		Sci3	If we could, we would want to discontinue the use of SaaS	Deleted
67		Sci4	We expect to keep using the software in the future	New
68		Sci5	I like my job better when using the software	New
69	Satisfaction	S1	Our overall experience is dissatisfied/satisfied	
70		S2	Our overall experience is displeased/pleased	Deleted
71		S3	Our overall experience is frustrated/contented	Deleted
72		S4	Our overall experience is terrible/delighted	Deleted
73		S5	I would recommend SequriX to another company	New
74		S6	What would you rate SequriX in total	New

## Appendix E: Summary pre-survey focus group

After developing a concept of the survey items, a focus group was organized to discuss the questions that would be sent to the customers. This focus group was aimed at discussing the relevance, appropriateness, ambiguity and length of the survey items. As a preparation a meeting was scheduled with the participants in the table below, a week before the meeting a set of concept questions was sent via email to be checked upfront and make remarks. During the meeting, the survey items were addressed in groups according to the factor that they should measure.

*Table 15 Focus group 1 participants*

Name	Function	Experience
Expert 1	Customer Success Manager	5 years
Expert 2	Managing Director	3,5 years
Expert 3	Product Marketeer	2 years
Expert 4	Product Manager	<1 years
Expert 5	Customer Success Manager	8 years

This meeting brought in new insights and also one of the experts pointed out an effective method to rate the concept questions in order of importance. Namely, by placing the list of all survey items in an Excel spreadsheet and creating a classification system, with the possibility to assign a certain amount of points to questions per factor. Figures 8 and 9 show the method that was used to order the survey items from most relevant to most irrelevant and, items that averaged less than 3 points were deleted from the list.

Question ID	General questions	Value	Maximum points
1	What is your role?	5	
2	How many employees does the organization have in total?	3	
3	[New] What does the organization use the software for?	5	
4	Since when does the organization use the software?		
5	How many times do you use the software?		
		To be distributed	2 Points
	<b>Questions about service quality</b>		
	<b>Rapport: How the customers sees Sequrix</b>		
	<i>How satisfied are you about Sequrix when thinking about...</i>		
1	... solving problems together		
2	... the training to work with the software		
3	... Sequrix's insight into your processes and objectives?		
4	... a personal customer relationship		
5	... the knowledge that Sequrix possesses		
6	... company cultures are corresponding		
7	... the support tailored to your business needs		
8	... customer best interest is at heart		
9	[new] ... the quality of the documentation		
10	[new] ... communication of software updates		
		To be distributed	30 Points

*Figure 8 Classification method*

Vraag ID	Algemene vragen	Expert 1 Value	Expert 2 Value	Expert 3 Value	Expert 4 Value	Expert 5 Value	Gemiddelde
1	1 Wat is uw functie?	5	5	5	1	4	4,0
2	2 Hoeveel werknemers heeft de organisatie?	3	5	3	5	4	3,8
3	3 [nieuw]Waar gebruikt de organisatie de software voor? (Objectbeveiliging, Mobiele surveillance, Meldkamer, Receptie, Evenementen)	5	4	4	5	5	4,6
4	4 Hoe lang maakt de organisatie gebruik van Securix?	2	1	2	2	2	1,8
5	5 Hoe vaak wordt de software gebruikt?			1			1,0
	<b>Vragen ten behoeve van Service Kwaliteit</b>						
	<b>Rapport: Inzicht in hoe de klant Securix ziet als bedrijf of o.b.v. medewerkers</b>						
1	2 ...de training om met de software te werken	5	5	5	5	5	5,0
2	1 ...het samen oplossen van problemen	5	5	4	5	5	4,8
3	4 ...een persoonlijke klantrelatie	4	5	3	5	5	4,0
4	10 [nieuw]...de communicatie rond software updates	2	3	5	5	5	3,8
5	5 ...de kennis die Securix bezit	3	4	3	5	5	3,8
6	9 [nieuw]...de kwaliteit van de documentatie	3	3	3	3	5	3,5
7	7 ...de support die afgestemd is op wat uw bedrijf nodig heeft	5	5	2	2	5	3,5
8	3 ...het inzicht van Securix in uw processen en doelstellingen	2	5	2	2	5	3,5
	6 ...een overeenkomende bedrijfscultuur			1			1,0
	8 ...het beste voor hebben met uw bedrijf	1		2			1,5

Figure 9 Overview of classification system

## Appendix F: Summary after-survey focus group

The second session of the focus group is about the validation of the questionnaire, after the first version was used to conduct the survey. Based on the collected data and outcomes, as shown in figure 10, the participants of the focus group were once more requested to evaluate the survey items. This time, with the addition of the outcome of the survey, to illustrate what the score was of a specific item.

Table 16 Focus group 2 participants

Name	Function	Experience
Expert 1	Customer Success Manager	5 years
Expert 2	Managing Director	3,5 years
Expert 3	Product Marketeer	2 years
Expert 4	Product Manager	<1 years
Expert 5	Customer Success Manager	8 years

This meeting resulted in a validation of the questionnaire, with additional adjustments to the order of questions and the number of questions. With the validation of questionnaire items, 8 items were deemed to be not relevant enough. The rating of respondents and the score that that was received from the experts during the focus group resulted in deleting those items.

