

Transforming Digital Ordering: Enhancements for Improved Customer Experience

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Contents

1 Introduction.....	1
1.1 Problem identification and objectives	1
1.2 Core problem.....	4
1.3 Research design.....	4
2 Problem-solving approach.....	6
2.1 Approaching the knowledge questions.....	6
2.2 Literature.....	7
2.2.1 Factors affecting customer satisfaction and decision-making	8
2.2.2 Gathering customer feedback.....	10
2.2.3 Factors influencing the validity and reliability of survey questionnaires.....	10
2.2.4 Analyzing survey results	12
3 Theoretical framework.....	13
4 Current situation	16
4.1 Current platforms of the company.....	16
4.2 Difference between orders placed manually and digitally	25
4.3 What problems of Aalten’s current platforms are already known?	28
4.4 Methodology	29
5 Implementation.....	30
5.1 Survey design.....	30
5.2 Data analysis.....	34
5.3 Discussion	40
6 Enhancements to the current situation	42
6.1 Improvements to the ordering platforms	42
6.1.1 Improvements to Adsoft	42
6.1.2 Improvements to the webshop.....	44
6.1.3 Improvements to AccountView.....	48
6.2 Proposed plan of approach	49
6.3 Automated data collection.....	58
7 Conclusion	59
7.1 Limitations.....	60
7.2 Contribution	61
Bibliography.....	62
Appendix A: Employee survey questionnaire	64

Appendix B: Customer survey questionnaire..... 65
Appendix C: Survey email..... 72
Appendix D: Systematic Literature Review 73

List of Tables

Table 1: Features of system, information, and service quality	14
Table 2: Feedback gathering tools	15
Table 3: Features of both ordering platforms	25
Table 4: Order percentages per method for 2021-2023	26
Table 5: Responses to the employee survey	28
Table 6: Product information and findability results	39
Table 7: Frequency of survey comments	39
Table 8: Features possible to introduce or improve on the webshop	51
Table 9: Key concepts	73
Table 10: Related search terms	73
Table 11: Inclusion and exclusion criteria	74
Table 12: Conceptual matrix	74

List of Figures

Figure 1: Problem cluster	3
Figure 2: Technology Acceptance Model (TAM) (Davis, 1989)	9
Figure 3: Extended Technology Acceptance Model (Ahn et al., 2004)	9
Figure 4: Factors influencing webshop sales.....	13
Figure 5: Extended Technology Acceptance Research Model (altered from (Ahn et al., 2004))	14
Figure 6: Adsoft homepage	17
Figure 7: Adsoft product catalog	18
Figure 8: Webshop homepage	20
Figure 9: Webshop subcategory page	20
Figure 10: Webshop product list	21
Figure 11: Webshop product page.....	22
Figure 12: Product information in order history	22
Figure 13: AccountView product list	23
Figure 14: AccountView product master data tab	24
Figure 15: Online survey tool	30
Figure 16: Questionnaire workflow.....	32
Figure 17: Webshop survey promotion.....	33
Figure 18: Positive and negative features of Adsoft	34
Figure 19: Features superior on Adsoft compared to the webshop	35
Figure 20: Features customers are missing on Adsoft	35
Figure 21: Positive and negative features of the webshop.....	36
Figure 22: Features customers are missing on the webshop.....	37
Figure 23: Method of searching and finding products on Adsoft	38
Figure 24: Method of searching and finding products on the webshop.....	39
Figure 25: Product specifications in Lightspeed	47
Figure 26: Product specifications on the webshop	47
Figure 27: Product variants in a product list	48
Figure 28: Flowchart implementations webshop improvements	52
Figure 29: Flowchart implementations Adsoft improvements	56

1 Introduction

Aalten BV was founded in 1935 and it is a specialized wholesaler in the bicycle industry. The company supplies mostly to specialist trade, but also to various bicycle rental companies, bicycle manufacturers, and internet companies. Most of the bicycle parts, accessories, and bicycles are delivered directly from their large warehouse.

Currently, Aalten has multiple methods that customers can use to place orders. Salespeople visit a set of customers every few weeks to write orders and to provide exclusive deals. Another method of ordering is by phone, which usually occurs when customers have questions about certain products. These two methods are both manual. Aalten also has two ways in which customers can place orders digitally. The first ordering platform is a computer program called Adsoft, which customers must install on their computer. The second ordering platform is a webshop called Aaltenbv.nl. Both Adsoft and the webshop are used only for business-to-business (B2B) transactions. Customers must create an account that must be approved by the company before orders can be placed. Although the company focuses on B2B transactions, it delivers products to consumers through third-party companies. These companies maintain their own webshops but use various wholesalers to collect and send out the orders for them. Therefore, Aalten's customer database only includes retailers and other businesses. The orders placed on Aalten's own platforms are received by a third platform called AccountView. AccountView is the primary platform used to process orders and purchase products. Most orders are currently placed through salespeople's visits and by phone, which requires a lot of time and money. Salespeople must be paid and can visit only a limited number of customers per day. Orders by phone also take more time because an employee from the office must manually add all products to an order list before it can be processed. Aalten currently experiences low profit margins on orders, and the amount of time spent placing orders is a potential cause.

1.1 Problem identification and objectives

The main problem of Aalten is the low profit margins on orders, which could have many causes. This could be due to high purchase prices, high shipping costs, high processing costs, or low selling prices. To determine the causes of the main problem, a problem cluster is created. The problem cluster is shown in Figure 1. The problem cluster tracks down every potential cause of the main problem to discover a core problem that can be solved. All elements of the problem cluster are described below.

- **Action problem (red):** This describes the main problem faced by the company. The action problem can have multiple causes; therefore, it is split into smaller pieces to find a solvable core problem. The first two main causes of the action problem are high total costs and low customer turnover.
- **Possible core problems (green):** These problems could also have been selected to solve the action problem but were not chosen. This decision is based on the extent to which the problems can be influenced. For example, high overhead costs are relatively fixed costs that cannot be changed within a short timeframe. High purchasing costs are also difficult to influence, because market prices are the biggest factor influencing purchasing costs. Although both problems could have a significant impact on the action problem, they were not chosen as the core problem because of the limited capability to influence them.

- **Known facts (yellow):** These variables are not easily influenced. The capacity of salespeople depends on the routing and number of salespeople. The high market prices are not under control by the company.
- **Causes (gray):** High costs per order are a cause of the high total costs that can be influenced. However, because it is quite large in scope, we must look further to identify a core problem. High costs per order are due to high shipping and processing costs, both of which are caused by low-volume orders. If customers place many small orders, they require more man-hours and packaging for processing. Shipping costs are also much higher for many small packages than for one large package. The low turnover per customer is also caused by low order volumes combined with low order frequencies. Customers who place small orders infrequently do not provide much turnover for the company. This frequently occurs when customers are unable to find desired products on the ordering platforms. We now know that low order frequency and low order volumes are the two main issues of low profit margins. To increase one or both, we must look at possible methods for placing an order. The first method involves salespeople, a process that cannot be significantly influenced. Salespeople have limited time and skills for selling products to customers. The only way to improve this is to hire more salespeople or train existing salespeople. Another way customers can place orders is through the company's online ordering platforms, which are easy to influence.
- **Core problem (blue):** The main problem to be researched. The low use of the company's online ordering platforms by customers was chosen as the core problem. This was chosen because the company has full control over its online platforms, making it easy to implement changes. This problem is something we can influence and therefore solve.
- **Possible causes of the core problem (light blue):** These problems could be the cause of the core problem but are uncertain. If these causes were certain, they could have been a core problem. In this problem cluster, they are displayed to create a better understanding of the core problem. Possible causes of this core problem could be that customers do not know how to use the platforms, information on the platforms is insufficient, the platforms are unknown, the use of the two ordering platforms is confusing, or customers cannot find the products they are looking for. A lack of information can take the form of pictures, descriptions, characteristics, or prices. Products can also be difficult to find if the customer does not know how to describe them or if the platforms are not user-friendly.



Figure 1: Problem cluster

Currently, the company does not receive as many orders as possible, and it spends too much time on the orders it receives. Leaving the core problem unsolved will continue this trend, which could eventually hurt the company. To grow, the company must maintain good revenue that can then be reinvested. If the profit margins of the company do not improve, it could cause the company to lag behind its competitors, which in turn could lead to even less sales and even profit losses. Therefore, it is vital for a company to solve its core problem or reduce its effects. Solving the problem will hopefully introduce new customers, more sales, and a better customer experience.

The goal of this project is to create an approach to improve both online ordering platforms, based on problem analysis. The main research question to be answered is as follows:

- How can the number of orders on Aalten’s online ordering platforms be increased?

1.2 Core problem

The core problem found by the problem cluster is that customers do not place many digital orders. If customers are willing to place orders via the phone and salespeople, this would suggest that prices and product range are not a problem. If the problem was caused by marketing, quality, prices, or product range, the company would experience low sales overall, but this is currently not the case. Therefore, the core problem suggests that something is wrong with the digital methods of placing orders. Possible problems that could prevent customers from using the company's online ordering platforms are listed in the problem cluster.

1.3 Research design

To answer the main research question, the company's current ordering platforms must be improved. This implies that we will modify the existing situation. To determine which aspects of the current platforms need improvement or which features are missing, a survey questionnaire was constructed. Survey research was chosen as the primary data collection method because of the lack of customer data in the company. The main research problem can only be addressed by gathering customer feedback. An online web survey was chosen as the best data collection method, as it can reach the entire research population in a short amount of time compared to other survey methods. A web survey can also be developed using an online survey tool that allows for a complex design. Many online survey tools include display logic, automated data, logic options, and a progress bar (Nayak & K A, 2019). Online survey tools store data online in the central server of the website after submitting the filled-in form. Real-time data storage is an automatic procedure that makes it easy for researchers to download the data. The main threat to online data storage is the crash of data in servers because of server issues or hacking of the websites (Nayak & K A, 2019). Two significant issues of online surveys are the participation rate and ensuring that the sample population is mainly from the targeted population, as anyone can access the survey through a hyperlink. Other possible challenges include bias, nonresponse, reliability, and validity. Random sampling can be used as one method to minimize bias in the responses. Non-response, reliability, validity, and bias were also minimized using theories found in the literature. The literature review also provides insights into the best method for delivering the survey to customers to yield the most responses. Before gathering feedback from customers, employees were asked about any known problems with the current situation to extend the number of subjects in the questionnaire. The survey results were used to construct a plan to address the main research question. Because the company works with multiple platforms, each platform must be reviewed for its capability to determine what can be improved.

The greatest limitation of this research design is the possible bias introduced if the survey research yields a low response rate. Random sampling reduces some bias; however, the sample size should be sufficiently large to represent the entire population. Another limitation is that the plan of approach can only be validated using theories found in the literature. Direct validation of the solutions to the main problem is not possible because it will take time to implement them and see the results, which poses a threat to the validity of the solutions.

The research question was divided into multiple sub-research questions that provided the knowledge required for the research design. The sub-research questions are as follows:

1. What platforms are currently used by Aalten for order processing?
2. What problems are currently known about Aalten's ordering and administration platforms?
3. What percentage of orders are currently placed by the customers on online ordering platforms?
4. What factors influence customer satisfaction and decision-making on online platforms?
5. What methods can be used to gather customer feedback?
6. What factors influence the reliability and validity of survey questionnaires?
7. Which design features can be introduced or improved on the current ordering platforms to enhance customer satisfaction?
8. What is the optimal plan of approach for implementing enhancements in the current ordering platforms?

2 Problem-solving approach

As previously described, the main research question may have several causes. The sub-research questions were designed to answer the main question and gather knowledge about the causes of the main research question. Each sub-research question provides a better understanding of the main question and its causes.

2.1 Approaching the knowledge questions

- 1) Before any feedback is gathered from customers about the company's online ordering platforms, it is important to review the capabilities of the current platforms. The company currently uses three different platforms to process orders. Understanding how these platforms work and communicate with each other is necessary before constructing a survey questionnaire. Reviewing the platforms might reveal possible limitations and problems that could be the cause of the core problem.
- 2) As customers make little use of the company's online platforms, it should be clear that there are some problems with it. It is difficult to believe that none of these problems have ever been mentioned to anyone in the company. If any problems are already known, they must be identified before we continue with the research to save time. By constructing a survey for the employees who work with the platforms, we should discover several problems that have been mentioned by customers in the past months or years. These problems can provide more information on certain aspects of the platforms that may be troubling for customers.
- 3) A norm must be set to evaluate the implementation of the proposed approach for solving the identified problems. Not many orders are placed through both online platforms, but the actual amount is unknown. To measure whether the solutions had any effect on the number of orders placed online, we needed some type of norm. We can compare the data of orders from past years to determine the percentage of all orders placed through the platforms while distinguishing between the different order placing methods. These percentages can be used to set the norms and goals for the company to reach in the near future.
- 4) To design an effective survey questionnaire for this study, we need to determine the factors that prevent customers from placing orders on one of the platforms. To determine these factors, information about how customers experience online ordering must be gathered. What aspects affect the choices of customers on a webshop or ordering platform, and are there any aspects that keep customers away or prevent them from making a purchase? It is important to understand how customers are attracted to purchasing goods. A systematic literature review was conducted to better understand this subject. The factors and features found in the literature were used to review the current platforms and in the question design of the survey questionnaire.
- 5) The customers themselves are the key to finding the real causes of the main problem, as they are the users of the ordering platforms. Therefore, it is important to gather information regarding their experiences on these platforms. Because there are many customers, we must determine the best method to reach as many customers as possible. A literature review was conducted to gain a better understanding of different ways to reach customers.

- 6) In addition to the methods of delivering the survey to customers, the survey aspects that influence its reliability and validity were researched. The factors that influence the quality of a survey questionnaire are important when designing a survey for customers.
- 7) Once the causes of the main problem are identified, solutions must be developed. To improve existing platforms, it is necessary to examine the limitations of both platforms when developing these solutions. It is then possible to provide an overview of the solutions that can be implemented or improved, and those that cannot. Possible solutions can then be ordered based on their expected influence on customer satisfaction. For solutions that are not possible with the current platforms, alternative solutions must be found if possible. Looking at what is possible and what is not will provide a structure for the implementation of the solutions.
- 8) Once the solutions are developed and sorted, an approach must be developed to ensure successful implementation. As the company uses two ordering platforms instead of one, it could be difficult to implement solutions in the same manner for both platforms. The computer program Adsoft is a much older platform than the webshop, but it is still the main platform used by most customers, which makes it difficult to cancel it in favor of the webshop. Because of such a significant difference, it is important to examine how these platforms communicate or how they are connected. A solution for one platform may be ineffective for the other. The plan of approach must cover all possible solutions to the main research problem.

2.2 Literature

Knowledge questions 4, 5, and 6 of the problem-solving approach were answered through a literature review. A systematic literature review was conducted to identify the literature most relevant to the research questions. The aim of a systematic review is to identify all empirical evidence that fits pre-specified inclusion and exclusion criteria to answer particular research questions (Snyder, 2019). The use of criteria to include and exclude literature prevented the review of obsolete literature. The steps taken in the systematic literature review can be found in Appendix D. The knowledge questions answered through a systematic literature review are as follows:

- What factors influence customer satisfaction and decision-making on online platforms?
- What methods can be used to gather customer feedback?
- What factors influence the reliability and validity of survey questionnaires?

Both knowledge questions were best answered through a literature review, as their topics had already been discussed in the past. Answering both knowledge questions beforehand is critical to the success of the research because it provides knowledge on how to construct a good method for gathering feedback about the online ordering process, so that the data obtained are useful for the research.

2.2.1 Factors affecting customer satisfaction and decision-making

The customer experience is important for every website and webshop. Customers who are satisfied with their visits are more likely to return. To design or improve a webshop that meets customer demands, we must identify the factors that influence customer satisfaction. Xuanzhi and Ahmad (2019) stated that there is a positive relationship between customer satisfaction on system quality and the search, rating, review, and product-recommended functions. However, Mofokeng (2021) found that product delivery, product variety, perceived security, and information quality are significant predictors of customer satisfaction. These factors affect customer satisfaction when shopping online; however, there are other factors that affect customer decisions through online shops. These factors describe the factors that drive customers to purchase online. The factors that strengthen the trend to buy products online are net information, time-saving, and price (Watabe & Iwasaki, 2007). Kidane and Sharma (2016) argued that trust, return policy, cash-back warranty, and cash on delivery strongly influence consumers' online purchase decisions.

System quality influences customer satisfaction in an online environment (Chen & Cheng, 2013). System quality is the measurement of a webshop's reliability, responsiveness, usability, and flexibility (DeLone & McLean, 2004). The design of a webshop and its functions are the biggest influencers of system quality concepts. Customer satisfaction is thus influenced by a webshop's design, and it is therefore meaningful to look into the characteristics that customers find the most important. Choudhury and Choudhury (2010) identified as many as 13 e-Commerce website characteristics. The characteristics connected to the design of the webshop are appearance, product and service information, navigation, search function, company history, hyperlinks, and the option for customers to provide feedback. These factors describe what customers find important in a webshop, but they do not improve the number of visitors and sales. Lohse and Spiller (1999) researched what user interface factors influence the traffic and sales of a webshop. They found that additional products, a frequently asked questions (FAQ) section, an option for customer feedback, and an improved product list improve store traffic, sales, or both.

Most of the factors described above can be viewed as features of a webshop or ordering platform. The 13 e-commerce characteristics described by Choudhury and Choudhury (2010) can all be found in some form on Aalten's webshop. This is also true for the identified factors that influence traffic, sales, customer satisfaction, and customer decision-making. Most of these factors can be found in the design of the webshop, while others are provided as services by the company. However, many of the identified factors do not apply to the other ordering platform, Adsoft. Factors such as hyperlinks, review functions, product-recommended functions, and FAQ sections are not available on Adsoft.

In summary, the factors influencing customer satisfaction that have been identified in the literature include search, rating, review, and product-recommended functions, together with product delivery, product variety, perceived security, and information quality. These factors are either in the form of webshop functions or incorporated into a webshop design. The factors that influence customer purchasing decisions are net information, time saving, price, trust, return policy, cash-back warranty, and cash on delivery. Most of these factors can be viewed as services provided by a webshop. We also identified user interface factors that influence the amount of traffic and sales of a webshop. These factors include additional products, FAQ section, customer feedback options, and improved product lists.

We now know that there are many factors that influence customer satisfaction, customer decision-making, and factors that affect the traffic and sales of webshops. The factors that are correlated with the design of the webshop are most relevant to our research because they are more easily influenced.

The Technology Acceptance Model (Davis, 1989), or TAM for short, can be used as a model for technology acceptance. The model shown in Figure 2 uses two primary factors that influence an individual’s intention to use new technology. These factors are perceived usefulness and ease of use of new technology. Both factors are influenced by external variables.

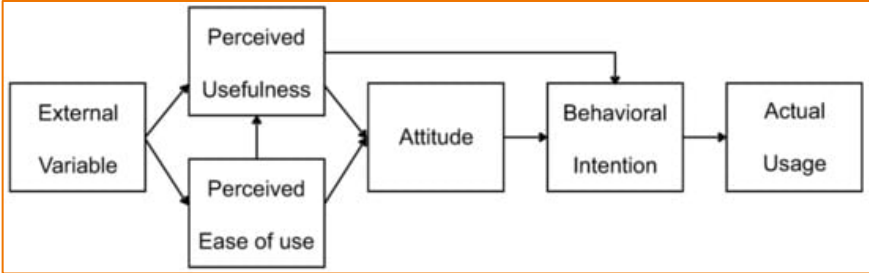


Figure 2: Technology Acceptance Model (TAM) (Davis, 1989)

The Technology Acceptance Model was extended by Ahn, Ryu, and Han (2004) to explore the relationships between online and offline webshop features and user acceptance. This extended model is shown in Figure 3, which includes the system, information, and service quality as online features, whereas the offline features include product quality and delivery service. The offline features described by the extended model are not applicable to this research, but the online features can be used in this study.

