Competing for the private sector: Shedding light on Ziut's possibilities

Master thesis

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Executive summary

This research investigates the influence of customer experience on the purchasing process, the information search process and the used decision criteria when selecting a vendor in the private sector of the lighting industry. The main research question in this research is "*What is the influence of customer experience with Ziut on the purchasing process, the information search and the used vendor selection criteria?"*

To answer this question, a survey was held amongst current and potential customers of Ziut, a vendor in the lighting industry. The participants of this research were then divided into three groups, those who are currently a customer of Ziut, those having experience with Ziut but are currently not a customer and those who do not have any experience with Ziut and were not aware of its existence before this research.

As vendors try to compete for customers it is a goal to optimize marketing efforts as to ensure a decent spot in the minds of the potential buyer. To better understand what stages the potential customer goes through in the private sector of the lighting industry, this research looks at the eleven stages of the purchasing process. It shows how a potential customers goes from unawareness of his need towards becoming a loyal customer. One of the first steps in this process is finding information about possible solutions and vendors who are able to provide these solutions. This research tried to identify whether there is a difference in how (potential) customers obtain their information. For this end, questions were added to the survey as to which media are used most when searching for information and which type of information (subjects) are most interesting to these (potential) customers. One of the last stages of the purchasing process is making the final decision based on the found information and preferences in terms of selection criteria. This research also tried to uncover which selection criteria are the most important in this decision by using the list of selection criteria of Dickson (1966) and adding an element based on the experience of managers working in the field.

The results of the survey were analysed using a one way ANOVA test and an independent samples t-test. The one way ANOVA test showed that there are only a few differences between the three groups, indicating that the influence of customer experience is limited. The only differences that were found showed that e-letters is significantly more used by current customers than potential customers both with and without experience and that social media is generally more used as the amount of experience increases. It also showed that current customers take significantly more time to find their information. They also take more time for the entire purchasing process and more often have contact with their vendor, but this result is not significant. In general it also showed that internet, specifically search engines and the website of the vendor, is the primary source of information for most (potential) customers and that they also value brochures an telephonic contact. Price, quality and warranties & claim policies are the key aspects in making a decision which vendor to buy products from. Furthermore this research showed that there is little difference in the purchasing process, the information search and selection criteria among customers from different branches and that the position of the contact person in the client firm is not relevant in this process. Finally it showed that the account managers of Ziut have a proper view of the market.

It can be concluded from this research that customer experience has little influence on the purchasing process in general, the search process or the selection criteria used in selecting a vendor. There is no empirical evidence found for differentiation between these groups in marketing efforts. As search engines, the website of the vendor, brochures and telephonic contact are the primary sources of information, these should be focused and contain sound information. It is also found that price is the most important factor in vendor selection and that Ziut is currently not competitive in that area, which perhaps should be reconsidered in the light of this research.

The scientific implications of this research lie mainly in the added case to the current literature and the extension of the list of vendor selection criteria created by Dickson (1966) by (environmental) Durability and MVO. This new criteria proved to be rather important, scoring higher than several criteria that are mentioned by Dickson (1966).

List of tables and figures

Table of content

1. Description of Ziut and its challenges

This chapter shall give an introduction to Ziut as a firm, to the challenges it faces and to the research questions that contribute to a solution to these challenges.

1.1 Description of Ziut

Ziut B.V. is a firm that has been established as a result from a collaboration between Liandyn (Alliander) and IP Lighting (Enexis) and it is currently the biggest player in the public lighting market (Kok-Swartjes, 2012a). It produces effective and efficient solutions for public lighting, traffic regulation, light design and camera systems. In total there are about 600 people working for Ziut at offices on five different locations, four of which are production facilities. In 2011 the turnover of Ziut was approximately 131,5 million euros (PricewatchCoopers, 2012). Their current customers are mainly municipalities, provinces, civil contractors and property developers. The market that Ziut operates in could be considered as a business to government (B2G) and business to business (B2B) market because of the low amount of buyers, which are all businesses or in this case mostly municipalities. Another aspect of the B2B market is the high value of the customers (Brennan, Canning, McDowell, 2007). The table below shows that in the public sector the five largest customers account for approximately 40% of the turnover. In the private sector the turnover of the five largest customers is somewhat lower with 25%, but is still relatively high. It also shows that the turnover in the private sector is a lot lower per customer than that of the public sector.