Vraag ID	Algemene vragen	Gemiddelde score in survey	Score	Maximale punten	.
	<b>Vragen ten behoeve van Service Kwaliteit</b>				
	<b>Responsiveness: Inzicht in support en oplossingsgerichtheid van Sequirix</b>				
	<i>Hoe tevreden bent u over Sequirix met betrekking tot</i>				
1	...support-medewerkers die actuele kennis hebben van de software	4,46	4		
2	...een voldoende aantal support-medewerkers (u hoeft niet lang te wachten op een medewerker)	4,31	4		
3	...de beschikbaarheid van support (24 uur per dag)	4,09	5		
4	...het oplossen van software problemen	4,14	5		
5	...de beschikbaarheid van de software (na updates of storingen snel weer beschikbaar)	4,34	2		
6	...de inzetbaarheid van de software (software die 24/7 te bereiken is)	4,34	4		
			Nog te verdelen	0	Punten
	<b>Reliability: Inzicht in leverbetrouwbaarheid van Sequirix</b>				
	<i>Hoe tevreden bent u over Sequirix met betrekking tot</i>				
7	...het nakomen van afspraken	4,34	4		
8	...het op tijd leveren van diensten	4,40	3		
9	...het de eerste keer juist leveren (first time right)	4,40	5		
			Nog te verdelen	0	Punten
	<b>Flexibility: Inzicht in mogelijkheden om functies/handelingen aan te passen</b>				
	<i>Hoe tevreden bent u over Sequirix met betrekking tot</i>				
10	...het toevoegen en aanpassen van data in het systeem (klanten objectgegevens kunnen gemakkelijk aangepast of verwijderd worden)	3,74	5		
11	...het aantal nieuwe software versies	4,11	4		

Figure 10 Classification method with survey results

Vraag ID	Algemene vragen	Expert 1	Expert 2	Expert 3	Expert 4	Expert 5	Average	Decision
1	Wat is uw functie? (Eigenaar, leidinggevende, surveillant, objectbeveiligder, centralist)	5	4	5	1	4	3,8	
2	Hoeveel werknemers heeft de organisatie in totaal? (<5, 6-25, 26-50, 51-75, 76-99, >100)		2	3		4	3,0	deleted
3	Hoeveel beveiligingswerknemers heeft de organisatie? (<5, 6-25, 26-50, 51-75, 76-99, >100)	5	5	4			4,7	
4	Welk deel van de software gebruikt u? (BO - beheer, BO - Objectbeveiliging, BO - Centralistenmodule, Mobiele applicatie)	5	4	3			4,0	
5	Waar gebruikt de organisatie de software voor? (Objectbeveiliging, Mobiele surveillance, Meldkamer, Receptie, Evenementen)	5	5	5	5	5	5,0	
	<b>Vragen ten behoeve van Service Kwaliteit</b>							
	<b>Responsiveness: Inzicht in support en oplossingsgerichtheid van Securix</b>							
	<i>Hoe tevreden bent u over Securix met betrekking tot</i>							
1	...support-medewerkers die actuele kennis hebben van de software	4	4	5	5	5	4,6	
2	...een voldoende aantal support-medewerkers (u hoeft niet lang te wachten op een medewerker)	4	4	2	3	5	3,6	deleted
3	...de beschikbaarheid van support (24 uur per dag)	2	5	4			3,7	
4	...het oplossen van software problemen	4	5	4			4,3	
5	...de beschikbaarheid van de software (na updates of storingen snel weer beschikbaar)	5	2	4	3	5	3,8	
6	...de inzetbaarheid van de software (software die 24/7 te bereiken is)	2	4	5			3,7	deleted