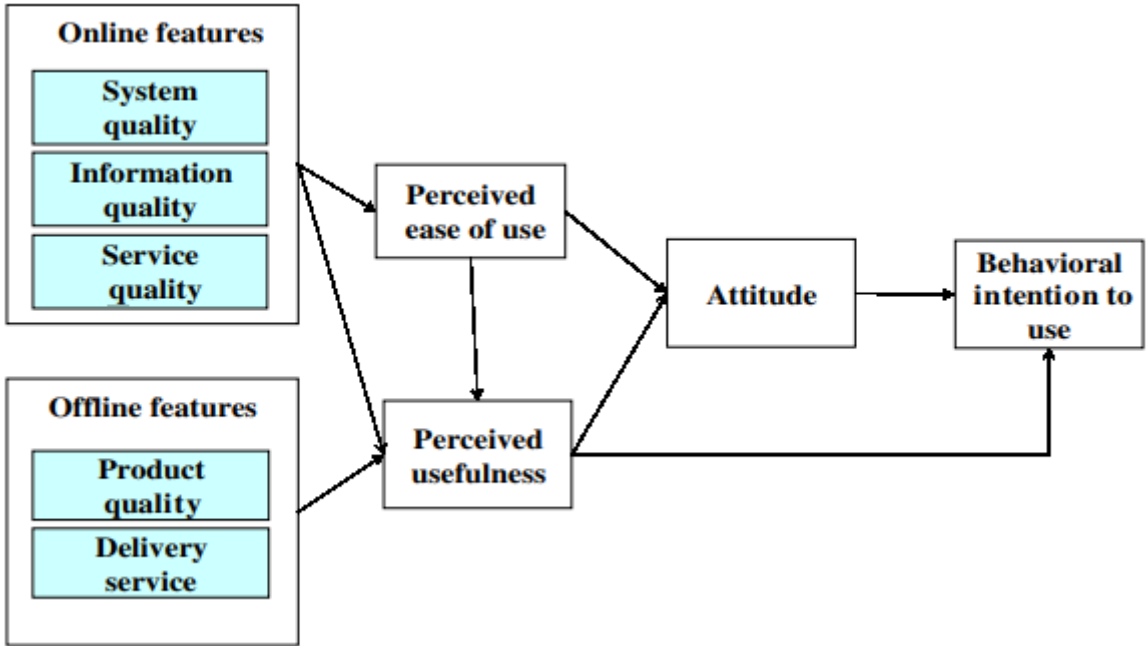


Figure 3: Extended Technology Acceptance Model (Ahn et al., 2004)

2.2.2 Gathering customer feedback

Customer feedback can be gathered in a multitude of ways and can be either online or offline. Gonçalves, Branco, Martins, Santos, and Pereira (2011) found the telephone to be the most used offline tool and email as the most used online tool for gathering customer feedback. They also highlighted “form” as an offline method found in a considerable number of websites that allows users to give their feedback in a categorized manner. Forms can also be seen as an online tool, such as small questionnaires on a webshop, sometimes appearing as a pop-up. Most people are familiar with email feedback when shopping online. Most stores will send an email with a title like "How was your experience shopping at our store?" after you made a purchase. Solarová (2015) also found email and feedback forms to be the most common opportunities for customers to provide feedback alongside a social network profile or phone. She stated that webshops usually set up opportunities for customers to provide feedback directly to the webshop. Another tool used to gather customer feedback are hyperlinks on a webpage that sends the customer to the shop's contact page. Opoku (2006) identified email, hyperlinks, e-meetings, and customer discussion forums as online feedback gathering tools, with email being the most widely used and reliable. Questionnaires sent to customers were identified as an offline tool used to gather feedback from clients along with focus group discussions and letters. Other online feedback tools identified were chat or instant messaging, Voice over Internet Protocol (VoIP), and blogs.

Feedback-gathering tools, such as email, forms, telephone, questionnaires, and hyperlinks, seem to be the most common and relevant to the research. These tools, together with the factors for customer satisfaction and behavior, webshop sales, and traffic, can be used to obtain the data necessary for this research.

2.2.3 Factors influencing the validity and reliability of survey questionnaires

Various factors influence the reliability and validity of survey questionnaires. These factors are mostly influenced by the questionnaire design. The validity, reliability, bias, and questionnaire elements that influence them are described below.

Validity, reliability, and bias

A questionnaire with high validity will produce data that represents what we think it represents. The general validity question for survey questionnaire data is: Do the responses which I have, and which I will score, really measure the variables which I think they measure? The issue here is whether respondents answered honestly and conscientiously (Punch, 2003).

A questionnaire with high reliability will produce the same answers for the same questions if asked again to the same respondent in the same circumstances. Mellinger and Hanson (2020) described reliability as the ability to produce consistent and reproducible results.

Bias in responses happens when respondents are influenced by external factors when giving answers. The elements of a questionnaire, such as question wording, response alternatives, layout, and formatting, can introduce variance and bias into the measurement, which affects the reliability and validity of the data and the conclusions reached (Holyk, 2008). Thus, the design of the survey questionnaire was the main factor influencing its reliability and validity. The most important elements that influence the quality of a questionnaire are as follows.

- Responses are the different ways a respondent can answer a questionnaire question. There are two types of questions: open-ended and closed-ended. Close-ended questions can only have a

limited number of possible answers and therefore provide data that is easier to analyze. Closed-ended questions are ideal for self-administered questionnaires because they avoid greater subjectivity and volatility of open-ended questions. However, the selection of response choices could bias respondents by predetermining what are considered "appropriate" answers (Holyk, 2008). Open-ended questions allow respondents to answer freely, which could lead to data not being found otherwise. However, open-ended questions are more difficult to analyze and draw conclusions from compared to close-ended questions. Open-ended questions are good for gathering information on a topic for which there is no clear set of response categories (Holyk, 2008).

- The way questions are written and the given response alternatives are called question wording. Questions are the most important elements of a survey questionnaire and must therefore provide correct information. Questions must have clear concepts and response alternatives and must be well-worded to make them understandable to the designers and the respondents. Keeping language as simple as possible, poorly worded items produce either no response or a response that is invalid (Young, 2015).
- Formatting includes the design, length, and appearance of the survey questionnaire. The design of the questionnaire should be attractive to the research population and should keep the respondents engaged throughout the process. An introduction at the beginning or end may also be appropriate for certain situations. It is also better for the data to have a professional questionnaire because it is taken more seriously by respondents (Holyk, 2008). A short survey is also more effective than a long one because the response rate and quality of the survey data depend on the cooperation of the respondents, which is highly influenced by the length of the questionnaire (Punch, 2003).
- The layout of a questionnaire, regardless of type, should reduce the cognitive burden on respondents and contain an intuitive and logical flow (Holyk, 2008). This can be achieved by grouping related questions, chronologically ordering them, and making the layout straightforward. The most important question should be asked first, if possible, because this is when respondents' motivation is the highest. Weinstein and Sinkowitz-Cochran (2013) also stated that to facilitate the design and improve the efficiency of survey completion, contingency questions can be used to create visual skip patterns, jumping a respondent over a group of questions that is not relevant to them (Weinstein & Sinkowitz-Cochran, 2013).

Confidentiality and anonymity

Ethical issues ranging from anonymity and confidentiality to informed consent should be considered (Weinstein & Sinkowitz-Cochran, 2013). The survey questionnaires must always provide the option for respondents to remain anonymous. In most cases, questionnaires should ask for the respondent's consent to use their names and the obtained data. Another way to relieve the burden and risks for respondents is to provide information about the purpose of the research before obtaining data.

2.2.4 Analyzing survey results

Survey questionnaires frequently include close-ended and open-ended questions in the same questionnaire. The closed questions lead to quantitative individuals × variables tables and the open-ended questions to individuals × words frequency table (Becue-Bertaut, Fernández-Aguirre, & Modroño, 2010). Closed-ended questions lead to quantitative data, whereas open-ended questions provide qualitative data. Using quantitative data analysis for closed-ended questions enables researchers to systematically categorize, summarize, and illustrate observations. Second, it also makes it possible for a researcher to understand and conclude a phenomenon that is studied in an identified, narrow group (Ali, 2021). Quantitative data are number-based and can be represented using tables, graphs, and diagrams to make them understandable. Qualitative data are word- and interpretation-based, making it difficult to represent them in visual figures. However, it is possible to create a table of the word frequencies of qualitative data, as mentioned by Becue-Bertaut et al. (2010). Qualitative data can also be analyzed using thematic analysis (TA). Thematic analysis is a method for systematically identifying, organizing, and offering insight into patterns of meaning (themes) across a dataset (Braun & Clarke, 2012). TA focuses on the meaning of a dataset, which allows the researcher to make sense of the shared meanings. Another type of question that is frequently included in survey questionnaires is the Likert scale. The Likert scale is a rating scale used to measure opinions, attitudes, or behaviors. Likert-scale questions require analysis techniques that are different from those mentioned above. Likert-scale data can be analyzed using parametric statistics, even with small sample sizes (Norman, 2010). A t-test is an example of a parametric test.

In summary, because survey questionnaires frequently use a mixture of question types, a mixed-method analysis is the most appropriate. This enables researchers to gain valuable understanding from both numerical data and individual responses, enhancing the overall results of the survey research.

3 Theoretical framework

This chapter elaborates on all theories and models found in the literature review and creates concepts for use in the research.

Factors influencing customer satisfaction, decision-making, webshop sales and traffic

The factors that influence customer satisfaction, customer decision-making, webshop sales, and traffic found in the literature can be classified into two categories. One category covers factors related to the services of an online store, and the other covers factors related to the design of the webshop. The factors of product delivery, perceived security, return policy, cash back warranty, and cash on delivery are all services that a company can provide to improve satisfaction. Other factors, such as the search function, product information, and product recommended functions, are directly related to the design of the webshop and can therefore be easily modified. All the factors found in the literature are shown in Figure 4. Some factors influence multiple concepts and are therefore displayed multiple times. Figure 4 presents the factors in three different colors: green for factors related to the design of a webshop, yellow for webshop service factors, and blue for other factors. These factors are linked to one or more of the elements that they influence. From this figure, it is possible to determine the factors that are important to the research.

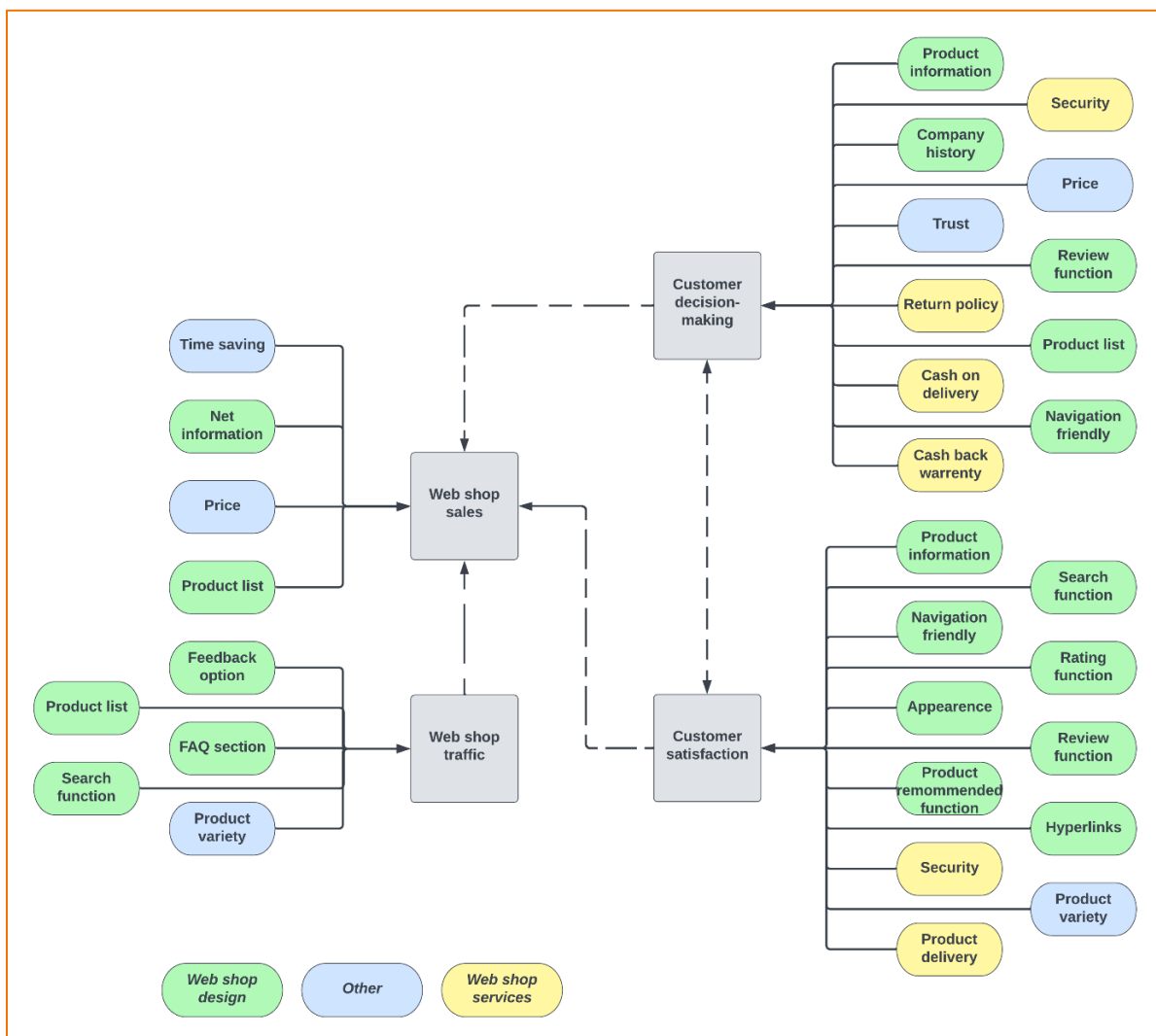


Figure 4: Factors influencing webshop sales

Research model

The Extended Technology Acceptance Model of Ahn et al. (2004) in Figure 3 can be partially used to create a model for this study. For this, we need to remove the offline features that influence perceived usefulness, because this study focuses on the online features of ordering platforms. This leaves us with the three concepts that are system, information, and service quality. Each webshop design factor found in the literature, shown in Figure 4 in green, can be linked to one or more of these concepts, as shown in Table 1.

Table 1: Features of system, information, and service quality

System Quality	Information Quality	Service Quality
Appearance	Net information	Rating function
Search function	Product information	Review function
Hyperlinks	Product recommendation	FAQ section
Navigation friendly	FAQ section	Feedback option
Product lists	Company history	
	Product lists	

After linking the webshop design factors with online concepts that influence perceived usefulness and perceived ease of use, a model was created for this study. The model is shown in Figure 5, and it is an extended TAM model that uses the online concepts by (Ahn et al., 2004).

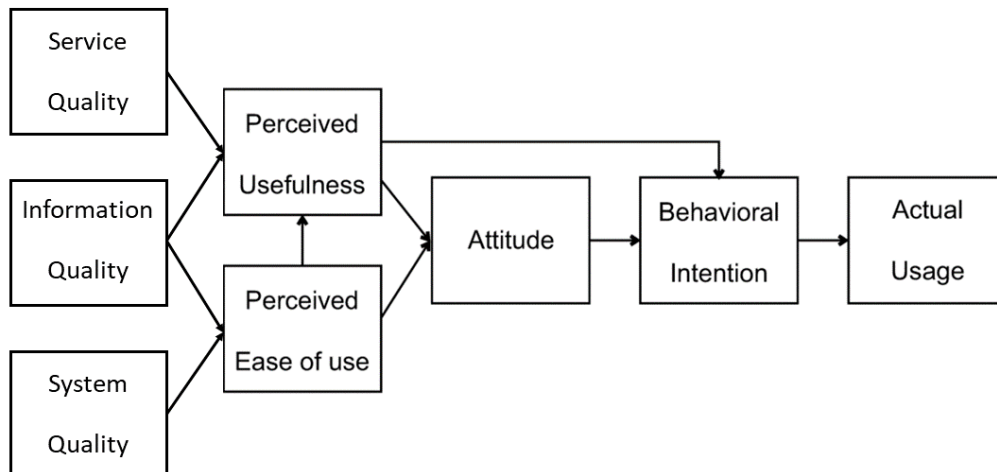


Figure 5: Extended Technology Acceptance Research Model (altered from (Ahn et al., 2004))

Feedback gathering methods

All feedback-gathering tools found in the literature are summarized and ranked in Table 2 based on the relevance stated in the literature. Table 2 can be used to identify the most relevant feedback gathering methods for this study.

Table 2: Feedback gathering tools

Most used	Online tools	Offline tools
1	Email	Telephone
2	Feedback form	Feedback form
3	Hyperlink	Questionnaires
4	Social network profile	Focus group discussion
5	e-meeting	Letter
6	Customer discussion forum	
7	Chat / instant messaging	
8	VoIP	
9	Blog	

4 Current situation

The current situation must be reviewed before collecting customer data. All three platforms of the company were reviewed for their current functionality and features. A survey questionnaire was administered to the employees, and the methods used to place orders in the last few years were determined.

4.1 Current platforms of the company

The company's first platform is called Adsoft, which has been in use since 2011. Adsoft, the company behind the program, first launched its platform in 2006 and updated it until 2017. Adsoft is a computer program that must be installed before it can be used. Figure 6 shows the Adsoft interface, which includes the product list, categories, functions, product color coding, contact information, and product information of the selected product.

- **Categories:** The Adsoft categories are shown in the top bar of Figure 6 in the form of four circular buttons immediately next to the product list button. All these categories display a certain subset of all products. These categories include new products, special offers, clearance products, Thompson bicycles, and other bicycles.
- **Functions:** The last eight circles in the top bar of Figure 6 represent the different functions of Adsoft that can be used by customers. These circles represent the function order list, return/guarantee form, order history, quick order insert, delivery information, purchasing conditions, contact form, and product favorite list.
- **Product color coding:** Below the product image on the bottom right-hand side of Figure 6, four different colors are used: special offers (green), new products (light blue), normal products (white), and special offers (yellow).
- **Contact information:** The top-right corner of Figure 6 shows the company's phone number, email address, and Skype username. Both the phone number and email address are correct, but Skype is no longer used by the company.
- **Product information:** The product information on the right side of Figure 6 features the inventory (with the date it was last updated), product number, short product description, buying price, selling price, and barcode. In addition to these features, we can find the packaging size, long product description, order amount, and product images. The greatest problem is the amount of information provided. The description can be very short, and no specifications are provided.
- **Product list:** The information given in the product list includes inventory, product number, short product description, units per packaging, barcode, selling price, purchase price, special offer, new product, group, subgroup, brand, characteristics, and image. This information is shown in columns that can be either shown or hidden. The product list can also be sorted by these different data types. The customer can click on the functions above the search bar to either display or hide the columns and sort the list. The list can also be sorted by double-clicking the column headers.

Groothandel Aalten BV
Bestanden Bewerken Beeld Configuratie Help

Artikellijst Nieuw Aanbieding Op = Op Diversen Fietsen Bestellijst Retour Garantie Historie Snelle Ingave Info Verkoop voorwaarden Contact Favorieten

Tel: +31 (0) 571- 287.287
Mail: info@aaltenbv.nl
Skypename: aaltenb.v.