Ranking public sector	Customer name	Turnover in 2011	% of turnover in the public sector
1	Gemeente Arnhem	€ 4.848.063	14,54
2	Gemeente Nijmegen	€ 2.927.180	8,78
3	Gemeente Enschede	€ 2.336.486	7,00
4	Gemeente Apeldoorn	€ 2.141.436	6,42
5	Provincie Gelderland	€ 1.483.825	4,45

Based on data from Commercieel Plan Team Oost (2012)

Ranking private sector	Customer name	Turnover 2011	% of turnover in the private sector
1	VOF Huurlingsedam	273.949	7,91
2	KWS Infra BV	158.807	4,58
3	Vivare Vastgoed BV	139.955	4,04
4	Postma GWW BV	130.868	3,78
5	Rentree Wonen	126.426	3,65

Based on data from Commercieel Plan Team Oost (2012)

Ziut works with four themes, which they apply to the three main markets they are in, which they call light, sight and mobility (Ziut, 2012a). The four themes are (Ziut, 2012a):

- Purposefully durable: Ziut invests in the development of new technologies that improve the durability of both the products and of our planet. It is one of Ziut's goals to produce products with the lowest total cost of ownership, both in terms of costs of energy and costs of replacement. (Ziut, 2012b, Kok-Swartjes, 2012b)
- Safe and social: Ziut tries to find the optimal balance between safety regulations, acceptable usage of energy and technical and financial possibilities to create safe public spaces (Kok-Swartjes, 2012b)
- Customized mobility: Accessibility, durability and liveability are the focus of Ziut in solving problems that are concerned with the mobility of an area. They strive to find the optimum traffic flow and help to ensure a good air quality (Kok-Swartjes, 2012b).
- Beautiful and comfortable: Ziut believes what there is more to light than just being able to see things at night. It has the ability to create a nice ambiance and can enhance people's ability to navigate in a city or other terrains (Kok-Swartjes, 2012b).

1.2 Challenges of Ziut

Although, as mentioned earlier, the firm already has a few customers in the private sector, the vast majority of their customers, approximately 97%, come from the public sector (Kok-Swartjes, 2012b). For the upcoming year it is expected that the lighting department of Ziut will generate approximately 93% of the total turnover, whereas sight only contributes about 1% and mobility about 2%. The final 4% should be generated by a new initiative in the private sector (see appendix A) (Kok-Swartjes, 2012b). The reason Ziut started this initiative is to expand their business and gain more customers. This goal that has been set at the start of this year will not be realized as they are currently not very effective in penetrating this market. There might be several explanations for this problem. One problem is that Ziut is not the most competitive firm in terms or price (Ten Broeke, 2012). Another problem might be that the private sector has different needs than customers from the public sector, in terms of information or product specifications etc. Ziut might not be aware of these differences and therefore has an imperfect approach method in terms of information provision or would simply have to adapt their products to the demands of the private sector or come up with new, innovative products (Kok-Swartjes, 2012b). The last case will not be entirely possible for Ziut (Kok-Swartjes, 2012c), which leaves the possibility of an imperfect approach method. This puts Ziut mainly in the upper left corner of the Ansoff matrix (Mindtools, 2012)(see Appendix B). The approach method used by Ziut, in terms of used media, type of information presented via those media and focus on certain aspects of products such as price or quality might not be ideal for potential customers. The optimal method might also be different for current customers in the private sector and potential customers in the private sector as there is a difference in the amount of experience with Ziut. As ziut values the relationship with the customer highly (Kok-Swartjes, 2012a), current customers might require a different set of media to approach them with and/or search for different kinds of information than those who do not have any experience with Ziut. Therefore the methods of approaching (potential) customers and the potential differences between these (potential) customers, based on their experience with Ziut, will be the focus of this research. As the lighting market provides the most turnover, the account managers and marketing department of Ziut feel the focus should be on the lighting market. Finally the statistics of Ziut show that 39% of their turnover comes from activities such as maintenance, damage repair etc. They also get a lot of other, relatively small, jobs, that eventually do account for about 10-20% of the turnover (Commercieel plan, 2012). This shows that all together, Ziut is making about half their money from resale or small jobs.