Figure 11 Overview of classification method

## Appendix G: Revised survey items (Dutch)

Table 17 Revised survey list Dutch translation

ID	Variable	Abbr.	Survey Item
1	Function	Func	Wat is uw functie?
2	Employees	Emp	Hoeveel medewerkers heeft de organisatie in totaal?
3	Security employees	Semp	Hoeveel daarvan zijn werkzaam bij de beveiligingstak?
4	Module	Mod	Welk deel van de software gebruikt u?
5	Use	Use	Waar gebruikt de organisatie de software voor?
6	Responsiveness	Res1	Hoe tevreden bent u over SequriX met betrekking tot ...support medewerkers die actueel kennis hebben van de software en hardware
7		Res2	...een voldoende aantal support medewerkers (u hoeft niet lang te wachten op een medewerker)
8		Res3	...de beschikbaarheid van support (24 uur per dag)
9		Res5	...het oplossen van software problemen
10		Res4	...de beschikbaarheid van de software (na updates of storingen snel weer beschikbaar)
11		Res6	...de inzetbaarheid van de software (denk aan software is 24/7 te bereiken)
12	Reliability	Rel1	Hoe tevreden bent u over SequriX met betrekking tot ...het nakomen van afspraken
13		Rel2	...het op tijd leveren van diensten
14		Rel3	...het de eerste keer juist leveren (first time right)
15	Flexibility	Fle1	Hoe tevreden bent u over SequriX met betrekking tot ...het toevoegen en aanpassen van uw data in het systeem (klant/objectgegevens kunnen gemakkelijk aangepast of verwijderd worden)
16		Fle2	...de beschikbaarheid van nieuwe software versies
17		Fle3	...de beschikbaarheid van betaalmethodes om uw abonnement/licenties te betalen (maandelijks, jaarlijks, eenmalig)
18		Fle4	...de mogelijkheid om alleen een gedeelte van de software te gebruiken
19	Rapport	Rap1	Hoe tevreden bent u over SequriX met betrekking tot ...de training om met de software te werken
20		Rap2	...het samen oplossen van problemen
21		Rap3	...een persoonlijke klantrelatie
22		Rap4	...de communicatie rond software updates
23		Rap5	...de kennis die Sequrix bezit
24		Rap6	...de kwaliteit van de documentatie
25		Rap7	...de support die afgestemd is op wat uw bedrijf nodig heeft
26		Rap8	...het inzicht van Sequrix in uw processen en doelstellingen

27	Features	Fea1	Hoe tevreden bent u over SequriX met betrekking tot ...de gebruiksvriendelijkheid van de software (zonder uitgebreide training kunt u ook werken met het systeem)
28		Fea2	...het ontwerp van de gebruikersomgeving (overzichtelijk, u kunt snel vinden wat u nodig heeft in het systeem)
29		Fea3	...de administratieve functies in de software (het aanmaken van contracten, taken en diensten)
30		Fea4	...de overzichten op het dashboard (u krijgt direct inzicht in nuttige informatie)
31	Perceived Usefulness	Pu1	Bent u het eens met de volgende stellingen? ...het gebruik van de software verbetert mijn prestaties
32		Pu2	...het gebruik van de software verbetert mijn productiviteit
33		Pu3	...het gebruik van de software verbetert mijn efficiëntie
34		Pu4	...het gebruik van de software helpt mij over het algemeen met onze activiteiten
35	Cost Savings	Cst1	Bent u het eens met de volgende stellingen? ...ik vind de kosten van Sequrix in verhouding staan met de voordelen die het mij oplevert
36		Cst2	...door het gebruiken van SequriX besparen we op administratieve kosten
37	SaaS Continuous Intention	Sci1	Bent u het eens met de volgende stellingen? ...ik vind mijn werk makkelijker door het gebruik van SequriX
38		Sci2	...ik zou SequriX in de toekomst graag blijven gebruiken
39	Satisfaction	Sat1	Mijn algemene ervaring met SequriX is
40		Sat2	Ik zou SequriX aanbevelen bij collega bedrijven
41		Sat3	...welk totaal cijfer geeft u Sequrix



## Appendix H: Factors from theory

*Table 18 Concepts from existing models*

Model	SaaS-Qual	SaaS Model	Alternative to SERVQUAL and SERVPERF	SaaS-CRM	Integrated SOR and IT continuance decision model	Used in # models
Publication	Benlian, Koufaris and Hess, 2011	Chou and Chiang, 2013	Freitas and Neto, 2017	Chou, 2019	Liu and Prybutok, 2021	
Factors	Reliability		Reliability	Reliability	Reliability	4
	Flexibility	Flexibility		Flexibility	Flexibility	4
	Rapport	Rapport		Rapport		3
	Responsiveness			Responsiveness		2
	Satisfaction	Satisfaction		Satisfaction		3
	Continuous intention			Continuous Intention	Continuous intention	3
	Features			Features		2
	Security			Security		2
	Perceived usefulness			Perceived usefulness	Perceived Benefit	2
		Competence based trust		Trust		2
			Customer service			1
			Customer assistance			1
			Business Processes			1
			Accessibility			1
		Openness-based trust				1
		Relational norms				1

## Appendix I: Qualitative analysis



Figure 12 Survey feedback qualitative analysis

## Appendix J: Matrix of unique companies

Table 19 Number of unique companies that completed the survey

ID	Company	Unique company #	Owner/ executive	Supervisor	Invigilator	Property security officer	Dispatcher	Other
1	Company 1*	1	X					
11	Company 3*	2	X					
14	Company 9	3	X					
23	Company 15*	4	X					
27	Company 18	5	X					
28	Company 19	6	X					
29	Company 20	7	X					
33	Company 23**	8	X					
35	Company 15*	-	X					
37	Company 25	9	X					
40	Company 27	10	X					
26	Company 17	11	X				X	
6	Company 4*	12		X				
9	Company 4*	-		X				
10	Company 6	13		X				
15	Company 10	14		X				
16	Company 1*	-		X				
17	Company 11	15		X				
18	Company 12	16		X				
22	Company 14**	17		X				
25	Company 8*	18		X				
34	Company 24	19		X				
39	Company 26	20		X				
8	Company 5	21		X	X			
31	Company 21	22		X				X
41	Company 28	23		X				X
5	Company 3*	-		X	X			X
12	Company 7	24				X		
19	Company 13	25				X		
24	Company 16**	26				X		
36	Company 22*	27					X	
3	Company 2*	28						X
13	Company 8*	-						X
38	Company 2*	-						X
32	Company 22*	-					X	X

\*. Company is represented by two responses.