ARTIKELLIJST

Aantal	Voorraad	Artikelnummer	Naam	Verpakkingseenheid	Barcode	Adviesprijs	Inkoopprijs	Aanbieding	Nieuw
50		04691600	Batterij Varta V13GA a76 11x5.5 LR44 computer	1	4008496297641	0.95 €	0.43 €		
0 27		04691800	Batterij Varta V12GA LR43 computer	1	4008496273676	1.20 €	0.59 €		
0 5		04692110	Batterij Duracell LR44 / V13GA per 2 op kaart knoopcel	1	5000394203424	2.50 €	1.23 €		
0 10		04692112	Batterij Duracell N/LR1 per 2 op kaart	1	5000394203983	3.95 €	1.83 €		
0 6		04692152	Batterij Duracell CR2016 per 2 op kaart knoopcel	1	5000394203884	3.60 €	1.80 €		
0 36		04692155	Batterij Duracell CR2032 per 2 op kaart knoopcel	1	5000394203921	4.25 €	2.09 €		
0 77		04692200	Batterij Duracell 9v blokje MN1604 6LR61	1	5000394157637	2.95 €	1.64 €		
0 10		04692400	Batterij Duracell engelse staaf MN1400 per 2 op kaart	1	5000394019089	6.60 €	3.31 €		
0 6		04692600	Batterij Duracell monocell MN1300 per 2 op kaart	1	5000394141988	7.95 €	3.89 €		
0 27		04692800	Batterij Duracell penlite MN1500 AA per 4 op kaart	1	5000394140851	6.95 €	3.06 €		
0 12		04692810	Batterij Duracell plat 4.5v MN1203	1	5000394146235	7.50 €	3.79 €		
0 6		04692830	Batterij Duracell security MN21 12v o.a. alarm kaart van 2 stuks	1	5000394203969	5.95 €	3.09 €		
0 6		04692835	Batterij Duracell foto CR-P2 auto 6v LI223	1	5000394223103	14.50 €	7.60 €		
0 1		04694200	Batterij oplader Shimano EC-E6002	1	4550170898083	135.00 €	67.99 €		
0 147		04694201	Batterij Camelion penlite 16 AA bulk per 24 stuks	24	4260033150455	0.65 €	8.19 €	A	
0 66		04694202	Batterij Camelion mini penlite AAA bulk per 24 stuks pollood	24	4260033150462	0.65 €	8.19 €	A	
0 13		04694220	Batterij Duracell mini penlite AAA LR03 per 4 op kaart alkaline pollood	4	5000394141117	5.95 €	3.22 €		
0 4		04694223	Batterij Duracell penlite AA bulk per 24 stuks industrial	24	7106621338133	1.00 €	9.79 €		
0 30		04694230	Batterij Duracell penlite AA bulk per 10 stuks procell	10	5000394149151	1.00 €	4.94 €		N
0 4		04694235	Batterij Duracell mini penlite AAA bulk per 10 stuks procell	10	5000394149199	1.00 €	5.37 €		N
0 10		04694250	Batterij Gp h44 knoopcel v13ga a7 kaart	1	4891199003967	0.95 €	0.75 €		
0 4		04900210	Batterij tester universeel b1503 alle batterijen	1	4260033157508	7.95 €	3.99 €		
0 7		05110610	Bel import appelgroen	1	8875390082392	3.95 €	1.96 €		
0 0		05110611	Bel import chroom	1	8716669000177	1.95 €	0.99 €	A	
0 146		05110613	Bel import zwart kroonjesbel	1	8716669003697	2.75 €	1.29 €		N
0 1		05110710	Bel Yepp ding dong 60mm per set van 4 stuks colours	4	8715362009630	11.95 €	21.85 €		
0 2		05110720	Bel Nietverkeerd ding dong 60mm dots pink wit met zwarte stippen	1	8718836203374	8.95 €	4.21 €		
0 2		05110721	Bel Nietverkeerd ding dong 60mm regenduppels blauw	1	8718836203367	8.95 €	4.21 €		
0 4		05110722	Bel Nietverkeerd ding dong 60mm stars zwart	1	8718836203343	8.95 €	4.21 €		
0 5		05110723	Bel Nietverkeerd ding dong 60mm barcode zwart	1	8718836203350	8.95 €	4.21 €		
0 15		05110724	Bel Nietverkeerd ding dong 60mm upside down	1	8718836203381	8.95 €	3.86 €		
0 20		05110807	Bel M-wave ding dong 80mm koper	1	8875390125020	7.90 €	3.74 €		
0 9		05110820	Bel Pex ding dong 80mm chroom	1	8717729487280	7.95 €	3.95 €		
0 3		05110821	Bel Widek ding dong 80mm chroom	1	8712864704537	9.90 €	4.95 €		
0 35		05110823	Bel Widek ding dong 80mm wit	1	8712864704674	13.95 €	6.98 €		
0 10		05110824	Bel Widek ding dong 80mm fusion	1	8712864704698	13.95 €	6.98 €		
0 50		05110825	Bel Widek flower in vier kleuren kaart	1	8712864719012	6.75 €	3.31 €		
0 15		05110829	Bel Widek ding dong 80mm kaart chroom	1	8712864704599	9.90 €	4.95 €		
0 6		05110858	Bel Widek ding dong zwart 80mm kaart	1	8712864704605	9.90 €	4.95 €		
0 8		05110863	Bel Widek ding dong huishouden van jan steen kaart	1	8712864743512	17.75 €	8.78 €		
0 2		05110864	Bel Widek ding dong vincent van gogh kaart	1	8712864743529	16.50 €	8.19 €		
0 8		05111038	Bel mini chroom/zwart per 20 stuks	20	8716669005370	1.90 €	16.80 €		

Aantal: 0
Voorraad: 50 15/05/2023 15:58:46
Artikelnummer: 04691600
Barcode: 4008496297641
Naam: Batterij Varta V13GA a76 11x5.5 LR44 computer

Wardt geleverd per: 1
Quantumkorting en Aanbiedingen
Adviesverkoopprijs 0.95 €
Inkoopprijs 0.43 €

Orderbedrag: 0.00 €
Dubbelklik op de afbeelding om deze te verstoren



Legend: Aanbieding Nieuw Inkoopprijs Winstpakker

Figure 6: Adsoft homepage

- **Catalog:** Adsoft includes a catalog of products, which is a category tree filled with different brands and types of products. The catalog shown in Figure 7 can be accessed via files -> catalog. This catalog used to be one of the circular buttons in the top bar; however, it has been removed because it has not been updated recently. The lack of easy access and recent updates make the current catalog obsolete.

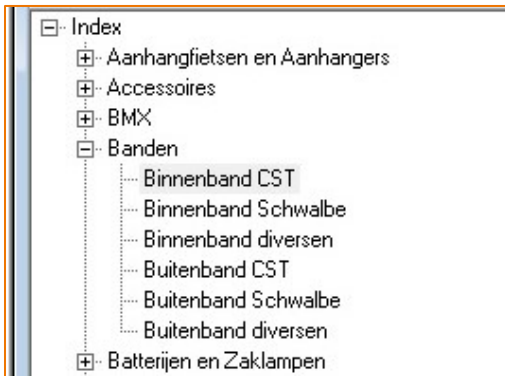


Figure 7: Adsoft product catalog

The design of Adsoft can only be altered by someone with advanced programming skills because it is a computer program with no customization menu. Almost all the information on Adsoft is retrieved from the main system, AccountView, and most of the limitations of Adsoft are therefore directly linked to AccountView. The introduction of new categories or functions is difficult because it requires a third party for development.


The second platform is the company's webshop which can be accessed via www.aaltenbv.nl. As the webshop is much younger than Adsoft, it can include significantly more features. However, most of these have not yet been implemented by the company. The most important features currently used by the company are described below.

- **Search function:** The search function can be seen at the top of the homepage (Figure 8). The search function searches for a product's name, description, and number to find the correct product for the inserted search term. The first three products identified using the search terms are displayed during typing. The search function is known to have problems and shows products that the customer is not looking for.
- **Banners:** The first thing a customer sees on the homepage is that several banners advertise various products. In Figure 8, the banners advertise the company's new cargo bikes and Thompson bicycles.
- **Categories:** Below the banners in Figure 8 are the main categories displayed, each having a different image. Clicking on one of these categories redirects the customer to a page displaying the subcategories of the selected main category (Figure 9). Clicking on one of the subcategories redirects the customer to another page that displays either more subcategories or a product list with the subcategories on the left side of the page (see Figure 10). In this case, the page displayed depends on the number of subcategories and their importance. The categories are also displayed in a drop-down menu that can be accessed through the green button on the homepage above the banners.
- **Brands:** The six largest brands of the company are displayed on the homepage below the categories. An overview of all brands in the company's product range can also be accessed here. Selecting a brand redirects the customer to a product list containing all the products related to the selected brand.
- **Hyperlinks:** The entire webshop is filled with hyperlinks that redirect the customer to various pages. Some of these hyperlinks can be found on the homepage in Figure 8. For example, there are hyperlinks to the customer service section, brand page, account information, shopping cart, etc. These hyperlinks allow customers to navigate quickly through the webshop.


AAL TEN Over ons [Uitvaartend Business to Business](#) Zoeken... Alle categorieën Inloggen


Voor 18:30 besteld, morgen in huis [Gratis verzending vanaf €100,-](#) [Beste advies op maat](#) [Mijn Winkelwagen](#)

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Bent u al Thompson fietsdealer?
Collectie 2023











Bekijk onze bakfietsen!







We staan voor u klaar!
We zijn bereikbaar op werkdagen van **08:00 tot 17:30**

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- ✓ Email: info@aalten.nl
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- ✓ Gratis verzending vanaf €100,-

Categorieën
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 Accessoires (1167)	 Bakfietsen (7)	 Fietsen (290)	 Gereedschap & Onderhoud (527)	 Kleding & Bescherming (70)	 Onderdelen (3571)
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Merken
[Onze merken](#)

 AXA (158)	 bobike (170)	 Bofix (236)	 Elvedes (314)	 Hulzebos (278)	 Porteur (266)
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Figure 8: Webshop homepage

Accessoires (13)






 Bellen & Toeters (105)	 Bidons & Houders (23)	 Dragers (154)	 Elektronica (38)	 Fietsendragers (7)
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Figure 9: Webshop subcategory page

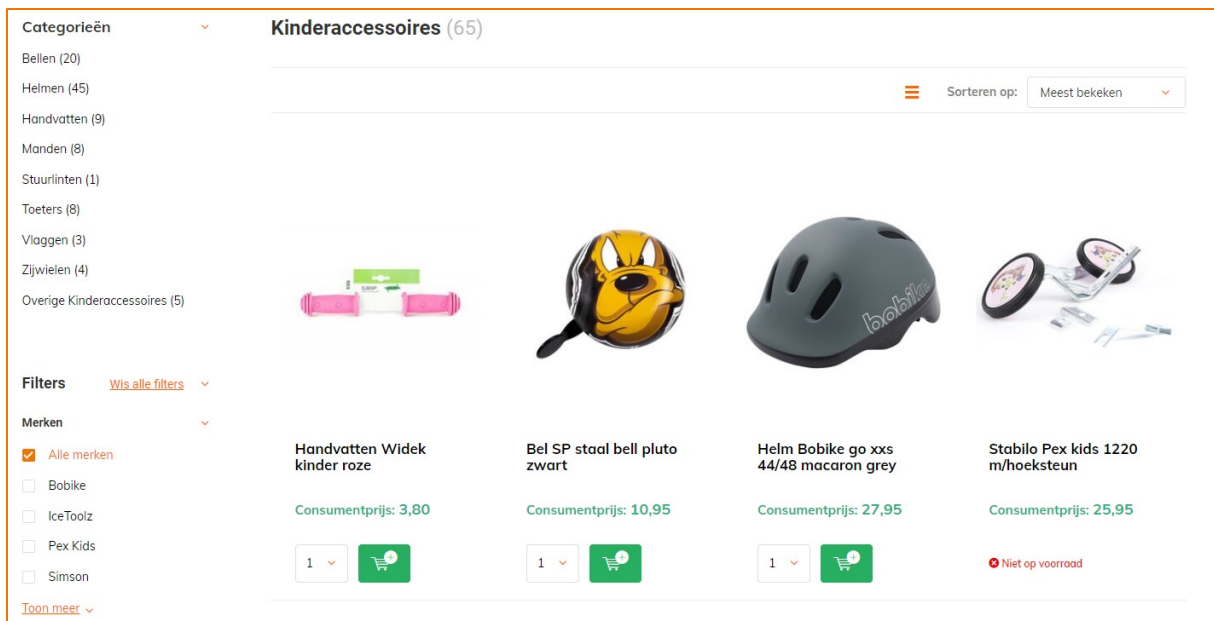



Figure 10: Webshop product list

- Product list:** Figure 10 shows the webshop’s product list. The product list displays four products in one row. Each product is displayed with its image, name, and price. The product list can be sorted in six different ways and can also be displayed as a list rather than as a grid, as shown in Figure 10.
- Filters:** The product filters are displayed on the bottom-left side of Figure 10. Customers can filter a product list based on seven criteria. The most prominent filters are brand, color, and price. The filters are currently not optimized for the webshop because some products are not connected to any filter and some filters are too specific.
- Product page:** Selecting a product redirects the customer to the product page, as shown in Figure 11. The product page displays more information about the product such as its full description, number, barcode, brand, and image. At the bottom of the product page, we can also find the product tags and related products. Product tags are added to each product, and clicking on them redirects the customer to a product list with products that have the same tag. Related products have recently been added to a very small number of products, which can be helpful to customers if their desired products are out of stock. Currently, the biggest problem is the amount of information displayed, and the number of images being limited to one.
- Special offers:** Special offers work differently on the webshop than on Adsoft. Each customer has a certain percentage discount for a specific product or product category. These discounts are not displayed on a special page but are shown only on the product list or product page. Therefore, customers can only see their discounts when encountering the specific products.


Toeclipsriemen Simson 2 stuks
Merk: Simson



SKU: 20977 Artikelcode: S020977 EAN: 8711646209772

✗ Niet op voorraad

Consumentenprijs: 5,95

1 Niet op voorraad 


- ✓ Meld je nu aan als klant
- ✓ Email: info@aaltenbv.nl
- ✓ Tel: +31 (0)571 287 287
- ✓ Gratis verzending vanaf €100,-

Productomschrijving Tags

Toeclipsriemen Simson 2 stuks
Toeclipsriemen, handig om dergelijke spullen te bevestigen op de bagagedrager of voordrager, of op de drager van je auto.

Product tags
Toeclip (6)

Gerelateerde producten



Toeclips Porteur riemen nylon
€ --,--
(--- Incl. btw)




Figure 11: Webshop product page

- **Order history:** The last important feature of the webshop is that customers can view their order history on the webshop itself. Customers can view past orders with their products and prices in their account information. An example of product information in a past order is shown in Figure 12. The amount of information given in the order history is quite limited, which may not be sufficient for customers.

Product	Aantal	Stukprijs	Subtotaal
Steco Attache-mee veertje Steco Attache-mee veertje Steco (YB002053)	1	€0,99	€0,99

Figure 12: Product information in order history

Most features of the webshop are incorporated into the underlying software called Lightspeed. Lightspeed allows many more features than the number currently in use. However, most of the possible features must be manually added to Lightspeed for each product. The main product information shown on the webshop is retrieved from the main platform AccountView and can therefore not be altered in Lightspeed because it will be overwritten by the data stored in AccountView. Thus, the limitations of the webshop can be divided between Lightspeed and AccountView.

AccountView is the third and main platform of the company that holds all information regarding order processing. Accountview is connected to both Adsoft and the webshop. In AccountView, the company saves all orders, invoices, packing lists, customer information, backorders, product information, and so on. Because AccountView is not an ordering platform, it does not possess any of the features found in the literature. However, because most product information on the webshop and Adsoft is retrieved from AccountView, it is important to review how this information is stored.

- **Product list:** Figure 13 shows the AccountView product list. Products can be added, altered, or deleted from this list. The list displays all the data fields connected to the products. A product list is an easy method for finding and altering the desired product or creating overviews of all products in a certain category.

Artikel	Art.cd leverancier	Magazijn nieuw	Artikelomschr	Artikelomschr 2	Vrij	Tech
16642753	8012500004	J60DC	Zitje Bobike mini go cotton candy pink	8012500004	3	3
16642754	8012500005	K60AD	Zitje Bobike mini go macaron grey	8012500005	12	12
16642910		J40DB	Zitje dubbel achter 2 kinderen op	drager met rugsteun duodrager		
16648950	OP=OP		verv=	verv=2022		
16648955	OP=OP		verv=	verv=2020		
16648956	OP=OP		verv=	verv=2020		
16648957	OP=OP		verv=	verv=2020		
16648958	12020306	K10AD	Zitje Yepp junior budget zilver	dragerbevestiging		
16648959	12020307	K10AE	Zitje Yepp junior budget zwart	dragerbevestiging	8	8
16648960	12021101	J80AD	Zitje Yepp 2 mini mount black		17	17
16648961	12021102	J80BD	Zitje Yepp 2 mini Majolica blue		7	7
16648962	12021103	J80BD	Zitje Yepp 2 mini Aegean blue		6	6
16648963	12021104	J60DD	Zitje Yepp 2 mini Fennel tan		9	9
16648964	12021105	J60DD	Zitje Yepp 2 mini Agave		7	7

Artikelomschr: Zitje Yepp junior budget zilver dragerbevestiging Verkoopprijs: 58,75
 Artikelgroepcode: 0205 ACCESSOIRES YEPP DUO'S
 Magazijncode: STD 001

Figure 13: AccountView product list

- **Product information:** the product information shown in the product list is stored in something called “stagemgegevens” or master data. Selecting a product from the list opens multiple tabs, each of which holds specific data for various purposes. A screenshot of a master data tab is shown in Figure 14. The tabs represent different categories of data, such as inventory, purchasing, sales, general, and others. All product information sent to Adsoft and the webshop are stored in these tabs. The limitations of AccountView in these data fields are also transferred to the ordering platforms. Most of these data fields are standard in AccountView. However, in the past, some data fields were added to meet new standards.

Algemeen	Voorraad	Verkoop	Inkoop	Afbeelding	Documenten	Notitie	DST	DST	Utilize Webshop
Taal:	<input type="text" value="nl"/>								
Land:	<input type="text" value="NL"/>								
Valuta:	<input type="text" value="EUR"/>								
Status:	<input type="text" value="COURANT"/>								
Omverpakkinginh:	<input type="text"/>								
Artikelgroep:	<input type="text" value="2N09"/>								
Klantgroep:	<input type="text"/>								
Kernwoord:	<input type="text" value="REPARATIEDOOS"/>								
Merk:	<input type="text" value="SIMSON"/>								
Kleur:	<input type="text"/>								
Maat:	<input type="text"/>								
Wielmaat:	<input type="text"/>								
Frametype:	<input type="text"/>								
Framemaat:	<input type="text"/>								

Figure 14: AccountView product master data tab

- Other data:** AccountView holds all information related to order processing. This means that all customer information, invoices, packing lists, backorders, and inventory are stored only in AccountView. All these data can only be added, altered, and deleted in AccountView. As an entirely different platform is used for administration, it is impossible to display these documents and information on other platforms. For example, a new customer must be manually added to all the three platforms for order processing to work with the customer.

Having examined both the ordering platforms and AccountView, we found multiple possible problems that could explain our core problem. Adsoft lacks many of the features found in the literature. The webshop looks better, but most of the possible features are either underutilized or not used. The webshop also lacks much product information and other useful functions. The webshop and Adsoft are also limited by their connection to AccountView and their underlying software. By reviewing both platforms, it was possible to discover which features were already included, and which are possible to introduce. Table 3 presents an overview of the features found in the literature and whether they are included or possible on the ordering platforms. The overview in Table 3 can be used when designing the questions for the questionnaire. When gathering feedback from customers, we can ask specific questions regarding the missing features that have been discovered. We can then determine whether including these features will improve the customer experience.


Table 3: Features of both ordering platforms

Ordering platform	Adsoft		webshop	
Features	Included	Possible	Included	possible
Appearance (modern/attractive)	✗	✗	✓	
Product information (sufficient)	✗	✓	✗	✓
Net information (images)	✓		✗	✓
Search function	✓		✓	
Compare function	✗	✗	✗	✓
Product alternative function	✗	✗	✓	
Shop navigation (categories)	✗	✓	✓	
Filter function	✗	✗	✓	
Rating function	✗	✗	✗	✓
Review function	✗	✗	✗	✓
FAQ section	✗	✗	✗	✓
Product lists	✓		✓	
Hyperlinks	✗	✗	✓	
Feedback function	✗	✗	✗	✓

4.2 Difference between orders placed manually and digitally

To set a norm for the improvements found in this study, the current ratios of the order quantities per method must be determined. The number of orders placed through the webshop was easily found because the underlying software keeps track of every order placed, which can then be exported to determine the total amount in a certain year. However, it was much more difficult to determine the number of orders placed using Adsoft. The company saves a copy of all invoices and packing lists made in a certain year, but these excluded by whom the order was inserted. All sales made by the salespeople and those made through the phone are inserted via Adsoft in combination with the orders placed by customers in Adsoft. The company then receives an order confirmation mail that states whether the order was inserted by the customer itself, by one of the salespeople, or by someone from the office. Because the order confirmation email was the only source from which the order came, all order confirmation emails had to be exported. From this export, we could then extract the necessary information to count the number of orders placed via Adsoft and by whom. Table 4 presents the number of orders per method displayed for 2021, 2022, and 2023 until the 15th of May. The percentages in bold text indicate percentages relevant to this study.