The focus of Ziut in the private sector is on the following branches (Kok-Swartjes, 2012c).:

1. Waste collection, treatment and disposal activities; materials recovery
2. Construction of buildings and development of building projects
3. Civil engineering
4. Specialized construction activities
5. Warehousing and support activities for transportation
6. Accommodation
7. Renting and buying and selling of real estate
8. Human health activities
9. Sports and recreation

It was decided to target these segments as it was found that they contain the highest potential value in terms of profit. As so far they have not yet been very successful in entering this market, the question arose what can be done to penetrate this market successfully. Kok-Swartjes (2012a) feels that currently the potential customers in the private sector are not fully aware of the existence of Ziut and that this might affect both the effectiveness of their marketing and their position. She also indicated that their marketing efforts perhaps lack the focus it needs to create this awareness and make these prospects seriously consider Ziut as a potential supplier.

1.3 Research question

Now that the problem has been clarified, the research questions can be formulated:

What is the influence of customer experience with Ziut on the purchasing process, the information search process and the used vendor selection criteria?

This question can be divided into a few more detailed questions, of which the answer contributes to answering the main question. These sub questions are:

1. *What does the purchasing process of the (potential) customers in the private sector of the lighting market and focused by Ziut, look like and how is this influenced by customer experience with Ziut?*
2. *What kind of information do the (potential) customers in the lighting market use when assessing the value proposition presented by suppliers and how is this influenced by customer experience with Ziut?*
3. *Which media do the (potential) customers in the lighting market use to find this information and how is this influenced by customer experience with Ziut?*
4. *Do the managers of Ziut have a good view of the purchasing process, the information search process and the used selection criteria for selecting vendors for firms in the private sector of the lighting industry?*

The next chapter will start with literature about customer experience and the effect is has on the purchasing process in general, after which the focus will turn to the information search and vendor selection criteria. The type of information in the sub question is related to the nature of the information, which can for example be price related, delivery times related etc. According to Meyrowitz (1998) the most common conception of media is that they are conduits that hold and send messages. More literature on these matters is found in the next chapter. This research will try to answer the research questions by conducting a survey among (potential) customers of Ziut in the focussed branches of the private sector and hold interviews with the account managers of Ziut B.V. They will be asked some questions about their purchasing process in general, how they search for information, what kind of information they value most in their search and how they weight these matters in their final selection of a vendor. The surveys will be analysed, using a one way ANOVA to make a comparison between the three groups based on experience with Ziut and an independent t-test to test for differences between the account managers of Ziut and their (potential) customers. These methods will be described in section 3.3. Chapter four then analyses the gathered data and shows the results, after which chapter five will draw up the conclusions from this data and will discuss the implications to both science and Ziut.

2. Theory

In this chapter the relevant literature to answer the questions stated in section 1.3 will be discussed. The first part of this chapter will be focused on customer experience and its effect on the purchasing process. Methods of reaching (potential) customers and the kind of information that has to be communicated with (potential) customers will be described next as well as the selection criteria that are generally used when selecting a vendor. To conclude the literature chapter, a model, giving an oversight of the relationships that are tested in this research, will be presented.