\*\*. Company name is unknown, assumed that this is a unique company.

## Appendix K: Questionnaire results

Table 20 Overview of survey results

<b>(code) Question</b>	<b>N</b>	<b>Min.</b>	<b>Max.</b>	<b>Mean</b>	<b>Std. Dev.</b>	<b>Variance</b>
(res1) Support staff who have up-to-date knowledge	35	2	5	4,46	,741	,550
(res2) A sufficient number of support staff	35	3	5	4,31	,631	,398
(res3) The network performance of the software	35	2	5	4,09	,781	,610
(res4) Solving software problems	35	3	5	4,14	,648	,420
(res5) The availability of the software	35	3	5	4,34	,639	,408
(res6) The network performance of the software	35	3	5	4,34	,591	,350
(rel1) Fulfilling agreements	35	3	5	4,34	,591	,350
(rel2) Delivering services on time	35	3	5	4,40	,651	,424
(rel3) Delivering correctly the first time	35	3	5	4,40	,604	,365
(fle1) Adding and modifying your data in the system	35	2	5	3,74	,950	,903
(fle2) The availability of new software versions	35	3	5	4,11	,583	,339
(fle3) The availability of payment methods to pay for your subscription	35	3	5	3,94	,684	,467
(fle4) The ability to use only part of the software	35	3	5	4,00	,767	,588
(rap1) The training to work with the software	35	2	5	3,80	,797	,635
(rap2) Solving problems together	35	2	5	4,17	,747	,558
(rap3) A personal customer relationship	35	2	5	4,34	,765	,585
(rap4) The communication around software updates	35	3	5	4,26	,611	,373
(rap5) The knowledge that Securix possesses	35	4	5	4,40	,497	,247
(rap6) The quality of the documentation	35	2	5	4,17	,664	,440
(rap7) The support tailored to your business needs	35	2	5	4,11	,796	,634
(rap8) Securix's insight into your processes and objectives	35	3	5	4,09	,658	,434
(fea1) The user-friendliness of the software	35	2	5	3,97	,747	,558
(fea2) The design of the user environment	35	3	5	4,00	,542	,294
(fea3) The administrative functions in the software	35	2	5	3,77	,910	,829
(fea4) The overviews on the dashboard	35	3	5	3,97	,707	,499
(pu1) Using the software improves my performance	35	2	5	4,14	,772	,597

(pu2) Using the software improves my productivity	35	3	5	4,17	,707	,499
(pu3) The use of the software improves my efficiency	35	3	5	4,23	,690	,476
(pu4) The use of the software generally helps me with our activities	35	4	5	4,46	,505	,255
(cst1) I think the cost of Sequrix is in proportion to the benefits it brings me	35	3	5	3,77	,547	,299
(cst2) By using SequriX we save on administrative costs	35	2	5	3,29	,667	,445
(sci1) I find my work easier by using SequriX	35	3	5	4,31	,583	,339
(sci2) I would like to continue using SequriX in the future	35	3	5	4,46	,561	,314
(sat1) My general experience with SequriX is	35	4	5	4,40	,497	,247
(sat2) I would recommend SequriX to fellow companies	35	4	5	4,40	,497	,247
(sat3) What would you rate SequriX in total	35	7	10	8,26	,886	,785

## Appendix L: SPSS output

### Reliability

Table 21 Cronbach's Alpha test

Construct	Cronbach's alpha	Items
Quality of SaaS	0,905	25
Perceived usefulness	0,840	4
Cost savings	0,412	2
Satisfaction	0,847	3
Continuous intention	0,893	2

### Normality

Table 22 Normality tests

	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Support staff who have up-to-date knowledge	,339	35	<,001	,714	35	<,001
The availability of the software	,291	35	<,001	,766	35	<,001
The network performance of the software	,256	35	<,001	,833	35	<,001
Solving software problems	,302	35	<,001	,786	35	<,001
A sufficient number of support staff	,277	35	<,001	,764	35	<,001
The availability of support	,319	35	<,001	,744	35	<,001
Fulfilling agreements	,319	35	<,001	,744	35	<,001
Delivering services on time	,307	35	<,001	,753	35	<,001
Delivering correctly the first time	,297	35	<,001	,743	35	<,001
Adding and modifying your data in the system	,292	35	<,001	,847	35	<,001
The availability of new software versions	,349	35	<,001	,749	35	<,001
The availability of payment methods to pay for your subscription	,276	35	<,001	,802	35	<,001
The ability to use only part of the software	,214	35	<,001	,810	35	<,001
The training to work with the software	,228	35	<,001	,853	35	<,001
Solving problems together	,266	35	<,001	,806	35	<,001
A personal customer relationship	,291	35	<,001	,767	35	<,001
The communication around software updates	,320	35	<,001	,762	35	<,001
The knowledge that Sequrix possesses	,390	35	<,001	,623	35	<,001
The quality of the documentation	,316	35	<,001	,746	35	<,001
The support tailored to your business needs	,243	35	<,001	,831	35	<,001
Sequrix's insight into your processes and objectives?	,295	35	<,001	,793	35	<,001