Table 4: Order percentages per method for 2021-2023

		2021		2022		2023	
Type of orders		Amount	Percentage	Amount	Percentage	Amount	Percentage
Total number of orders		9080	100,00%	8336	100,00%	2541	100,00%
Direct orders		67	0,74%	74	0,89%	33	1,30%
Webshop orders		929	10,23%	991	11,89%	226	8,89%
Adsoft orders		8084	89,03%	7271	87,22%	2282	89,81%
 Adsoft	By the customers	3368	37,09%	2657	31,87%	534	21,02%
	By the sales-people	4065	44,77%	3887	46,63%	1569	61,75%
	through phone	651	7,17%	727	8,72%	179	7,04%

From this table, it is easy to identify the percentage of orders that customers place on Adsoft and on the webshop. The average percentage of orders placed by customers on the webshop in the last three years was 10.34% of the total number of orders. The average for Adsoft was 29.99% of the total number of orders. These two add up to approximately 40.33% of the orders placed by customers on one of the online ordering platforms. This means that approximately 60% of orders are sold by salespeople, by phone, or directly through POS systems. When examining these percentages, it becomes apparent why this research project is important. Having most orders placed manually is old-fashioned, especially when some competitors no longer have salespeople on the road. These percentages also clarify how few customers place orders through the webshop. This implies that most customers continue to use Adsoft. The company wants to drop Adsoft in the near future. However, for this to be possible, the number of orders through Adsoft must be significantly reduced. If Adsoft were to be discarded today, approximately 30% of the orders would have been lost. Some customers would transfer to the webshop, but others may choose a competitor if the webshop is not in a good state. The most desired goal is to improve the webshop to transfer more and more customers from Adsoft to the webshop until the order percentage from Adsoft is small enough to drop it.

Having calculated the percentages for the last three years, a norm can now be set as the goal of the research deliverables. Currently, around 10% of the orders come through the webshop and around 30% through Adsoft. Combined, this comprises approximately 40% of the total number of orders. The company is seeking to increase the percentage of webshop orders to 60% in the near future. This represents an increase of 50% of the total order amount. This increase might seem large, but if we assume that all Adsoft customers will transfer to the webshop, the increase is only 20% of the total number of orders. These increases are only in the number of current total orders, but with an increased webshop, the company should also expect new customers, which could help increase the percentage because the new customers will directly use the webshop. The goal for Adsoft is to decrease the percentage as much as possible, but only if the customers transfer to the webshop. The most desired outcome would be if all 30% of the orders from Adsoft were transferred to the webshop, increasing its orders directly to 40%. However, this seems unlikely to be a direct process but rather a slow transition in one or two years.

The number of direct orders through POS systems is approximately 1% of the total number of orders. The company would also like to see an increase in this because the orders placed through this method appear directly in AccountView, without needing any review. The goal is to increase this to 5% of the total number of orders.

In the near future, the webshop should be around 60%, direct orders around 5%, and Adsoft 0% of the total number of orders. This leaves 35% of the total number of orders for salespeople and the telephone. This implies a 25% reduction if we assume that the total number of orders remains constant. This reduction could have a large impact on sales staff and might not leave enough work for them. However, it is unlikely that no new customers will be attracted by improvements on the online ordering platforms.

4.3 What problems of Aalten's current platforms are already known?

To discover what problems of Aalten's current platforms are currently known, a survey was conducted and sent to seven employees. The survey was conducted using freeonlinesurveys.com and was fully anonymous. The survey can be found in Appendix A. The following three open questions were asked in the survey (translated from Dutch).

1. What problems of the webshop are currently known to you?
2. What problems of Adsoft are currently known to you?
3. What problems of AccountView are currently known to you?

The survey yielded 5 responses. Three of the responses were from salespeople who work with the ordering platforms every day (mostly Adsoft). The other two responses were from two employees at the office, both of whom work with all three platforms daily. It was not possible to see which answers came from whom, because it was fully anonymous. All the answers to these questions can be found in Table 5.

Table 5: Responses to the employee survey

Questions	1 (webshop)	2 (Adsoft)	3 (AccountView)
Answers			
1	Can not switch between purchase and selling price	Product categories are missing	Cumbersome program for external connections
2	The search function does not work greatly	No product filters	Cumbersome to change customer settings
3	Customer discounts are not always clear	No connection to the cash register system	The search function is outdated.
4	Product descriptions are not always clear	Return/guarantee function not being used	
5	No barcode scanner possible	Products missing from the full product list	
6	Invoices inaccessible	Invoices not accessible	
7	Packing lists inaccessible	Packing lists inaccessible	
8	Backorders not accessible	Backorders not accessible	
9	Delivery times of backorders not provided	Delivery times of backorders not provided	
10	Requesting additional product information is not possible	Delivery times of out-of-stock products	
11	The chat function does not work	Images missing from certain products	

Some of the answers found in Table 5 are similar to the features found in the literature in Chapter 2. However, new features were discovered in this survey that would otherwise not have been included when creating questions for customers. These features are:

- Switching between purchase and selling prices.
- Customer discounts.
- Barcode scanner.
- Access to invoices, packing lists, and backorders.
- Delivery times for backorders and out-of-stock items.
- Chat function.

Of these features, the barcode scanner and delivery times of backorders and out-of-stock items are exclusive to salespeople and therefore not relevant to the customer survey. All the other features can be used by customers if they are included. These features are likely to be missing from the literature because they are specific. Most studies have investigated the relationship between more general factors and customer behavior. Most of these features are found only in B2B environments, which might also explain why they were not found in the literature.

4.4 Methodology

The next chapters describe the survey research, data analysis, and the proposed plan of approach for the company. A survey questionnaire was constructed in chapter five to gather data on the main research problem. The survey questionnaire will be delivered to the entire research population through email. Email was chosen as the main method because it is the most common method according to the literature, and it can reach the entire population at once. In addition to email, the survey will be accessible through hyperlinks to ensure quick and easy access. Multiple delivery methods should entice the research population to participate in the survey. The possibility of biased responses was minimized through random sampling and by the design of the survey questionnaire. The survey questionnaire will be constructed using an online survey tool that allows for much customization to ensure a professional feeling. This tool also allows various question types, skip patterns, response options, and anonymity options. This question in the survey questionnaire covers all factors and features related to webshop design found in the literature. The extra features discovered in section 4.1 and 4.3, are also included in the survey questions.

The results from the survey will be analyzed using a mixed-method analysis to gain an understanding of both the quantitative and qualitative data. Graphs are used, when possible, to represent the quantitative data to make them more understandable. Qualitative data will be converted into quantitative data whenever possible, and the remaining qualitative data will be used in a frequency table to measure the importance of the data.

Once the survey results are analyzed, a plan of approach is developed in chapter six. This plan of approach proposes solutions to the main research problem based on the survey results and concepts found in the literature. The extended TAM model in Figure 5, in addition to the literature, can be used to validate the proposed improvements. Future validation of the plan of approach can be performed by comparing the data in Table 4 with newly acquired data.

5 Implementation

All results were stored on the online survey tool that allowed for all types of filters, diagrams, and charts to make the data easier to understand. However, the diagrams and charts offered by the tool did not provide sufficient customization and export options to include them in the report. Therefore, it was necessary to create new visual representations of the data using Microsoft Excel. A total of 51 survey responses were received during the study period.

5.1 Survey design

To gather customer feedback, a survey questionnaire was designed using the online survey tool, Freeonlinesurveys.com. This tool is useful for creating large questionnaires because it allows for significant customization and various features. A screenshot of the tool is shown in Figure 15. The tool allowed responses to be tracked, but it was not used to provide full anonymity to anyone participating in the survey. The full questionnaire can be found in Appendix B.



Figure 15: Online survey tool

Question types

The questions were designed with the features found in the mind. Most questions were closed-ended, and most were of the multiple-choice (multi-select) type. Multi-select means that a respondent can provide multiple answers per multiple-choice question. This was done to provide respondents with as many response answers as possible, and the option to choose as many responses as applicable. Giving many responses reduces the amount of thinking for a respondent while also providing answers that they might not have thought of. This question type was most appropriate for questions about the good, bad, and missing features of the webshop because most respondents probably don't think of every feature possible on the webshop. The closed-ended question type was chosen for most of the questions because they provide a speedy response, are easier to answer, and the data are easily analyzed (Hyman & Sierra, 2016). However, the disadvantages of close-ended questions are that they cannot obtain an in-depth response and they are poor at providing new insights (Hyman & Sierra,

2016). Every question in the questionnaire was provided with an “other” option, in which the respondent could write their own response if they were not provided in one of the choices. This choice reduces the number of false answers that respondents tend to provide when their answers cannot be selected. Every question was also provided with a short description that told the respondents that one or multiple answers were possible.

Another type of question was multiple-choice (single selection). These questions allowed only one answer and were used to determine the primary method of how customers search for and find their products. Having multiple selections for these questions would distort the results because respondents might choose multiple methods rather than the primary method they use.

In addition to multiple-choice questions, some opinion scale questions were used to assess the satisfaction of customers with the search functions and ease of finding products on both platforms. Opinion-scale questions are similar to Likert-scale questions, but the opinion-scale questions range from zero to ten. These scales are an easy method for determining respondents’ opinions on a specific webshop feature. Opinion scales are also preferred over open-ended questions because they provide numerical data that are easier to analyze.

The last question type was open-ended and was used at the end of the question pages to capture any ideas and opinions that the customers had in mind and were not asked during the questionnaire. Open-ended questions were most appropriate for these questions because they did not set any limitations on the answer. This ensured that the respondents could express themselves freely about any subjects that were not included in the questionnaire. Some open-ended questions were also included because they fully reflect a respondent’s attitude and might provide new insights (Hyman & Sierra, 2016). However, open-ended questions are more difficult to analyze and were therefore not used for most of the questions.

Questionnaire structure

The questions in the questionnaire were mostly in chronological order. Not all questions are related to each other, which is why perfect chronological order is not possible. All features were included in the questions, with a few focusing on only one or a few. Questions covering all features were grouped together and questions focusing on specific features were grouped together. The questions were as short as possible, with the platform highlighted to avoid confusion.

The total length of the questionnaire was kept as short as possible to reduce the time needed to complete the questionnaire, which should increase the response rates and the quality of responses. Skip patterns were also introduced to keep the questionnaire as short as possible, as shown in the flowchart in Figure 16. The questionnaire began on the start page with question 1, “What is your method for placing orders?”. There were eight answers to this question, each containing either Adsoft, webshop, salespeople and phone, or both Adsoft and the webshop. This is a multiple-choice (single-select) question that must be answered to redirect the respondent to the follow-up questions. Choosing one of the eight answers redirected the respondent to one of the four pages, each of which contained mostly different questions. For example, if a respondent uses Adsoft as their only platform to place orders, they are redirected to a page that contains questions about Adsoft. These skip patterns were created to reduce the number of questions presented. For customers who use both platforms, there is a page that contains all the questions about the webshop and Adsoft. Customers who order only through phone or salespeople are sent to a general page containing general questions. At the end of each page, the respondent is sent to the end page, which contains the last question in which respondents can leave any remarks that they have left.

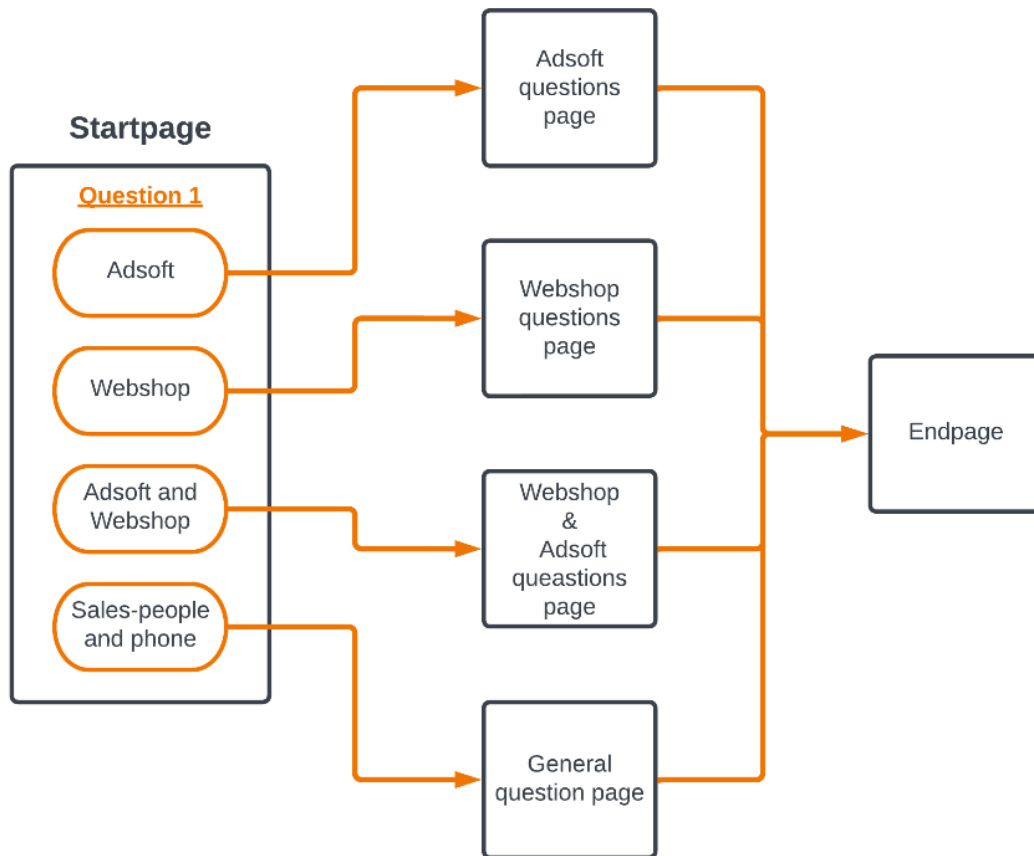


Figure 16: Questionnaire workflow

Finding respondents

Developing and designing a questionnaire and collecting responses are two separate aspects of survey research. The design of the questionnaire focused on the flow, format, and question wording to achieve high reliability and validity. The collection of responses involved engaging customers, increasing response rates, and ensuring data quality. Gathering sufficient responses can be difficult when population size is limited. Multiple methods were used to reach the customer base and ensure that the sample size was sufficiently large to represent the population.

1. A large banner was created and placed online on the webshop to reach customers who could participate in the questionnaire. This banner can be seen in Figure 17, which immediately attracts the attention of every visitor. A sliding-in header was designed to attract more customers. This header can also be seen in Figure 17 as a white bar at the top that slides on the screen when the page is opened. Clicking on either the banner or the header redirects the customer to a new tab containing the survey.
2. Adsoft does not allow clickable links to be posted on any page. It was also impossible to create a banner for Adsoft. This meant that the only way to reach customers who exclusively use Adsoft was by email. It was possible to select all customers who only used Adsoft and had also placed an order this year or last year. An email was constructed with the survey tool and sent to 85 customers in week 4 of the research. These customers were chosen based on their method of placing orders and the number of orders placed. The email itself can be seen in Appendix C. The number of responses obtained from this email is unknown because the responses are untraceable.



Figure 17: Webshop survey promotion

3. Salespeople visit customers every day and thus have personal contact with them. Most customers visited by salespeople have spare time to discuss things with them. It was therefore agreed that salespeople would try to incentivize some of their customers to fill in the survey. This extra push is often what most customers need to participate in the survey of another company.
4. Not all customers were reached using the three methods described above. Not all customers are visited by the salespeople. Some customers might not have visited the webshop recently, and some might have only placed orders through the phone. Therefore, the email created for Adsoft users was sent in week five to all customers in the database who had placed an order this or last year. This selection included 414 customers who had not been previously contacted by email. Customers who had previously received an email were excluded from this selection.
5. In week 7 of the research, another email was sent to all customers that had already been reached by email. This was done to incentivize the customers to participate in the survey questionnaire a second time because the response rate was not as high as desired. The total number of customers reached through this email was 499.

5.2 Data analysis

The survey yielded 51 complete responses during the study. The results of the survey were grouped in the same way as the questions. All results were recorded in several graphs, with some questions combined in a single graph. The respondents represented approximately 10% of all relevant customers in the company database. As not all respondents were presented with all questions, the number of responses per question varied.

The first result pertains to the questions asked to customers who use Adsoft. Identifying the features that are liked, disliked, or missing in Adsoft can help improve the webshop because most features can also be added to the webshop. Figure 18 shows the first graph, which includes the number of respondents who were positive or negative regarding Adsoft's features. Respondents were the most positive about the speed and search function. The most negative features were product information and the number of images. Adding products to a favorite list and registering returns were the only features that received no positive or negative rating.

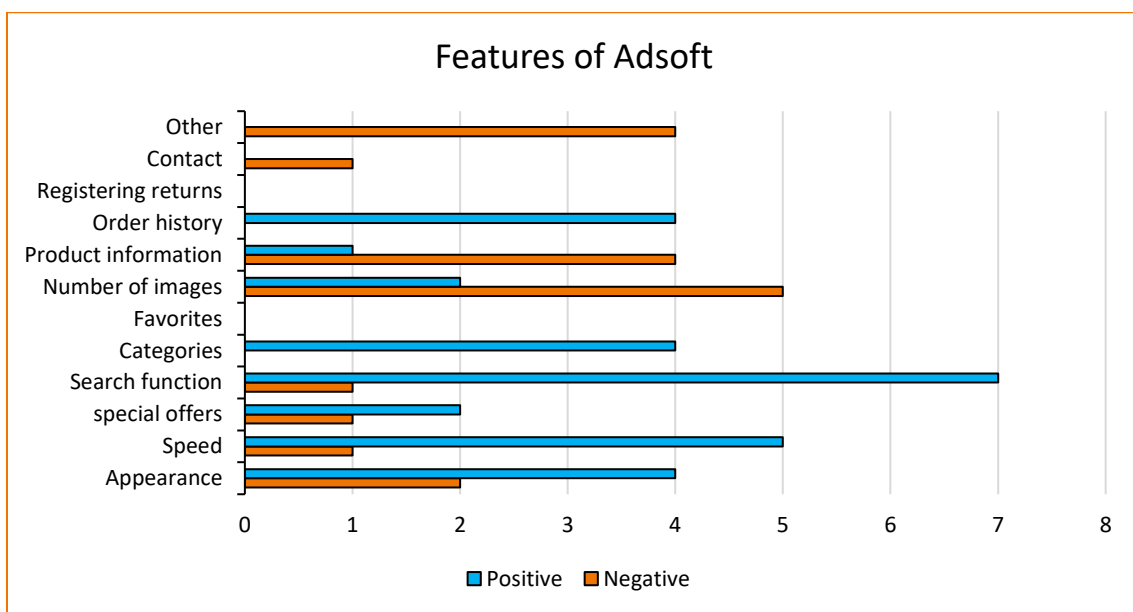


Figure 18: Positive and negative features of Adsoft

Other answers:

- Placing orders no longer works, so I order a lot less.
- No central order list when using multiple computers.
- Adsoft does not work on all computers.
- Not web based.

Figure 19 shows the features that customers find superior on Adsoft compared to the webshop. User friendliness and speed were chosen the most. The option to register returns and the number of images per product were not chosen.