The user-friendliness of the software	,287	35	<,001	,835	35	<,001
The design of the user environment	,357	35	<,001	,717	35	<,001
The administrative functions in the software	,228	35	<,001	,874	35	<,001
The overviews on the dashboard	,259	35	<,001	,808	35	<,001
Using the software improves my performance	,255	35	<,001	,821	35	<,001
Using the software improves my productivity	,253	35	<,001	,800	35	<,001
The use of the software improves my efficiency	,258	35	<,001	,791	35	<,001
The use of the software generally helps me with our activities	,360	35	<,001	,635	35	<,001
I think the cost of Sequrix is in proportion to the benefits it brings me	,376	35	<,001	,716	35	<,001
By using SequriX we save on administrative costs	,380	35	<,001	,757	35	<,001
I find my work easier by using SequriX	,334	35	<,001	,741	35	<,001
I would like to continue using SequriX in the future	,319	35	<,001	,711	35	<,001
My general experience with SequriX is	,390	35	<,001	,623	35	<,001
I would recommend SequriX to fellow companies	,390	35	<,001	,623	35	<,001

a. Lilliefors Significance Correction

## Correlation

Table 23 Pearson correlation

			<b>Service Quality</b>	<b>Perceived Usefulness</b>	<b>Cost Savings</b>	<b>Satisfaction</b>	<b>Continuous intention</b>
<b>Pearsons r</b>	<b>Service Quality</b>	P. Correlation	1	-	-	-	-
		Sig. (2-tailed)	.				
	<b>Perceived Usefulness</b>	P. Correlation	,181	1	-	-	-
		Sig. (2-tailed)	,299	.			
	<b>Cost Savings</b>	P. Correlation	,146	,536**	1	-	-
		Sig. (2-tailed)	,402	<,001	.		
	<b>Satisfaction</b>	P. Correlation	,438**	,597**	,339*	1	-
		Sig. (2-tailed)	,009	<,001	,047	.	
	<b>Continuous intention</b>	P. Correlation	,311	,524**	,180	,621**	1
		Sig. (2-tailed)	,069	,001	,300	<,001	.

\*. Correlation is significant at the 0.05 level (2-tailed).

\*\*. Correlation is significant at the 0.01 level (2-tailed).

Table 24 ANOVA firm sizes

**ANOVA**

Between groups: Firm size S, M, L		Sum of Squares	df	Mean Square	F	Sig.
Support staff who have up-to-date knowledge	Between Groups	,500	2	,250	,440	,648
The availability of the software	Between Groups	1,201	2	,600	1,556	,226
The network performance of the software	Between Groups	,220	2	,110	,171	,843
Solving software problems	Between Groups	,027	2	,013	,030	,970
A sufficient number of support staff	Between Groups	1,050	2	,525	1,309	,284
The availability of support	Between Groups	,928	2	,464	1,355	,272
Fulfilling agreements	Between Groups	,777	2	,388	1,119	,339
Delivering services on time	Between Groups	,006	2	,003	,007	,993
Delivering correctly the first time	Between Groups	,103	2	,051	,133	,876
Adding and modifying your data in the system	Between Groups	,343	2	,172	,181	,835
The availability of new software versions	Between Groups	,034	2	,017	,047	,954
The availability of payment methods to pay for your subscription	Between Groups	,396	2	,198	,409	,668
The ability to use only part of the software	Between Groups	,491	2	,246	,403	,672
The training to work with the software	Between Groups	2,610	2	1,305	2,199	,127
Solving problems together	Between Groups	,147	2	,074	,125	,883
A personal customer relationship	Between Groups	,100	2	,050	,081	,923
The communication around software updates	Between Groups	,111	2	,056	,142	,868



The knowledge that Sequrix possesses	Between Groups	1,103	2	,551	2,417	,105
The quality of the documentation	Between Groups	1,328	2	,664	1,557	,226
The support tailored to your business needs	Between Groups	,318	2	,159	,240	,788
Sequrix's insight into your processes and objectives?	Between Groups	,493	2	,246	,553	,580
The user-friendliness of the software	Between Groups	1,032	2	,516	,920	,409
The design of the user environment	Between Groups	,733	2	,367	1,266	,296
The administrative functions in the software	Between Groups	,386	2	,193	,222	,802
The overviews on the dashboard	Between Groups	,232	2	,116	,221	,803
Using the software improves my performance	Between Groups	,096	2	,048	,076	,927
Using the software improves my productivity	Between Groups	2,212	2	1,106	2,398	,107
The use of the software improves my efficiency	Between Groups	,482	2	,241	,491	,616
The use of the software generally helps me with our activities	Between Groups	,288	2	,144	,549	,583
I think the cost of Sequrix is in proportion to the benefits it brings me	Between Groups	,212	2	,106	,341	,713
By using SequriX we save on administrative costs	Between Groups	,318	2	,159	,344	,712
I find my work easier by using SequriX	Between Groups	,218	2	,109	,309	,737
I would like to continue using SequriX in the future	Between Groups	,292	2	,146	,450	,642
My general experience with SequriX is	Between Groups	,006	2	,003	,012	,988
I would recommend SequriX to fellow companies	Between Groups	,231	2	,115	,452	,640
What would you rate SequriX in total	Between Groups	,227	2	,113	,137	,872

## Appendix M: Follow-up interviews

### **Semi structured interview framework**

*[Insert respondents answers to general survey questions]*

Answer to 0.4 Module question

- ...