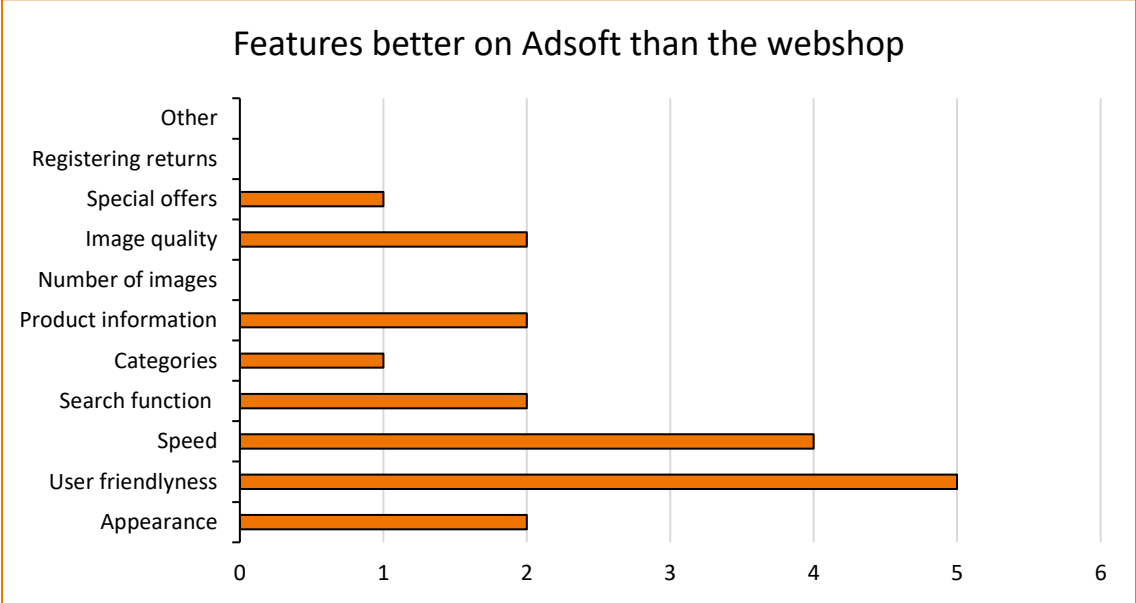


Figure 19: Features superior on Adsoft compared to the webshop

Figure 20 displays all features that customers are missing on Adsoft. These features may be offered by competitors or are features that increase customer options. The most desirable features are access to backorders and invoices, product variants, and alternatives. The FAQ section was the only feature that was not selected by anyone.

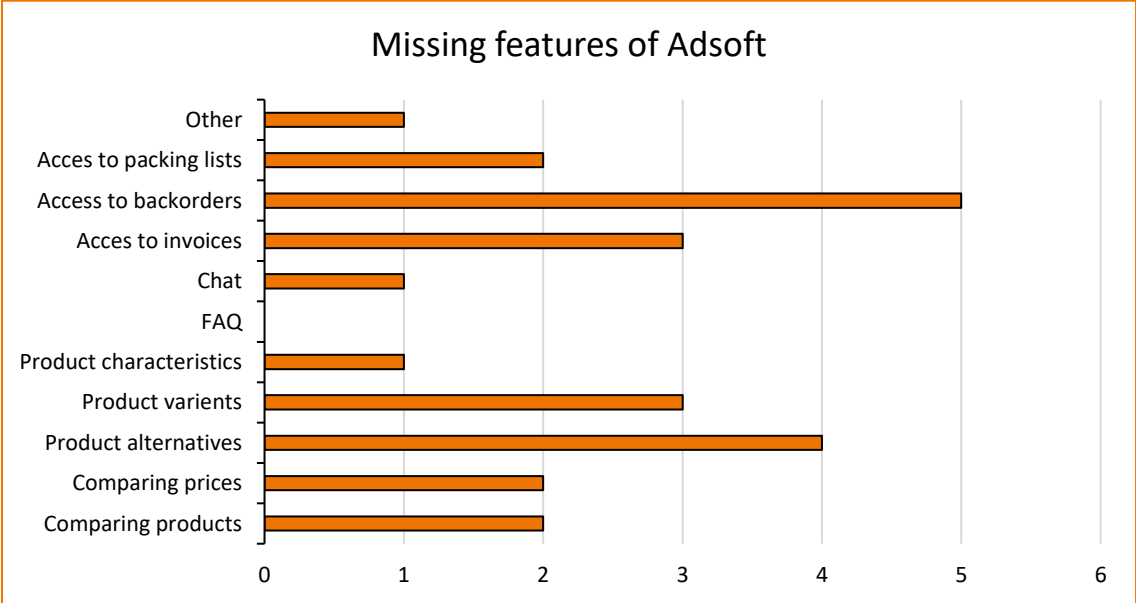


Figure 20: Features customers are missing on Adsoft

Other answers:

- Products on clearance with special price

Figure 21 shows the positive and negative features of the webshop, based on the responses. The product information, images, and search function received the most negative scores. These three features were also expected to be the most negative based on the review of the webshop. However, it can also be observed that the search function is the most positive feature after speed. Access to order history and the appearance of the webshop also scored quite positively.

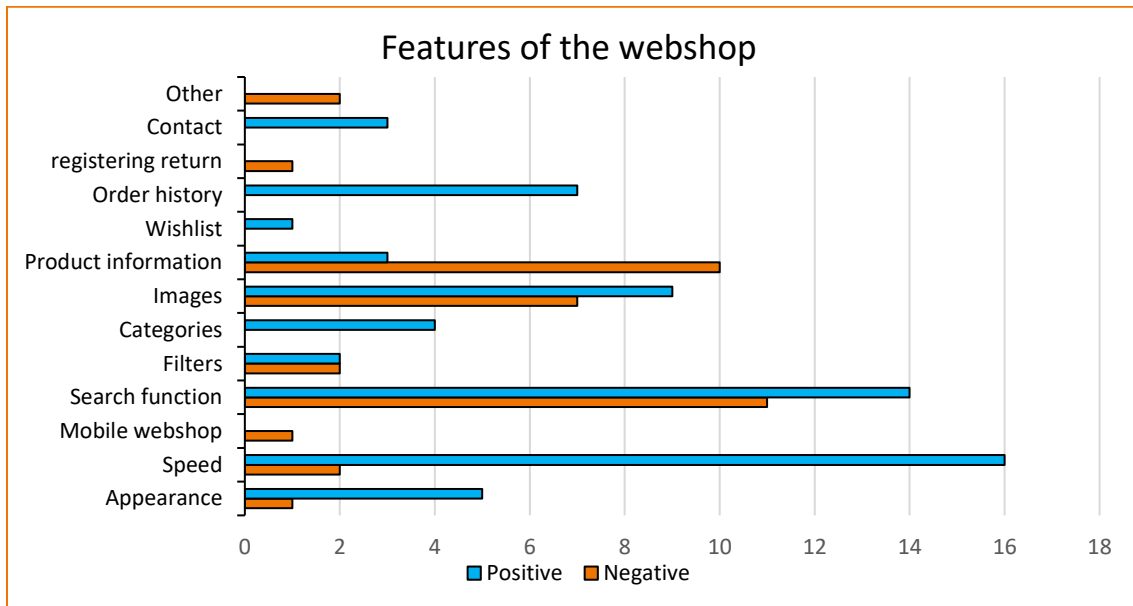


Figure 21: Positive and negative features of the webshop

Other answers:

- The search function can be difficult if the product is described differently.
- Names of some products.

The features of customers missing from the webshop are shown in Figure 22. Each feature was chosen by at least two respondents. The most desired features of the webshop are product characteristics, special offers, and access to invoices, packing lists, and backorders. The least desired feature is the FAQ section. The other answers are provided below.

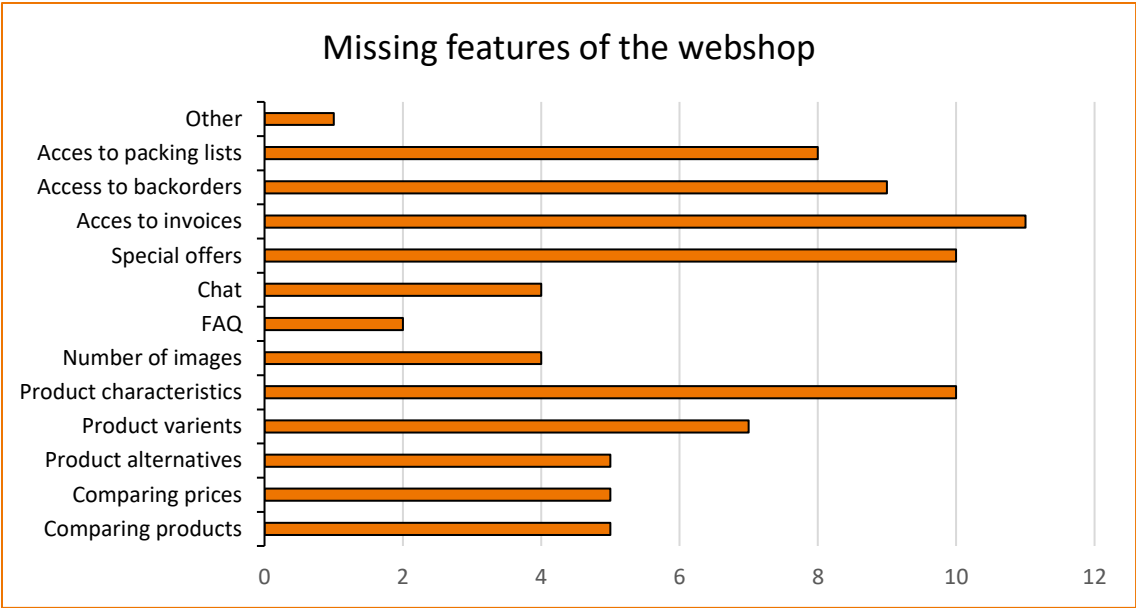


Figure 22: Features customers are missing on the webshop

Other answers:

- Pricing structure of sales and suggested retail price

The answers to the open-ended questions were as follows:

Reasons for not using or (fully) transferring to the webshop:

- Hard to reach a free delivery amount in order.
- The webshop had not been actively communicated by you, so we kept working with Adsoft.
- I have always worked with Adsoft, and it works well.
- Not yet looked into it.
- Still getting used to the webshop.
- The webshop has not yet been explained to us.
- We do not know any better than using Adsoft.
- We do not know of the existence of a webshop.
- We have not heard about the webshop.
- We prefer to have personal contact.
- We prefer personal contact, explanation, and clarity.
- We prefer to have personal contact.
- One of the salespeople visits regularly, making it more convenient.
- Good contact with representatives.

Features that can be improved on the webshop:

- Searching for products.
- Product images.
- Inventory.
- Searching for specific products.
- Product information.

Other comments:

- I would like the catalog button to be returned to Adsoft.
- Adding drop-shipping.
- Spread more knowledge about the webshop to retailers.
- I am missing the catalog button on Adsoft.
- It is great that a salesperson always comes to us; he is a good salesman who knows what he is talking about and gives good advice.
- Nice company with a very friendly representative, and even if you call the company, they always look at how they can help you the best.

The methods of searching for products and finding them were also researched. The results for Adsoft are shown in Figure 23 and those for the webshop are shown in Figure 24. These results are important for determining the navigation features that need to be improved first if needed.

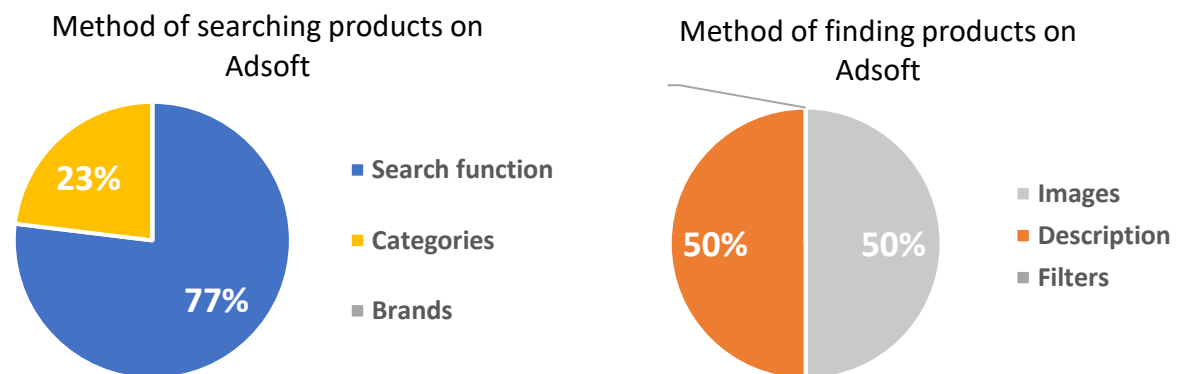
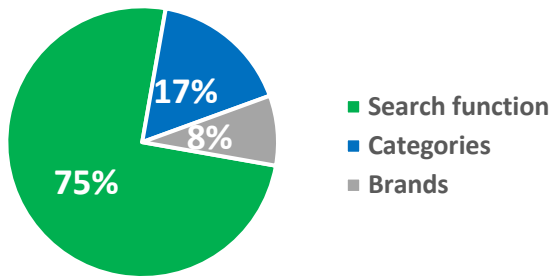


Figure 23: Method of searching and finding products on Adsoft

Method of searching products on the webshop



Method of finding products on webshop

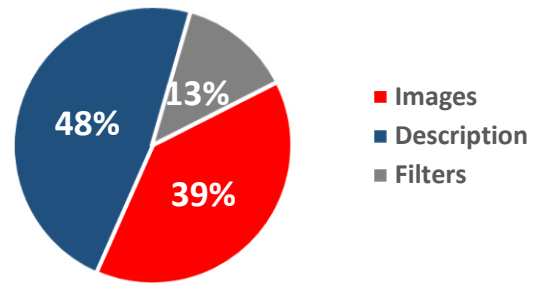


Figure 24: Method of searching and finding products on the webshop

Table 6 displays the scores given by respondents for product information and the findability of products for both the webshop and Adsoft.

Table 6: Product information and findability results

	Adsoft	Webshop
Product information	6,29	6,88
Findability of products	6,57	6,96

All other comments that have been mentioned more than once are included in Table 7, along with their frequency.

Table 7: Frequency of survey comments

Comment	Frequency
Prefer personal contact	5
Don't know about the existence of the webshop	4
Missing the catalog button on Adsoft	2
Have always worked with Adsoft	4
Searching for products can be improved	3
Product naming can be improved	2

5.3 Discussion

Most results found in section 5.2 were as expected. However, three responses were surprising. First, the search function of the webshop received a few more positive points than negative ones. This result was unexpected because the webshop's search function is known to have problems, as stated earlier. An explanation for both the positive and negative scores could be that customers find the existence of the search function to be good, but the results are troublesome. This misunderstanding could have been prevented if the questions had been developed differently. The second unexpected result was a negative score for the number of product images on Adsoft. Adsoft contains multiple images for most products, which confuses this result. One explanation could be that the respondents found the image quality of Adsoft's images troublesome, instead of the number of images. This explanation is logical because the images on Adsoft are automatically resized before uploading, which leads to loss of image quality. The third unexpected result was comments stating that they did not know of the existence of the webshop. The webshop has been in use for several years, and it was therefore expected that customers would be aware of it.

The results also showed that both Adsoft and webshop users tend to miss the same features on both platforms. The most prominent are access to backorders, invoices, packing lists, and product variants. One way to incentivize customers to transfer from Adsoft to the webshop could be to introduce these features only on the webshop.

It is also clear from the results that some customers only want personal contact as their main method of placing orders. This means that not every customer can be convinced to use the webshop or any platform even if new features are introduced.

One of the negative comments on Adsoft was that it was not web-based. This is quite an interesting comment to consider because being web-based has both advantages and disadvantages. Having a platform as a computer program makes it much faster and more user friendly. Web-based platforms usually allow for greater customization of features and designs. However, if it is not connected to a server, it is impossible to synchronize multiple computers in one workplace. A web-based platform is also easier to access on any device, which shortens the time until checkout. Web-based platforms can also be used on mobile devices, without the need to develop an application.

Lastly, respondents commented that the description or names of products were troublesome. Some products can be described in several ways that can cause them to be unfindable by the search function. A possible solution could be to standardize all descriptions for every type of product or introduce multiple product names that can be used by the search function.

This analysis provided multiple answers to the main research question and the multiple causes of the core problem. The main research question was: "How can the number of orders on Aalten's online ordering platforms be increased?". The first major finding is that the company must spread more knowledge about the existence and use of the webshop. Instructing customers about the webshop would incentivize customers who prefer personal contact or Adsoft to use the webshop more frequently for order placement. Additionally, the company should improve its system and information quality on both ordering platforms to enhance customer satisfaction. Satisfied customers are more likely to return, which increases the number of orders placed. The malfunctions of the current ordering platforms could give customers a reason to use the platforms of competitors. The core problem was that few customers use the online ordering platforms to place orders. The lack of knowledge about the webshop was also identified as a major cause of the core problem. Other causes of the core problem were missing features, lack of information, and the findability of products. The solutions to the core problem were based on the data obtained from the survey research. The number of responses

is a limitation of the found solutions and should therefore be considered in the implementation of the solutions. In the introduction, we introduced eight sub-research questions, six of which have already been answered. We identified and reviewed three different platforms currently used by the company. Two of these platforms are used by customers to purchase products, and the other is used by Aalten to process orders and manage inventory. Five employees were questioned about the platforms by using an anonymous survey questionnaire. This survey provided knowledge about the known problems with the platforms. Sub-research questions 4, 5, and 6 were answered through a systematic literature review. The literature review provided the necessary knowledge and theories for designing and analyzing a survey questionnaire for customers. The answers to these sub-research questions were limited by the number of applicable literature found. Although several sources are used to describe the factors influencing customer behavior and sales, a more extensive search for additional sources might be able to extend this framework. The constructed questionnaire included factors that influence customer satisfaction and decision making, together with the features found on both ordering platforms. The survey questionnaire was designed with factors such as question wording, formatting, skip patterns, and anonymity to ensure high validity and reliability while aiming to minimize bias and non-responses. The results of the survey were analyzed and visually represented to better understand the responses. These results were the main basis for the last two sub-research questions, which are answered in chapter six.

6 Enhancements to the current situation

We now know what problems customers have with the current ordering platforms, what features they are missing, and why they have not (fully) converted to the webshop. The big question now is what the company can do to improve its current situation. As shown in Table 3, most of the features that are not optimal can be improved on the current platforms. In addition, most of the desired customer features can be added to the webshop, and some to Adsoft. However, the most desired features that are accessible to invoices, packing lists, and backorders are not possible on either of the current ordering platforms. Therefore, consideration must be made if the company should not introduce an entirely new ordering platform on which all the desired features can be realized.

The new platform can be in the form of an ordering portal. An ordering portal is a type of webshop specialized for B2B transactions. An ordering portal can be used to track orders, invoices, back orders, and all customer and product information. Such a portal could potentially replace both ordering platforms and AccountView. The portal would combine all information on a single platform, which would make most processes much easier because no connections must be made between the different online environments. Introducing a new platform that incorporates all features of the three current platforms has advantages and disadvantages. It is important to ensure that new software is compatible with existing systems and can integrate seamlessly into the business's IT infrastructure (Božić, 2023). It is also important to determine whether and how the data of the current platforms can be transferred to the new platform without any loss of data. Before choosing a new platform, it is important to conduct thorough research and evaluate the available options. This includes comparing features, functionality, pricing, and support options (Božić, 2023). Once a new platform is introduced, significant training is required to ensure successful implementation. Besides employee training, it is also necessary to provide sufficient communication to customers. However, introducing a new platform would combine all the current platforms of the company, reducing maintenance, costs, and processing time. Although initial costs may be high, it is a long-term investment that would secure the company's processes for the future. The introduction of a platform requires more extensive research on its possibilities, features, and integration. Therefore, the plan of approach focuses only on the improvement of the current platforms.

6.1 Improvements to the ordering platforms

As discussed in Chapter 4, there are some limitations to the improvement with the current ordering platforms due to their underlying software and their connection to AccountView. However, we can still make some improvements to both ordering platforms, especially to the webshop. The results of the survey questionnaire indicated that the features presented on Adsoft and the webshop were not all good. The survey also clarified what features customers were missing from the ordering platforms. To create the best customer experience, all these features must be included and fully functioning. For every platform, we look at all features with negative scores and all missing features to determine if they can be improved or introduced.

6.1.1 Improvements to Adsoft

- **Contact:** The contact information currently provided on Adsoft includes only an email address and phone number, in addition to a Skype username that is no longer in use. An easy improvement would be to change the Skype username to the webshop's web address. The contact form on Adsoft opens the email application and creates a new email with the

information filled in on the form. This means that a computer without email cannot use the contact form. However, this is the only method to include this feature.