Answer to 0.5 Use question

- ...

*[Insert respondents answers that are negative]*

- ...

*[Insert top three negative survey items]*

- ...

Interview structure:

1. Thank respondent for interview and introduce yourself
2. Ask permission to record the interview
3. Start with questions about the survey in general
  - a. Were there too many questions?
  - b. Did the survey took too long to complete?
  - c. Was the survey easy to understand?
  - d. Optional: do you have a recommendation for the next survey?
4. Questions about negative answers
  - a. Discuss negative answers from section above
5. Questions about open feedback
  - a. Discuss open feedback from section above
6. Questions about most negatively rated survey items
  - a. Discuss lowest three items

Table 25 Coding of interview 1

STATEMENT	OPEN	AXIAL	SELECTIVE
Het was wel echt gedetailleerd en het ging overall op in. In principe vond ik het niet te lang, niet dat het vervelend was of dat het te lang duurde want dat viel wel mee.	Comprehensive survey and not too extensive	Satisfaction about survey	Satisfaction
Nu werken wij met een aparte tablet ernaast met de mobiele SecuriX variant en daarin ronden wij de taken af en plaatsen bevindingen.	Extra work to finish tasks	Multiple systems	User friendliness
Dat je voor objecten bijvoorbeeld 6 taken onder een contractregel zetten. Deze regels moet je 6 keer handmatig aanmaken in plaats van te kunnen kopiëren. Tijdens de feestdagen moet je soms 30 van die regels aanmaken en dan gaat er heel veel tijd in zitten.	Not able to duplicate	Unnecessary actions	Functionalities
Die had ik daarover gemaïld, over het kopiëren van taken onder meldkamerdiensten, maar daar heb ik nooit antwoord op gekregen na twee keer te hebben gemaïld.	No response on email	No response	Customer relation
En dan inderdaad de taken onder de contractregel aan te maken, zodat je die kan kopiëren, dat daar een functie ingebouwd wordt.	Add line duplication	Idea for functionality	Functionalities
Je moet ze er 1 voor 1 uithalen, en als je voor 2 of 3 weken aan diensten erin hebt staan, dan wordt het wel veel werk.	Deleting shifts is cumbersome	Unnecessary actions	Functionalities
En wat ik eigenlijk nog mis is voor brandsluitronden, als daar taken voor worden aangemaakt onder contractregels, dan moet je ze daarna nog apart koppelen aan een dienst.	Directly connect task to shift	Adding features	Functionalities
Dus zeg dat je 1 keer een taak aanmaakt, dan wil je die 5 keer kopiëren voor maandag tot en met vrijdag en vervolgens koppelen aan die dienst. Dan ben je al klaar en hoeft je niet terug naar planning en die taken naar de dienst te slepen.	Idea for inspection tours	Adding features	Functionalities
Dat is echt ideaal, je kan zien wanneer ze ter plaatse zijn, of ze rijdend zijn. Voor de rest zijn we hartstikke tevreden over SecuriX.	Possibilities with SecuriX	Satisfaction with software	Satisfaction
Voor de rest veel uptime en weinig downtime. Anders wordt het vaak aangekondigd als er werkzaamheden zijn.	Good uptime and low downtime	Software performance	Performance

Table 26 Coding of interview 2

<b>STATEMENT</b>	<b>OPEN</b>	<b>AXIAL</b>	<b>SELECTIVE</b>
Wij vinden dat het erg bewerkelijk is om nieuwe klanten en of opdrachten in te voeren. Je hebt nu klant, contract en object.	Adding customers and tasks is cumbersome	Unnecessary actions	User friendliness
Het zou makkelijker zijn als je het 1 keer invoert en alleen aan moet passen, als het afwijkend is.	Reducing actions	Solution for problem	Functionalities
We zijn tevreden over mobiele applicatie.	Satisfied with mobile application	Satisfied with system	Satisfaction
Wij zouden graag in de back-office een alarmmelding automatisch willen verifiëren, zoals dat in de app kan. Dus dat we niet meer hoeven te bellen en via e-clips de status kunnen opvragen.	Automatically verify alarm notifications in Backoffice	Adding features	Functionalities
DE software is gemaakt door IT specialisten, uiteraard na input van beveiliging professionals, echter zijn dat weer geen ICT –ers. Je merkt nu dat veel collega’s toch het pakket niet geheel gebruiken omdat ze het te ingewikkeld vinden of te veel tijd kost om alles in het systeem te zetten.	System is too complicated for security professionals	Colleagues don't use the system	User friendliness
Het basis product moet misschien nog toegankelijker gemaakt worden voor mensen die weinig IT achtergrond hebben.	Simplify the basis of the product	Solution for problem	Functionalities
We hebben wel eens vragen of opmerkingen en dan weten de helpdesk te vinden.	Support	Satisfied with support	Support
Zoals eerder genoemd, wij zijn tevreden over de mobiele applicatie, vandaar het cijfer 8.	Satisfied with mobile application	Satisfied with system	Satisfaction
Wij lopen nog tegen het probleem aan dat het heel erg bewerkelijk is om het systeem te gebruiken voor facturatie.	Invoicing is cumbersome	Unnecessary actions	User friendliness