- **Product information:** The product information provided by Adsoft includes the product name, description, number, barcode, and prices. Product descriptions are subject to improvement because they can be very short for certain products. Product descriptions should be extended to most products to provide more details where needed. Product features such as color or size that cannot be included in the name because of the limited number of characters should also be included in the description. No other product information is subject to change. In addition to the current information, it can be useful for customers to provide the supplier's product number. All product information must be altered using the AccountView software.
- **Images:** Adsoft allows each product to have a maximum of three images. The images are uploaded to a server from which Adsoft retrieves the images automatically. The images must have the product number as their file name to link them to the correct products. For example, the first image should be named 12345678.jpg and the second image should be 12345678-1.jpg. Because the images are manually added, this feature can be improved in two ways. The first improvement could be the addition of more images to products that currently contain only one or two images. The second improvement could be to improve the current images with higher quality images. However, both improvements are limited because Adsoft allows only three images per product, and the added images are cropped to fit the program, which can decrease picture quality.
- **Search function:** The search function is incorporated into the program itself and is therefore unchangeable. However, the search function searches for product names to match products. The respondents stated that some product names were incorrect, which is why the products could not be found. An improvement to make the search function work better is to check all product names to determine if any mistakes were made or if improvements could be made.
- **Special offers:** Color coding is used for products on sale. These products can be found in the product list or the special offer category. However, special offers do not distinguish between fixed and temporary customer discounts. This makes it difficult for customers to notice the temporary discounts. This can be altered in two ways. One way is to delete fixed customer discounts from the special offer category, making it only show temporary deals. Another way is to introduce additional colors that make it obvious which products are temporarily on sale.
- **Speed:** The speed of Adsoft cannot be changed because it is directly influenced by the power of the computer it is running on.
- **Appearance:** Adsoft's appearance is old dated compared to that of the webshop. The appearance of the platform can only be changed by the developers of the platform, which is very unlikely because it has not been updated in years.

- **Access to invoices, packing lists, and backorders:** Because orders are processed in AccountView, all documents are stored there. This means that it is not possible to present any of these documents on Adsoft. However, customers can view their order history on Adsoft.
- **Chat:** Adsoft is not web-based, making it impossible to introduce a chat function on the platform.
- **Product characteristics:** The only way to introduce product characteristics is to add them to product descriptions.
- **Product Variants and alternatives:** Introducing variants and alternatives to products is not possible in the same way as on the webshop. It is possible to recommend different products in the description; however, no function allows other products to be shown.
- **Comparing prices and products:** Again, no function in Adsoft allows for this.
- **Central ordering lists:** Because Adsoft is not web-based, products on the order list are not simultaneously displayed on multiple computers. Different Adsoft platforms on different computers are not connected even if the same account is used. Therefore, a centralized ordering list cannot be introduced.
- **Catalog:** A few customers commented in the survey questionnaire that they were missing the catalog button on Adsoft. This was recently removed because it was thought to be impossible to assign new products to a category in AccountView due to recent updates. However, it is still possible to add and alter categories and assign products to them. An obvious improvement would be to reintroduce the catalog button and add all the unassigned products to a category. Another improvement would be to redesign the catalog tree, delete the obsolete categories, and introduce new categories.

In summary, Adsoft does not allow for the implementation of new features. The only possible features to improve are product information, the number of images and their quality, contact information, product catalog, and special offers.

6.1.2 Improvements to the webshop

Similar to Adsoft, we need to look at the capabilities of the underlying software of the webshop, as well as its connections to AccountView, to discover what improvements can be made to the webshop.

- **Registering returns:** Customers can register unwanted products for return from their order history. The company receives a notification for this return only in Lightspeed. The customer does not receive a return sticker to return the package. Instead, a salesperson visits the customer to retrieve the products. Registering products for return works sufficiently well, although it is quite difficult to find the return button. The return page and order history page feel cramped. The first improvement should be to introduce better navigation on the return page. The second improvement should be to redesign the return page and the order history page to make it better understandable for customers.

- **Product information:** Product information can be improved on the webshop by adding descriptions to products that do not currently have one. Descriptions that already exist can be reviewed and improved when necessary. Descriptions can be written by the company or found at suppliers. For example, the description could describe how a product can be used.
- **Filters:** The current self-made filters are color, model (for bicycles), wheel size, frame size, width, and inner diameter (for inner tires). In addition to these filters, brand and price filters that cannot be changed are included. In this case, the only self-made filter that applies to every product is color. All other filters are specific to certain types of products. This makes them very useful when a customer is specifically looking for these products; however, they become obsolete when searching for other products. The webshop only allows for a maximum of six self-made filters. The best way to improve this is to change the model, wheel size, frame size, width, and inner diameter filters to filters that apply to all or at least most products.
- **Search function:** The search function searches for a product's name, number, description, brand, barcode, and SKU. Because the description is used by the search function, it often shows products that are not being searched. For example, a bicycle might have a saddle type in its description, which leads to bicycles being shown in the product list when a customer searches for saddles. The standard search function of Lightspeed, and thus, the webshop, cannot be changed. However, a standalone app called Site Search 360 can be added to Lightspeed. This app is paid monthly and claims to improve the search function and its results. This app may be the only solution to the problems with the current search function.
- **Mobile webshop:** The mobile version of the webshop works in the same manner as the desktop version. All features that are improved on the desktop version are also included in the mobile version. This means that it is not possible to improve the mobile version itself. To improve the mobile version, the desktop version must also be improved. However, Lightspeed has few design options, specifically for the mobile version of the webshop, which could improve its appearance.
- **Speed:** The webshop is web-based, meaning that its speed is directly related to a customer's internet connection. Therefore, it is impossible to improve the speed of the webshop.
- **Appearance:** Every webshop design using Lightspeed is based on a chosen theme. The theme chosen by Aalten for its webshop can be altered through the design menu. This menu allows for different coloring, logos, hyperlinks, and many other things to be altered. However, the base appearance of the webshop is fixed to the chosen theme. The themes themselves can also be altered; however, this requires programming skills.
- **Product naming:** Many products can be named differently by different customers. Sometimes this makes it difficult for customers to search for the correct products. One respondent recommended adding product tags with multiple names to make the products easier to find. Product tags can be added to products, but the current search function of Lightspeed excludes these in the search criteria. The only way to improve this is to review the current product names and make changes where necessary. Changing the product names must be performed using AccountView. Site Search 360 may make it possible to include product tags in the search criteria; however, this is uncertain.

- **Access to invoices, backorders, and packing lists:** These documents are again saved in AccountView and cannot be accessed through the webshop. Customers can view their order history only on the webshop.
- **Special offers:** The company does not currently provide any universal discounts on its webshop that are accessible to everyone. The only offers shown on the webshop are the standard discounts that a particular group of customers receives on specific products. Temporary product sales are currently only shown in Adsoft and are given to salespeople to hand out. There is also no shortcut for customers to a product list containing all products that are discounted for them. Discounts are shown only in regular product lists. There is a page on the webshop that shows all the discounted products, but there is no hyperlink on the webshop to access it. Discounted products also do not appear on this page. The first improvement is to display temporary product sales on the webshop and make them obvious. The second improvement would be to fix the discounted product page by adding a hyperlink in the form of a button on the webshop, and to make the discounted products appear on the page.
- **Chat:** Adding a chat function to the webshop is possible, but it can be very time-consuming to maintain. For a chat function to work correctly, an employee must be available and able to chat with customers throughout the day. Although a chat function can help achieve good customer service, it does not make sense financially to introduce it in companies that do not have a special customer service department. Another method to compensate for the lack of a chat function is to be more actively engaged in the questions customers leave on the webshop.
- **FAQ:** Currently, there is only one question in the webshop FAQ, with the answer being a hyperlink to the conditions of the sales document. An obvious improvement is to add more questions and answers to this section. Before any questions are added, it is important to consider the questions that are frequently asked.
- **Number of images:** A product on the webshop currently displays only one image, although Lightspeed allows multiple images per product. This is because the product images are automatically retrieved from AccountView, which has only one image per product. Adding images manually to the webshop can be performed; however, they will be overwritten when the product data are updated. This problem can be solved in two ways: The first option is to add more images to the products in AccountView and connect these to Lightspeed. AccountView allows three images per product to be stored; however, a product currently has the same image three times. This is because AccountView automatically copies the image if only one image is uploaded. Another method to solve this problem is to disconnect the images between AccountView and Lightspeed. All current product images would remain on the webshop, but new products will not have an image automatically added to them. Disconnecting the images means that the product images will not be overwritten, which would allow additional images to be added manually.
- **Product specifications:** The webshop allows specification groups to be created that can have several attributes within them. For example, a specification group for clothing could include size and color (see Figure 25). This specification group can then be added to a product with a value for each attribute and will appear on the webshop, as shown in Figure 26. This allows each product to

have many specifications, with various groups for each product category. Specifications are currently not being used and should be manually added.

The screenshot shows the 'Specificaties > Kleding' page in Lightspeed. At the top right, there are buttons for '< Terug naar Specificaties' and 'Opslaan'. The main content is divided into two sections: 'TITEL' and 'ATTRIBUTEN'. The 'TITEL' section includes a text box with the title 'Kleding' and a 'Meer informatie over Specificaties' link. The 'ATTRIBUTEN' section features a 'Nieuwe toevoegen' button and a list of attributes: 'Attributen', 'Maat', and 'Kleur', each with a checkbox and a delete icon.

Figure 25: Product specifications in Lightspeed

The screenshot shows a product page for 'Hemd Fuse wit I 50-52'. The specifications are displayed in a table format:

Specificaties voor: Hemd Fuse wit I 50-52	
Maat	L
Kleur	Wit

Figure 26: Product specifications on the webshop

- **Product variants:** Many products are available in different variations. For example, shirts can be sold in various sizes. Currently, all these product variants are displayed as multiple products. Therefore, a bicycle of five different sizes is displayed five times on the product list. A customer cannot identify the difference between these five bicycles on the product list if the product name does not mention its size. Figure 27 shows an example of a product list that could confuse customers. The four bicycles displayed are of different sizes, but a customer can only see the size when selecting a bicycle. Product variants are a feature provided by Lightspeed; however, they are difficult to use because of their connection with AccountView. Because every product on the webshop is linked to a product in AccountView, a variant of the product is not updated. This means that any changes in prices, images, description, and most importantly, the inventory will not be transferred to this variant on the webshop.

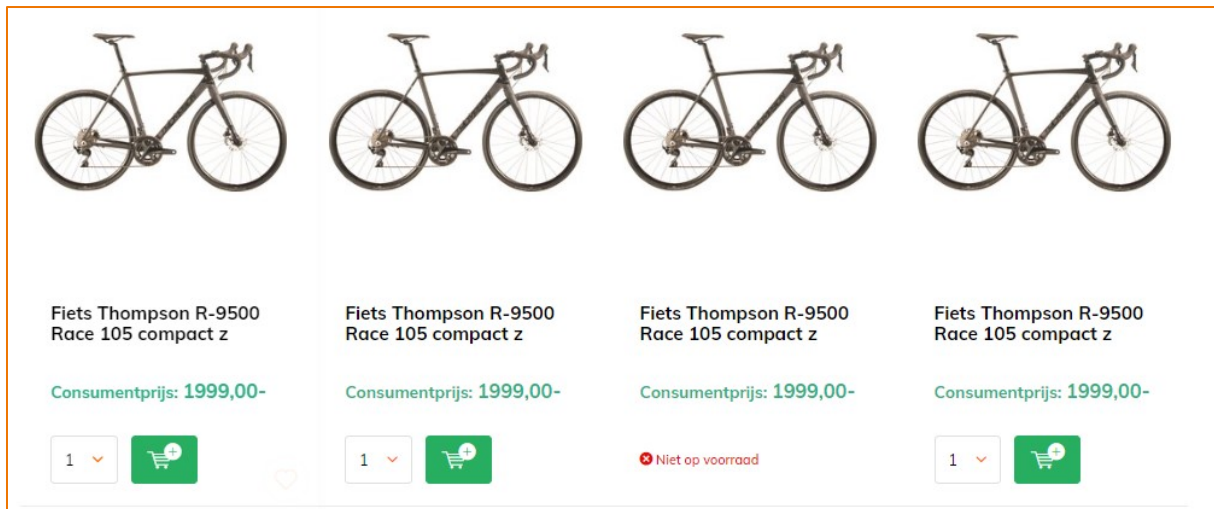


Figure 27: Product variants in a product list

- **Product alternatives:** As described in Chapter 4, some products have already recommended alternative products. However, the number of products with alternatives is negligible. The best improvement would be to go over every product and add any product with the same purpose as an alternative. Adding alternatives could increase sales because customers might choose the alternative product when the other product is out of stock rather than not buying it at all.
- **Comparing prices and products:** Lightspeed allows customers to simultaneously compare multiple products. However, this feature is not activated on Aalten's current webshop because most products do not have much information for comparison. Therefore, it is best to first improve the product information before turning the feature back on.

The webshop allows for more implementation and improvement compared to Adsoft. Improvements on the webshop can be made to the search function, product information, number of product images, product naming, filters, return registration, and appearance. Multiple features can also be implemented in the webshop. These features include product characteristics, special offers, product alternatives, comparing products and prices, and a FAQ section.

6.1.3 Improvements to AccountView

The product name, description, barcode, image, and price, which are shown on both Adsoft and the webshop, are all retrieved from AccountView. To improve these features on the ordering platforms, they must be improved in AccountView.

- **Product name:** A product's name is split in AccountView into two sections, both with a character limit of 40. The product list of Adsoft displays the combination of the two product names, but the webshop's product list only uses the first product name and uses the second product name as the short description of the product. This sometimes causes weird product names on the webshop, as half of the names are missing. This can be improved by rewriting the names of products that appear strange in the webshop. Some product names are also cut off in the middle of a word because of

the character limit of 40, which leads to unusual names or missing information. This is another reason for rewriting product names.

- **Product description:** The product description in AccountView is displayed on the product page of both Adsoft and the webshop. Most products currently have either very short descriptions or no descriptions. A description is useful when the name of the product cannot contain all necessary information because of the character limit. A description can also provide customers with more detailed information on, for example, the use of a product. Adding or improving product descriptions should be performed for most products. It is also possible to have the same description for multiple products. Product specifications are the only problem encountered when writing product descriptions. Product specifications can only be displayed in Adsoft by writing them in the product descriptions, which means that they will appear twice on the webshop if they have been added normally.
- **Barcode:** The barcodes of products are not subject to change because they are fixed for every product. However, there are still products that currently have incorrect barcodes in AccountView. Updating these barcodes is the only possible improvement.
- **Product images:** AccountView allows the addition of three images per product. Currently, only one image per product is saved, and this image is automatically copied thrice to fill in the other image fields. To create a connection between AccountView and Lightspeed for more than one image, duplicate images must be deleted. Otherwise, the webshop would display the same image thrice. Deleting these images can only be performed if it is possible to disable automatic copying of images.

6.2 Proposed plan of approach

With the factors found in the literature and the survey results in mind, a plan of approach must be developed. The plan must ensure that the most prominent problems and most important features are first improved. From the literature, we identified multiple webshop design factors that influence customer satisfaction and decision-making, as well as webshop traffic and sales. In addition, the employee and customer survey revealed several unidentified features besides the comments from the respondents. The customer survey data also showed that some features were perceived as worse than others and that some missing features were more desirable than others. Therefore, it is important to determine the improvements that should be made first.

Section 6.1 describes all the features that can be improved. By considering these features and linking them to the findings of the literature and surveys, we can determine the best plan to increase the number of digital orders. Adsoft allows only for six features to be improved and none to be introduced. These features include product information, number of images, image quality, catalog, contact, and special offers. The number of images and image quality can be considered as product information, and the catalog can be considered as a navigation option. According to the literature, only product information and navigation improve customer satisfaction, and contact information and special offers do not influence customer satisfaction or sales. This would suggest that product information with the images and catalog would be the first features to be improved. The survey data show that the product information and images were given the most negative scores, which implies that they must be improved before the catalog. Contact features received one negative score, while the special offers

received a score of one in missing features, as mentioned in the comments. Therefore, special offers should be improved before contact features. In summary, product information is the most important feature to improve before special offers and contact features.

The webshop allows for many more features to be improved and introduced compared to Adsoft. The possible features to improve or introduce on the webshop that were mentioned by the literature are the search function, product information, FAQ section, and appearance. Product characteristics and images can again be seen as a form of product information, whereas product filters improve navigation on the webshop. Looking at the results of the survey, we can see that the most negative feature of the webshop is the search function. Product information takes a close second place, followed by product images. We can also find the features that most customers are missing on the webshop. Special offers are the most desired missing features that are possible on the webshop, and product characteristics and variants are in second and third places, respectively. Product alternatives, together with the comparison of products and prices, are the fourth most common. With the literature and survey results in mind, it is possible to determine the best approach to improve the webshop. Table 8 presents an overview of the possible features that can be improved or introduced on the webshop.

From table seven we can immediately see that the first four features to be improved or introduced are the search function, product information including characteristics, and images. This is because they are all mentioned to improve customer satisfaction in the literature, while also receiving the highest scores in the survey. Improving special offers for products should be the next step. Although not mentioned in the literature, it received a high score from the customers in the survey. The current setup for special offers can also be confusing for customers, leading to frustration. Subsequently, the product filters and FAQ sections should be improved. Even though other features received a higher score, they were not mentioned in the literature; therefore, we cannot be sure that they would have any impact on customer satisfaction or sales. All other features were not mentioned in the literature and should therefore be improved or introduced according to the scores given in the survey. The only remaining feature mentioned in the literature is appearance. However, the appearance of the webshop is already modern and difficult to change, and it was mentioned by only one customer in the survey. Therefore, it is fair to improve the appearance of the webshop after all the other features. The workflow in Figure 28 shows how to improve or introduce the abovementioned features on the webshop, and in what order. Figure 29 shows the same workflow for the features that can be improved on Adsoft.

Table 8: Features possible to introduce or improve on the webshop

Features	Mentioned by the literature	Survey score (Negative and/or missing)
Search function	✓	11
Product information	✓	10
Product characteristics	✓ (product information)	10
Number of images	✓ (product information)	10
Special offers		10
Comparing products/prices		5
Product alternatives		5
Filters	✓ (webshop navigation)	2
FAQ section	✓	2
Product naming		2
Registering returns		1
Appearance	✓	1

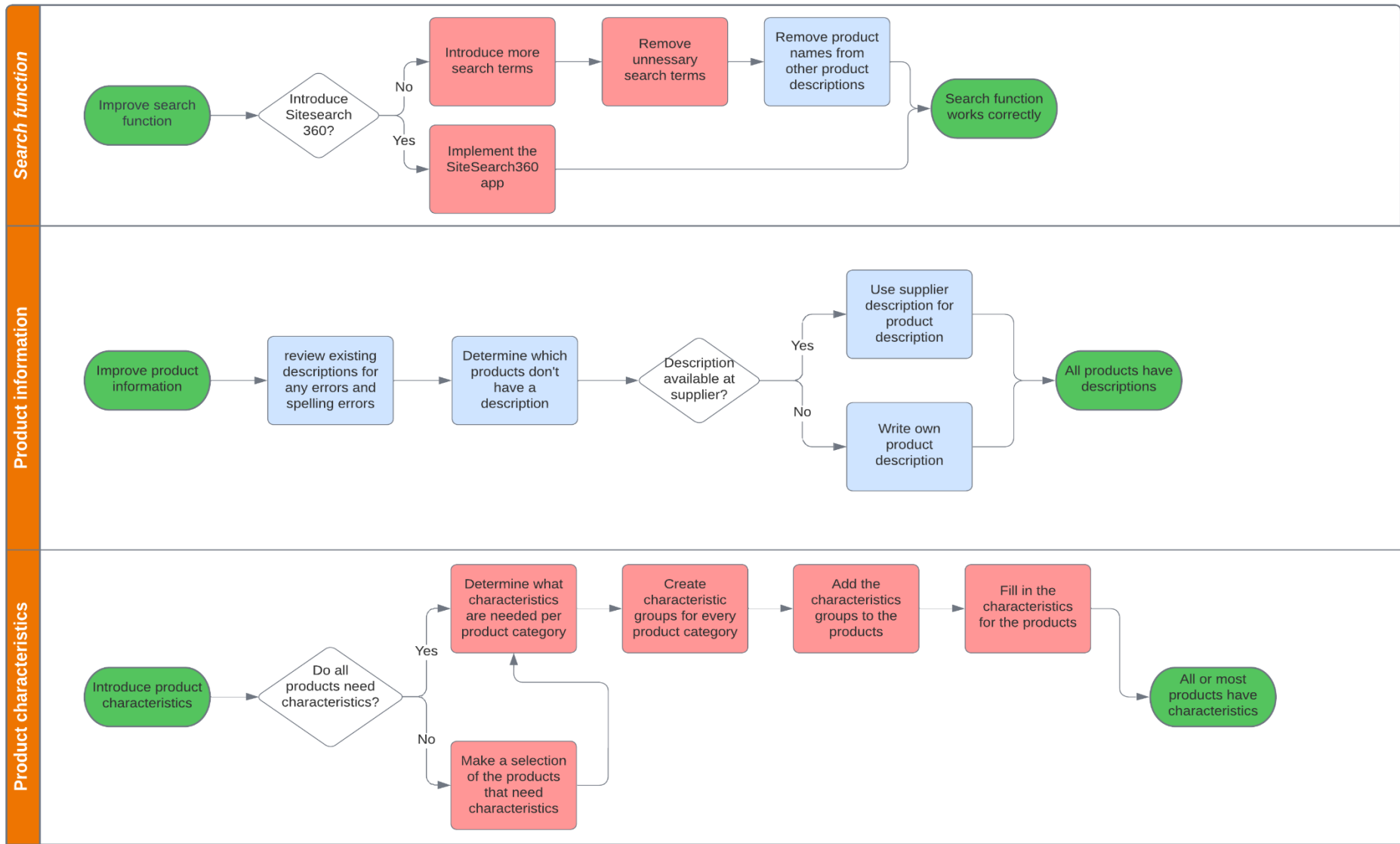


Figure 28: Flowchart implementations webshop improvements

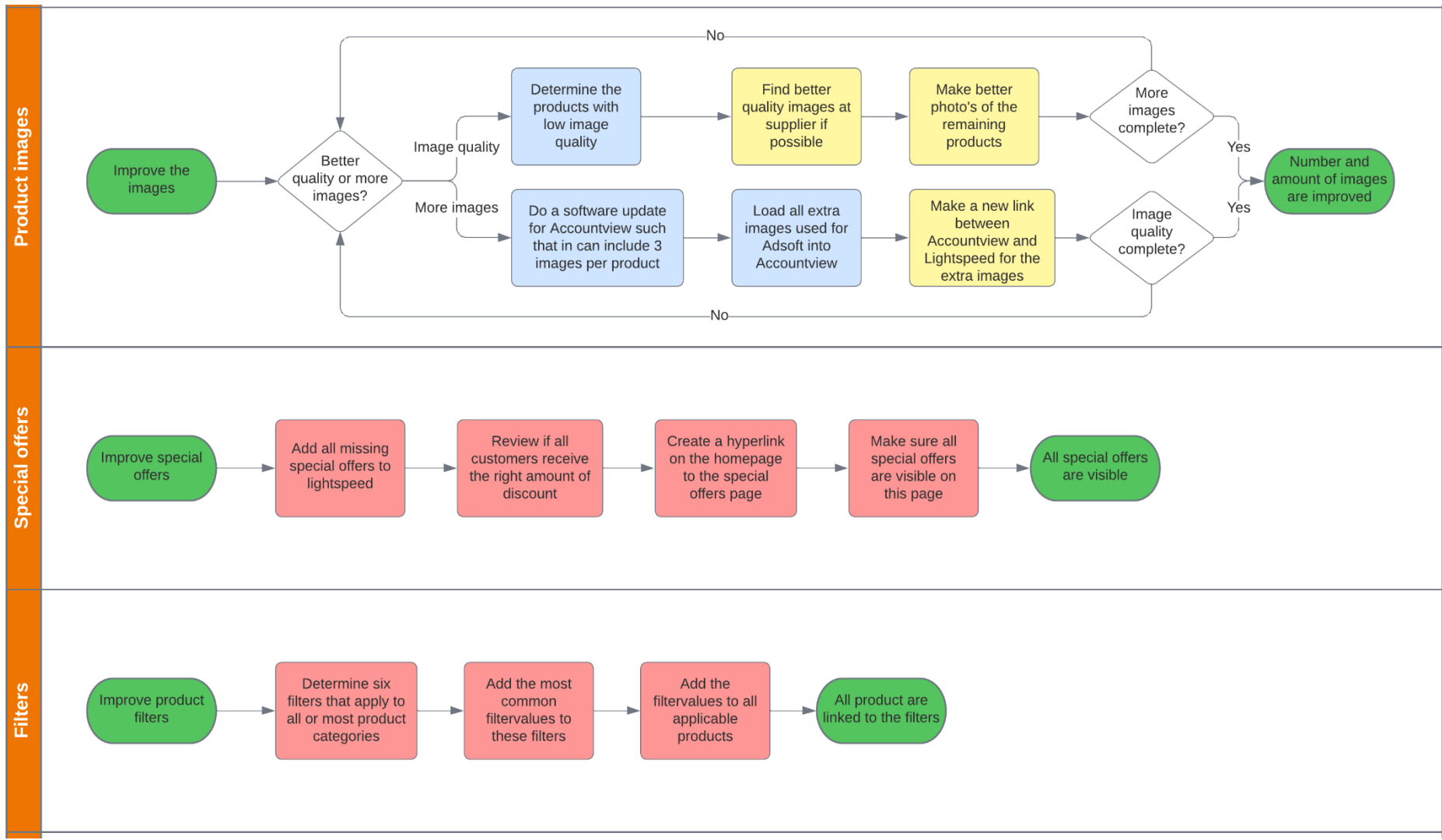


Figure 28: Flowchart implementations webshop improvements

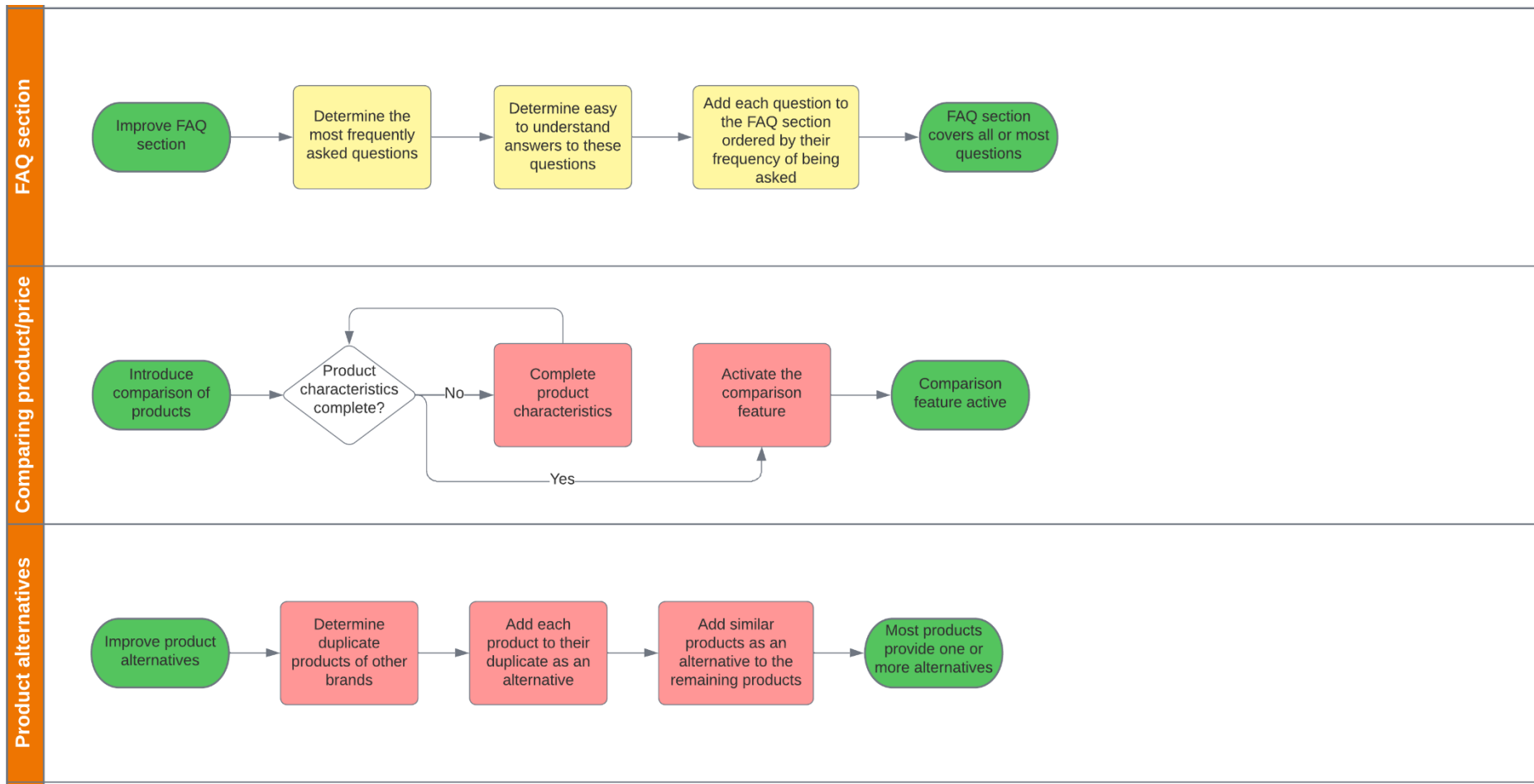


Figure 28: Flowchart implementations webshop improvements

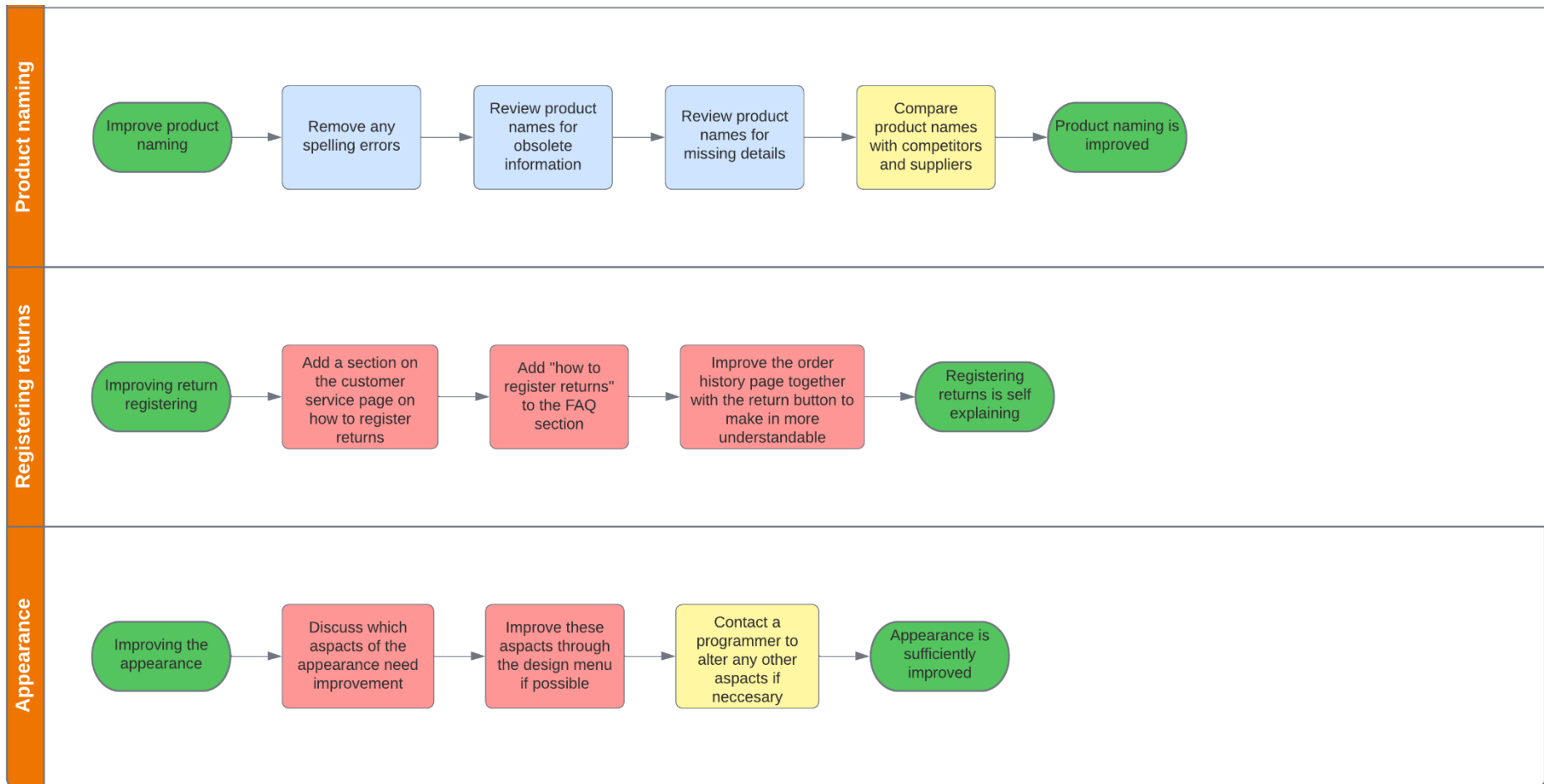


Figure 28: Flowchart implementations webshop improvements

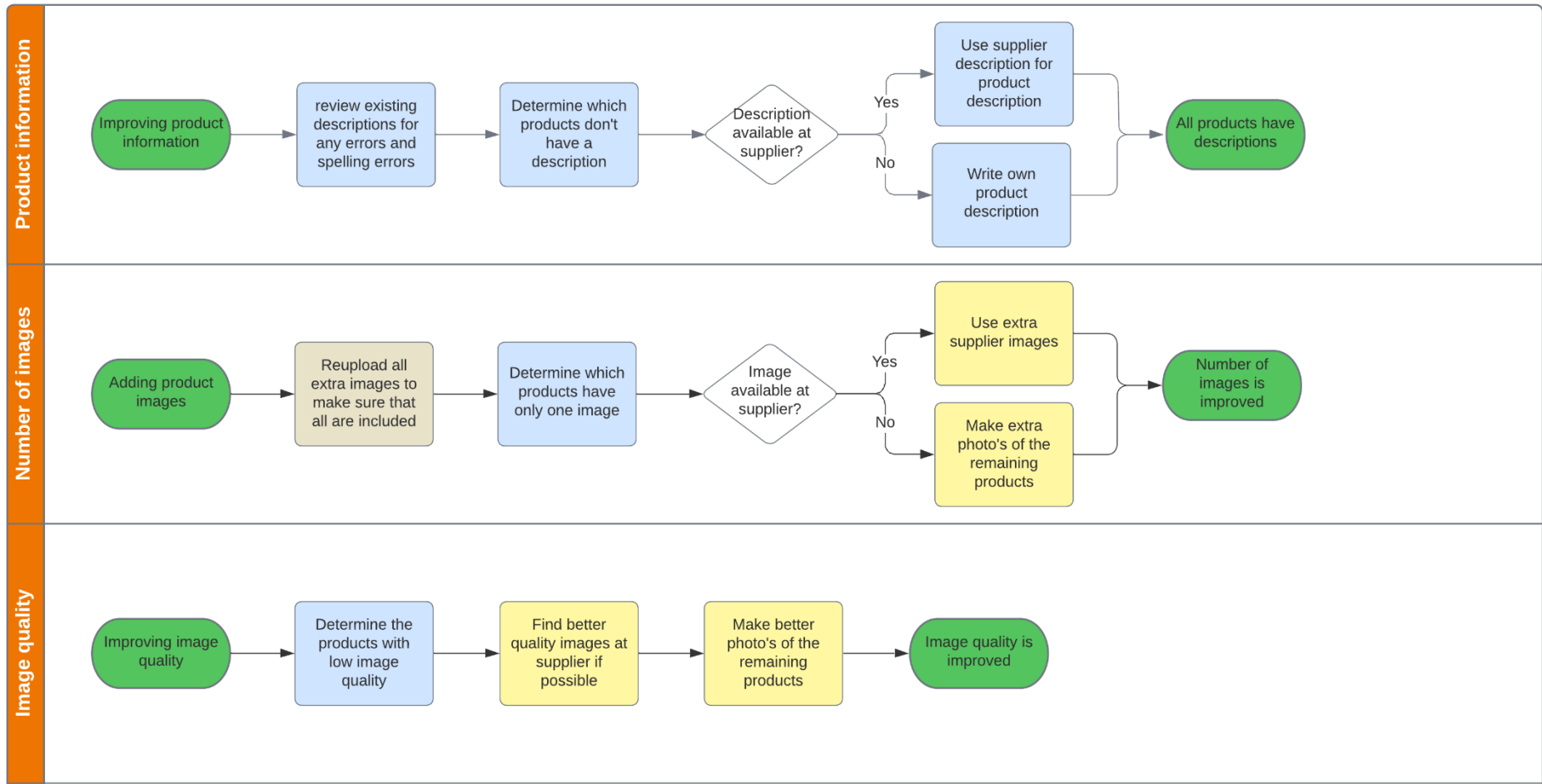


Figure 29: Flowchart implementations Adsoft improvements

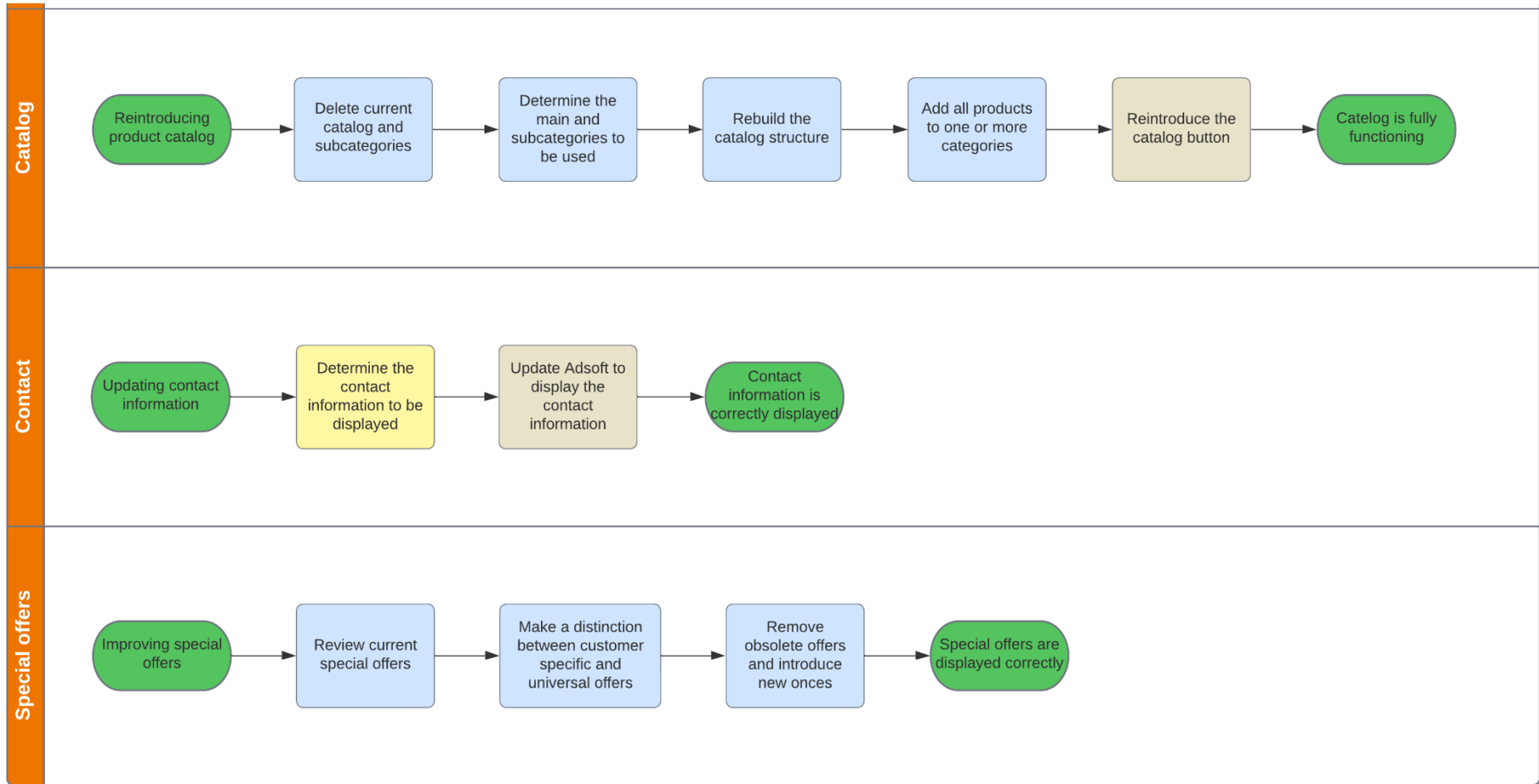


Figure 29: Flowchart implementations Adsoft improvements

The workflows for improving the platforms show that only the existing features of Adsoft can be improved and no new features can be added. The possibilities for improving the webshop are much greater. Therefore, it makes sense to start improving the webshop before any improvements to Adsoft. Because Adsoft is unable to introduce any new features that improve customer satisfaction and is already quite old and does not receive any new updates, it might be a better option to focus only on the webshop and leave Adsoft in its current state. Only improving the webshop gives customers more incentive to transfer from Adsoft to the webshop. If most customers have transferred in the near future, it could be possible to drop support for Adsoft entirely. This would combine the entire customer database on one ordering platform, making it easier to maintain. Having only one ordering platform also makes it easier to keep high-quality product information because the limitations of Adsoft no longer need to be considered.