[TITLE]

## SequriX Tevredenheidsonderzoek

[INTRODUCTION]

Bedankt voor het deelnemen aan dit tevredenheidsonderzoek.  
Het invullen van deze enquête zal ongeveer [xxx] **minuten** duren.

Met deze vragenlijst willen wij de tevredenheid van SequriX gebruikers meten.  
Het doel van deze vragenlijst is om de kwaliteit van onze software te verbeteren om u nog beter van dienst te kunnen zijn.  
Door het delen van uw mening en ervaring profiteert u van verbeteringen in de toekomst!

Uw antwoorden zullen vertrouwelijk worden behandeld en niet langer opgeslagen worden dan nodig is, ook is het invullen van deze vragenlijst anoniem. (Door uw e-mailadres achter laten om kans te maken op een tegoedbon, geeft u toestemming om uw e-mailadres niet anoniem te behandelen)  
U kunt op elk moment stoppen met deze vragenlijst, voor meer informatie over dit onderzoek kunt u contact opnemen met [info@sequrix.com](mailto:info@sequrix.com).

Door verder te gaan met deze vragenlijst geeft u aan dat u:

- bovenstaande informatie heeft gelezen
- vrijwillig deel neemt aan dit tevredenheidsonderzoek
- 18 jaar of ouder bent

[INCENTIVE]

Laat uw e-mailadres achter om kans te maken op een Bol.com tegoedbon t.w.v. €[xxx]! (Niet verplicht)

*Door uw e-mailadres achter te laten om kans te maken op een cadeaukaart, geeft u toestemming om uw antwoorden niet anoniem te verwerken.*

[GENERAL QUESTIONS: Function]

Wat is uw functie? (Meerdere antwoorden mogelijk)

- Eigenaar/directeur
- Leidinggevende
- Surveillant
- Objectbeveiliger
- Centralist
- Anders (vermeld uw functie)

**[GENERAL QUESTIONS: Security employees]**

Hoeveel medewerkers heeft uw organisatie in de beveiligingstak?

- ≤5 medewerkers
- 6-25 medewerkers
- 26-50 medewerkers
- 51-75 medewerkers
- 76-99 medewerkers
- ≥100 medewerkers

**[GENERAL QUESTIONS: Module]**

Welk deel van de software gebruikt u? (Meerdere antwoorden mogelijk)

- Backoffice – Beheer
- Backoffice – Objectbeveiliging
- Backoffice – Centralistenmodule
- Mobiele applicatie

**[GENERAL QUESTIONS: Use]**

Waar gebruikt de organisatie de software voor? (Meerdere antwoorden mogelijk)

- Objectbeveiliging
- Mobiele surveillance
- Meldkamer
- Receptie
- Evenementen

**[SERVICE QUALITY: Responsiveness]**

Hoe tevreden bent u over SecuriX met betrekking tot...

...support-medewerkers die actuele kennis hebben van de software

...de beschikbaarheid van support (24 uur per dag)

...de support die afgestemd is op wat uw bedrijf nodig heeft

...het oplossen van software problemen

...de beschikbaarheid van de software (na updates of storingen snel weer beschikbaar)

1. Zeer ontevreden    2.    3.    4.    5. Zeer tevreden    7. NVT

**[SERVICE QUALITY: Reliability]**

Hoe tevreden bent u over SequriX met betrekking tot...

...het nakomen van afspraken

...het op tijd leveren van diensten

...het de eerste keer juist leveren (first time right)

1. Zeer ontevreden    2.    3.    4.    5. Zeer tevreden    7. NVT

**[SERVICE QUALITY: Flexibility]**

Hoe tevreden bent u over SequriX met betrekking tot...

...het toevoegen en aanpassen van data in het systeem (klant- en objectgegevens kunnen gemakkelijk aangepast of verwijderd worden)

...het aantal nieuwe software versies

...de mogelijkheid om alleen een gedeelte van de software te gebruiken

1. Zeer ontevreden    2.    3.    4.    5. Zeer tevreden    7. NVT

**[SERVICE QUALITY: Rapport]**

Hoe tevreden bent u over SequriX met betrekking tot...

...de training om met de software te werken

...het samen oplossen van problemen

...een persoonlijke klantrelatie

...de communicatie rond software updates

...de kennis die SequriX bezit

...de kwaliteit van de documentatie

1. Zeer ontevreden    2.    3.    4.    5. Zeer tevreden    7. NVT

Wilt u hier iets over kwijt? [\_\_\_\_Open vraag\_\_\_\_]

### **[SERVICE QUALITY: Features]**

Hoe tevreden bent u over SequriX met betrekking tot...

...de gebruiksvriendelijkheid van de software (zonder uitgebreide training kunt u ook werken met het systeem)

...de administratieve functies in de software (het aanmaken van contracten, taken en diensten)

...de overzichten op het dashboard (u krijgt direct inzicht in nuttige informatie)

1. Zeer ontevreden    2.    3.    4.    5. Zeer tevreden    7. NVT

Wilt u hier iets over kwijt? [\_\_\_\_Open vraag\_\_\_\_]

### **[PERCEIVED USEFULNESS]**

Bent u het eens met de volgende stellingen?

...het gebruik van de software verbetert mijn prestaties

...het gebruik van de software verbetert mijn productiviteit

...het gebruik van de software verbetert mijn efficiëntie

1. Helemaal oneens    2.    3.    4.    5. Helemaal eens    7. NVT

Wilt u hier iets over kwijt? [\_\_\_\_Open vraag\_\_\_\_]

### **[CONTINUOUS INTENTION]**

Bent u het eens met de volgende stellingen?

Ik vind mijn werk makkelijker door het gebruik van SequriX.

Ik zou SequriX in de toekomst graag blijven gebruiken.

1. Helemaal oneens    2.    3.    4.    5. Helemaal eens    7. NVT

Wilt u hier iets over kwijt? [\_\_\_\_Open vraag\_\_\_\_]

### **[COST SAVINGS]**

Bent u het eens met de volgende stellingen?

Ik vind de kosten van SequriX in verhouding staan met de voordelen die het mij oplevert.

Door het gebruiken van SequriX besparen we op administratieve kosten.

1. Helemaal oneens    2.    3.    4.    5. Helemaal eens    7. NVT

Wilt u hier iets over kwijt? [\_\_\_\_Open vraag\_\_\_\_]



**[SATISFACTION]**

Wat is uw algemene ervaring?

Mijn algemene ervaring met SecuriX is

1. Zeer ontevreden    2.    3.    4.    5. Zeer tevreden    7. NVT

Bent u het eens met de volgende stelling?

Ik zou SecuriX aanbevelen bij collega bedrijven.

1. Helemaal oneens    2.    3.    4.    5. Helemaal eens    7. NVT

Welk totaalcijfer geeft u SecuriX?

0  1  2  3  4  5  6  7  8  9  10

Wilt u hier iets over kwijt? [\_\_\_\_Open vraag\_\_\_\_]

Wilt u dat wij contact met u opnemen om uw ervaringen of opmerkingen te bespreken? Laat dan uw (bedrijfs)naam en telefoonnummer of e-mailadres achter waarop wij u kunnen bereiken.

[\_\_\_\_E-mail\_\_\_\_]

**[ENDING]**

Uw antwoorden zijn verstuurd, bedankt voor uw tijd en voor het delen van uw mening en ervaring. De winnaar van de prijs wordt via een e-mail op de hoogte gesteld.

## Appendix N: Survey instrument (check-up questionnaire)

### [INTRODUCTION]

Afgelopen jaar heeft u deelgenomen aan de klanttevredenheidsenquête van SecuriX, uw feedback was zeer waardevol om verbeteringen door te voeren in onze dienstverlening en software!

Dit jaar hebben wij, naar aanleiding van de enquêteresultaten, een aantal zaken verbeterd of veranderd.

Wilt u 1 minuut van uw tijd gebruiken om deze 3 korte vragen te beantwoorden?

### [PREVIOUS FEEDBACK]

Is uw tevredenheid over onderstaande punten veranderd ten opzichte van vorig jaar?

Het toevoegen en aanpassen van uw data in het systeem

- |                       |                   |                       |        |
|-----------------------|-------------------|-----------------------|--------|
| 1. Negatief veranderd | 2. Niet veranderd | 3. Positief veranderd | 4. NVT |
|-----------------------|-------------------|-----------------------|--------|

De gebruiksvriendelijkheid van de software

- |                       |                   |                       |        |
|-----------------------|-------------------|-----------------------|--------|
| 1. Negatief veranderd | 2. Niet veranderd | 3. Positief veranderd | 4. NVT |
|-----------------------|-------------------|-----------------------|--------|

De hulp van Support medewerkers bij problemen

- |                       |                   |                       |        |
|-----------------------|-------------------|-----------------------|--------|
| 1. Negatief veranderd | 2. Niet veranderd | 3. Positief veranderd | 4. NVT |
|-----------------------|-------------------|-----------------------|--------|

(Optioneel) Wilt u dat wij contact met u opnemen? Laat dan uw e-mailadres of telefoonnummer achter.

### [ENDING]

Bedankt voor het invullen van deze korte vragenlijst!