6.3 Automated data collection

The data used in this study was collected through a survey questionnaire. This was necessary because the company had not collected any data on the subject in the past. Automated data collection should be implemented to make future problem-solving more effective and faster. Automated data collection can provide the company with more reliable and extensive data. Any future problems can be solved much more quickly if the data has already been collected. Currently, Lightspeed allows for the direct implementation of Google Analytics 4 in the webshop. Google Analytics 4 is a service that allows the company to measure traffic and engagement across the webshop. The company can use this, for example, to gain more knowledge about the route customers take to place an order. Other apps and services can also be added to the webshop to gain more insight into customer behavior and opinions. Further research needs to be conducted to determine an appropriate automated data collection method for the company. It may be possible and necessary to implement more than one, depending on the goal of the company.

7 Conclusion

It is clear from this research that the current use of the three different platforms for the processing of orders is cumbersome. Not only are the ordering platforms limited owing to the limitations of AccountView, but they also prevent customers from having live access to documents that hold information about their orders. The use of the three platforms also leaves an unorganized impression that causes more manhours to be spent to maintain the three platforms. This can also be troublesome for customers because there is no definitive way to place orders.

This study aimed to answer the main research question, “How can the number of orders on Aalten’s online ordering platforms be increased?”. To answer this question, we researched the possible causes that prevent customers from using these platforms. This was accomplished by dividing the main research question into eight sub-research questions. The first three research questions were answered by reviewing the company’s current situation. We discovered what platforms are used for order processing and what problems about these platforms were already known, and we set a norm and goal for this study by comparing the order quantities per ordering method. Subsequently, a literature review was conducted to answer sub-research questions 4, 5, and 6. The literature review provides sufficient knowledge about the factors that influence customer satisfaction, the most common methods to conduct survey research, and the factors that influence the reliability and validity of a survey. The knowledge provided in the literature was an important basis for the construction of a survey questionnaire that was sent to the customers of the company. The results of the survey were the focus for the plan of approach to address the main research problem. Based on the results, we determined the capabilities of the current platforms and answered the seventh sub-research question. Finally, a plan of approach was constructed and optimized based on the theories found in the literature and customer survey results.

The main research question was answered through survey research, which provided several reasons that withhold customers from using the webshop or Adsoft. The first and most expected reason was that a group of customers still preferred personal contact through the phone or salespeople to place orders. Most customers who are slightly older still prefer to talk to someone about the products they need rather than finding them online. Another reason could be that salespeople offer better deals compared to the ordering platforms. Second, a group of customers still had no knowledge of the existence of the webshop or was not given any information on how it works. This response was unexpected, but it is also a problem that can be easily resolved. Some customers also responded that they did not know any better than to use Adsoft to place orders. If the company can communicate the webshop to all customers, it will probably increase the number of new customers and provide Adsoft users with a reason to transfer. Third, customers negatively reviewed important online features. Product information and images received the most negative scores for both ordering platforms, and the search function of the webshop was also negatively rated. These three features are also one of the most important for an ordering platform and can thus explain why customers will not use the webshop or why they prefer to keep using Adsoft. All the features that customers were missing on Adsoft and the webshop provide insight into the platforms of competitors. Most of the features that Aalten lacks on its platforms are offered by competitors, which could explain why customers would rather place orders on their platforms instead.

The survey data provided a lot of information about the features that would increase customer satisfaction on the ordering platforms. These data, together with the theories found in the literature, were used as a basis for the plan to improve the platforms. The proposed plan describes how to improve or

implement the features on the platforms and in which order. Implementation of the proposed enhancements should increase customer satisfaction, traffic, and sales. Improving the platforms will take many man-hours because some features must be added manually for every product, while others can be done automatically. Because of the number of manhours and the cumbersomeness that comes with maintaining three different platforms, it is difficult to recommend the improvement of the current platforms rather than introducing a centralized platform for all processes.

7.1 Limitations

The results of this study have been influenced by several limitations.

The first limitation was the amount of time available for this study. Ten weeks were given to complete the research. Thus, it was impossible to include additional in-depth research on the introduction of a new platform for placing and processing orders. Implementation of the plan of approach and evaluation of the results were also not included because of time restrictions.

The second limitation was the amount of data available. The company had almost no data relevant to this study. There was no data on the path that customers took through the ordering platforms and no data on previously recorded feedback. The only available data were the number of orders per platform and the number of visitors and pageviews of the webshop. The gathered data was also limited by the number of customer responses.

Third, the results of this research are limited by the platforms themselves. As both ordering platforms are specifically designed, there are a limited number of possible improvements. This is either the cause of the underlying connections with other platforms or the design restrictions.

The final limitation is the internal validity of the proposed improvements. A possible bias in the survey responses or their interpretation can threaten the validity of the research results. Direct validation of the proposed plan is also impossible because more time is required to implement and evaluate the improvements.

7.2 Contribution

This study attempted to combine customer feedback gathering with customer satisfaction concepts. Survey research and customer satisfaction research were used as the main methodologies for this study and can be used or expanded upon in future research. Although this combination is not unique, the case study has provided a fresh look at using customer feedback for system enhancements. All factors and features influencing customer satisfaction and decision-making, as well as webshop traffic and sales, were described in the literature for B2C (Business to Consumer) environments. This study uses the same literature to solve a problem in a B2B environment. Future evaluations of the proposed improvements can validate the influence of these factors and features in a B2B environment. The contributions of this study to the literature are as follows.

- Implementation of factors and features influencing customer satisfaction and decision-making and webshop sales and traffic to improve the usefulness and ease of use of B2B (Business to Business) ordering platforms.
- A study combining literature on the factors that influence customer satisfaction, purchasing decisions, and webshop traffic and sales.
- A study combining the literature on feedback-gathering tools and the factors that influence their reliability and validity.

This thesis provides a summary of the literature and implementation of the theory in a B2B environment. This study can be adapted to solve other case studies in the future. The results of this study are applicable to many other businesses that experience similar problems.

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Appendix A: Employee survey questionnaire

Aalten

① Welke problemen van de webshop zijn reeds bekend voor u?

Press ENTER ↵

② Welke problemen van Adsoft zijn reeds bekend voor u?

Press ENTER ↵

③ Welke problemen van Accountview zijn reeds bekend voor u?

Opslaan

Appendix B: Customer survey questionnaire



Wij zijn benieuwd naar uw ervaring!

Het invullen is volledig **anoniem** en duurt slechts 3 minuten!

Wat is uw methode voor het plaatsen van bestellingen?
Selecteer 1 van de mogelijkheden

A Adsoft	B Webshop	C Zowel Adsoft als de webshop
D Vertegenwoordigers of Telefoon	E Adsoft & vertegenwoordigers of telefoon	F Webshop & vertegenwoordigers of telefoon
G Alle opties	H Geen van allen	

Press ENTER ↵

Begin

Webshop

Wat vind u goed aan de **webshop**?

Selecteer 1 of meerdere mogelijkheden

A Uiterlijk	B Snelheid	C Webshop op mobiel
D Zoekfunctie	E Filters	F Categorieën
G Afbeeldingen	H Product informatie	I Verlanglijst
J Bestel historie	K Retouren aanmelden	L Contact opnemen
# Anders, namelijk:		

Wat vind u **niet** goed aan de **webshop**?

Selecteer 1 of meerdere mogelijkheden

A Uiterlijk	B Snelheid	C Webshop op mobiel
D Zoekfunctie	E Filters	F Categorieën
G Afbeeldingen	H Product informatie	I Verlanglijst
J Bestel historie	K Retouren aanmelden	L Contact opnemen
# Anders, namelijk:		

Welke van de volgende functies mist u op de **webshop**?

Selecteer 1 of meerdere mogelijkheden

A Producten vergelijken	B Prijzen vergelijken	C Product alternatieven
D Product varianten	E Product eigenschappen/specificaties	F Hoeveelheid afbeeldingen
G FAQ (veel gestelde vragen)	H Chat	I Aanbiedingen
J Facturen inzien	K Backorders inzien	L Pakbonnen inzien
# Anders, namelijk:		

Wordt er voldoende productinformatie weergegeven op de **webshop** en **Adsoft**?



0	1	2	3	4	5	6	7	8	9	10
[Webshop] Onvoldoende					Meer dan voldoende					
0	1	2	3	4	5	6	7	8	9	10
[Adsoft] Onvoldoende					Meer dan voldoende					

Press ENTER

Wat vind u **niet** goed aan **Adsoft**?

Selecteer 1 of meerdere mogelijkheden

A Uiterlijk	B Snelheid	C Aanbiedingen
D Zoekfunctie	E Categorieën	F Favorieten
G Aantal afbeeldingen per product	H Product informatie	I Bestel historie
J Retouren aanmelden	K Contact opnemen	
# Anders, namelijk:		

Welke van de volgende functies mist u op **Adsoft**?

Selecteer 1 of meerdere mogelijkheden

A Producten vergelijken	B Prijzen vergelijken	C Product alternatieven
D Product varianten	E Product eigenschappen/specificaties	F FAQ (veel gestelde vragen)
G Chat	H Facturen inzien	I Backorders inzien
J Pakbonnen inzien		
# Anders, namelijk:		

Press ENTER ↵

Welke aspecten van **Adsoft** zijn beter dan de **webshop**

Selecteer 1 of meerdere mogelijkheden

A Uiterlijk	B Gebruiksvriendelijkheid	C Snelheid
D Zoekfunctie	E Categorieën	F Product informatie
G Aantal afbeeldingen	H Kwaliteit afbeeldingen	I Aanbiedingen
J Retouren aanmelden		
# Anders, namelijk:		

Op welke manier zoekt u naar producten op de **Adsoft**?

A Via zoekfunctie	B Via categorieën	C Via merken
# Anders, namelijk:		

Op welke manier vind u de juiste producten op de **Adsoft**?

A	Via afbeeldingen	B	Via omschrijvingen	C	Via filters
#	Anders, namelijk:				

Waarom bent u nog niet volledig overgestapt naar de **webshop**?

SHIFT + ENTER for new line

Press ENTER ↵

Wat mist u bij ons op de **webshop** wat elders wel aangeboden wordt?

Selecteer 1 of meerdere mogelijkheden

A	Producten vergelijken	B	Prijzen vergelijken	C	Product varianten
D	Product eigenschappen/specificaties	E	Aanbiedingen	F	FAQ (veel gestelde vragen)
G	Chat	H	Facturen inzien	I	Backorders inzien
J	Pakbonnen inzien				
#	Anders, namelijk:				

Opslaan

Algemeen

Waarom maakt u geen gebruik van de **webshop**?

Selecteer 1 of meerdere mogelijkheden

A Onoverzichtelijk	B Producten niet te vinden	C Te weinig product informatie
D Te weinig afbeeldingen	E Te ingewikkeld	F Webshop elders beter
# Anders, namelijk:		

Wat mist u bij ons op de **webshop** wat elders wel aangeboden wordt?

Selecteer 1 of meerdere mogelijkheden

A Producten vergelijken	B Prijzen vergelijken	C Product varianten
D Product eigenschappen/specificaties	E Aanbiedingen	F FAQ (veel gestelde vragen)
G Chat	H Facturen inzien	I Backorders inzien
J Pakbonnen inzien		
# Anders, namelijk:		

 Press ENTER ↵

Wat kan er verbeterd worden aan de **webshop**?

Opslaan



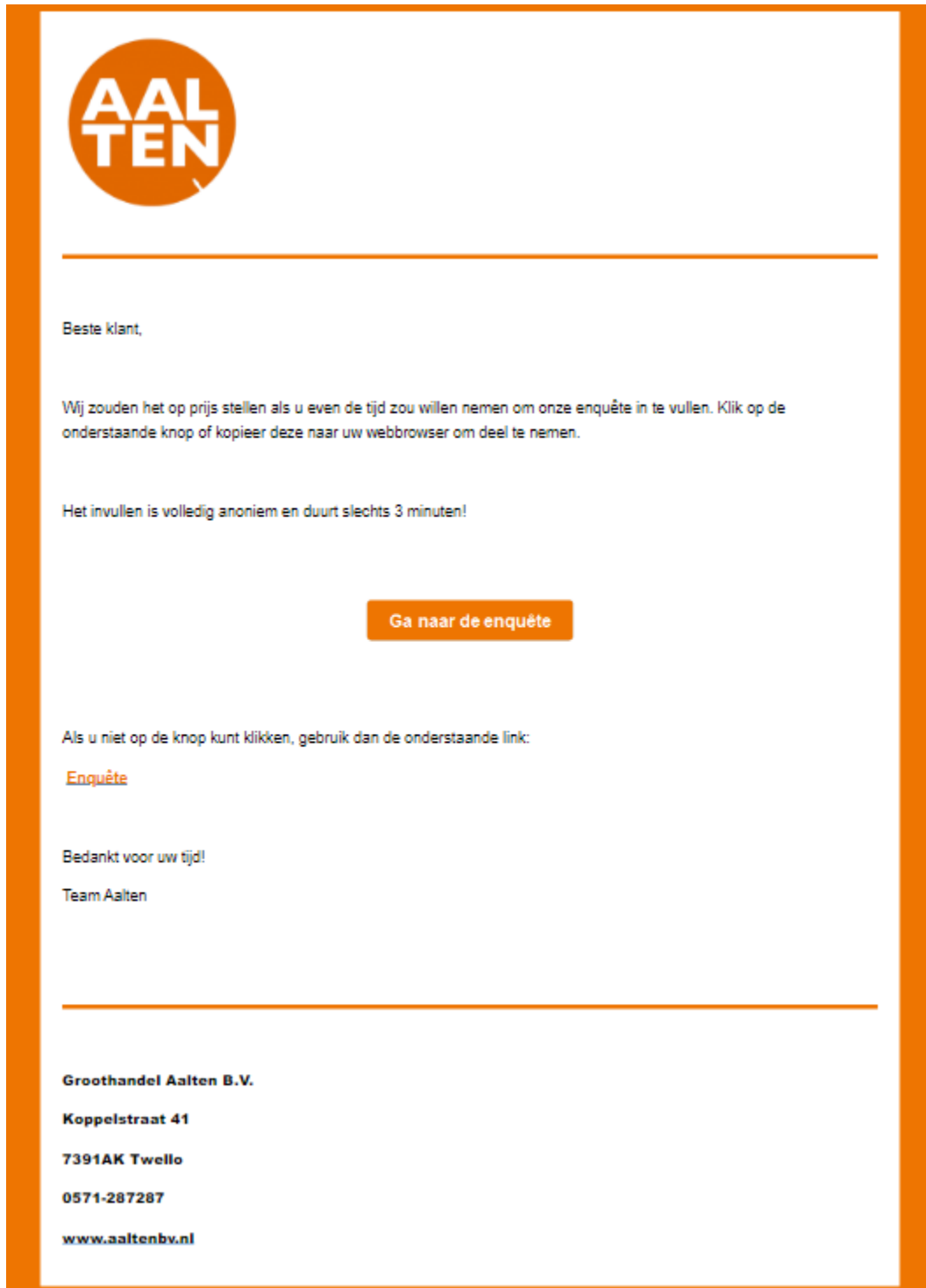
Einde

Heeft u nog opmerkingen?

SHIFT + ENTER for new line

Opslaan en afsluiten

Appendix C: Survey email



Appendix D: Systematic Literature Review

Key concepts

The key concepts of the knowledge questions answered through the literature review are listed in Table 9.

Table 9: Key concepts

1	<i>Feedback</i>
2	<i>Customers</i>
3	<i>Online</i>
4	<i>Web shop</i>
5	<i>Satisfaction</i>

Related search terms

The search terms related to the key concepts are shown in Table 10. These additional search terms can be used to widen the search for more literature.

Table 10: Related search terms

	Key concepts	Related terms	Narrower terms	Broader terms
1	<i>Feedback</i>	Response, reaction, comment, report, assessment, criticism, opinion, evaluation, rating	Response,	Reaction, comment, report, assessment, criticism, opinion, evaluation, rating
2	<i>Customer</i>	Shopper, consumer, buyer, purchaser, client, regular	Shopper, consumer, buyer,	Purchaser, client, regular
3	<i>Online</i>	Digital, internet, networked, accessible by computer, connected, on the Internet	Digital, internet	Networked, accessible by computer, connected, on the internet
4	<i>Web shop</i>	e-shop, internet-shop, online shop, webstore, e-boutique, e-store, eshop, web-shop, e-commerce, online store	E-shop, internet-shop, online shop, webstore, e-store, eshop, web-shop, e-commerce, online-store,	e-boutique
5	<i>Satisfaction</i>	Achievement, comfort, contentment, delight, enjoyment, fulfilment, gratification	-	Achievement, comfort, contentment, delight, enjoyment, fulfilment, gratification

Inclusion and exclusion criteria

The inclusion and exclusion criteria that can be seen in Table 11 were used to filter the literature such that only useful results remained.

Table 11: Inclusion and exclusion criteria

Inclusion criteria	Exclusion criteria
Literature describing feedback-gathering tools	Literature before the existence of the internet
Literature describing factors influencing customer satisfaction and decision-making	Literature in foreign languages (other than Dutch and English)
Theory or models must be applicable to my research	Inaccessible literature

Conceptual matrix

The final set of articles relevant to answering the knowledge questions contained 11 papers, six covering customer satisfaction and decision-making, and five papers covering customer feedback gathering. Of the initial 11 papers selected, only nine could be used for the literature review. One of the papers was excluded because it was written in Portuguese, whereas the abstract was written in English. Another study was excluded because it described feedback-gathering tools that have long been replaced by newer techniques using the internet. Table 12 presents the conceptual matrix. From the conceptual matrix, we can see that three sources include three of the five concepts needed to answer both knowledge questions. Therefore, these three papers are the most relevant for use in answering the questions. However, all literature found and included in the conceptual matrix provides some knowledge that can be used to provide partial answers to the knowledge questions and should therefore also be included in the theory.

Table 12: Conceptual matrix

Important concepts / Publications	Customer satisfaction	Customer decision-making	Tools for gathering feedback	Characteristics of online shops	Research model provided
1 (Choudhury & Choudhury, 2010)				✓	
2 (Gonçalves et al., 2011)			✓	✓	
3 (Kidane & Sharma, 2016)	✓	✓			✓
4 (Lohse & Spiller, 1999)				✓	
5 (Mofokeng, 2021)	✓			✓	✓
6 (Opoku, 2006)			✓		✓
7 (Solarová, 2015)			✓		✓
8 (Watabe & Iwasaki, 2007)		✓		✓	
9 (Xuazhi & Ahmad, 2019)	✓			✓	✓