2.1 Customer experience

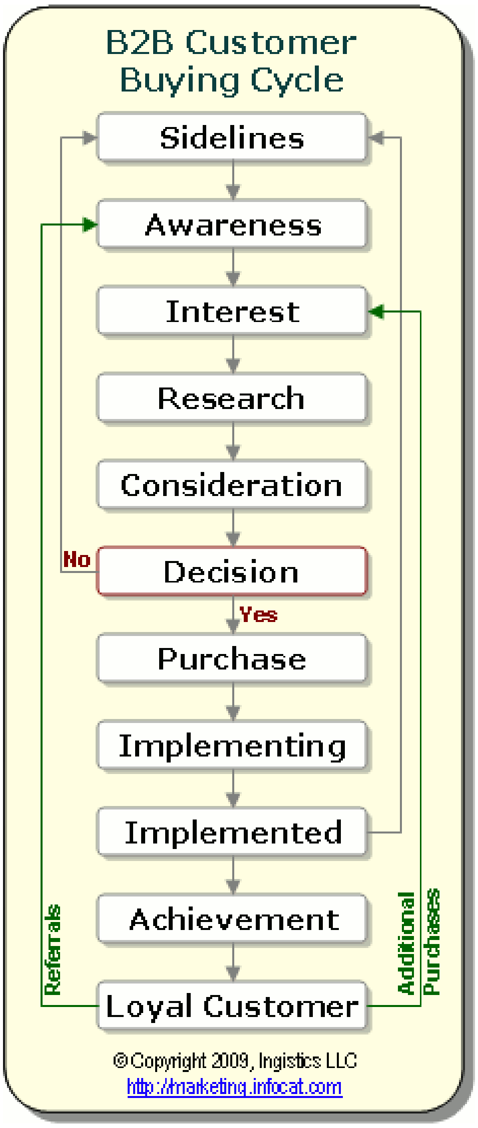
There are several definition of customer experience. One is that of Meyer and Schwager (2007) who claim that customer experience is “the internal and subjective response customers have to any direct or indirect contact with a company”. This definition relates to the one presented by Moorthy et al. (1997) who state that customer experience is defined as familiarity with a product or brand. Although these definitions are somewhat alike, the first definition relates more to customer experience management in which the goal is to provide the optimal service as to create a great shopping experience (including after service), whereas the second is more suited for this research as it focusses more on the amount of experience a (potential) customer has with purchasing a product or with vendors involved in the market. As explained by (Espejel et al., 2009) customers who are involved in a new task purchase, generally do not have any experience with the product or with vendors and are therefore likely to collect more information to help them evaluate different elements in the purchasing situation such as the involved risks than those involved in a routine task. Experience contributes to the knowledge of customers as they learn from their negative and positive experiences with suppliers, products, brands etc. (Oliver and Winer, 1987). Experience is also not something that ends after the purchase, but continues as the aftersales services offered by the vendor can build credibility and can (continue to) create a positive purchasing experience. This experience is an important element in the purchasing process as it influences the decision of customers in several ways. First of all, customer experience might influence where in the purchasing process a potential customer starts. As the potential customer is already aware of the problem and does not have to investigate the matter in greater depth, he can immediately start in the information search phase.

It is perhaps possible to skip a few steps in the information search phase too as the customer might already have quite a bit of information. This is pointed out by Johnson and Russo (1984), who claim that there may be an inverted-U shaped relationship between consumer experience and the search activity of this consumer. Moorthy et al. (1997) state that this relationship has an inverted-U shape because if consumers have no experience, they are relatively unable to make fine distinctions and therefore perceive the offerings as homogeneous and thus have little incentive to search for more information. Consumers with an intermediate level of experience are able to make those finer distinctions and is aware of more attributes is likely to have partially differentiated brand perceptions and hence has a greater incentive to search for more information. Finally the group of consumers having a great deal of experience have only little uncertainty about the attribute values of individual brands, making them, even though they are able to make distinctions on a lot of attributes, less inclined to search for more information. This directly relates to brand awareness, which will be discussed at more length later in section 2.4.2. As a consumer becomes more experienced with a product (group), they are likely to have been involved in dealings with vendors of those products of at least be aware of some available vendors. This awareness of particular brands is important, as will be discussed later.

2.2 The purchasing process

This part will provide some insight into how (potential) customers come to a decision when buying a product. Is can be essential that a firm understands what stages a potential customer, in this case a firm, goes through in deciding which supplier to buy the products from that fulfil his needs. There are many models, some having more steps than others. Below the description of a model with detailed steps of the phases there are in this purchasing process will be given (Frichol, 2009). This model has been chosen as it is one of the more extensive models. It consists of a lot of steps, from the inactive person who is not even looking for a product all the way to the loyal customer who might provide extra sales for the firm via additional purchases. The steps are as followed:

1. Sidelines: Most prospects are not actively looking to buy products related to what you are selling but are side-lined.
2. Awareness: A prospective buyer becomes aware of a need for a product/service/solution you are selling, but has not identified the need for it yet.
3. Interest: The prospect has identified a problem or opportunity and continues by addressing and exploring the issue in greater depth.
4. Research: the prospect starts defining the requirements of the product and does active research along lists of possible solutions for their identified problem (or opportunity).
5. Consideration: Suitable solution sources are found and more detailed information is obtained. Comparisons are made to create a short list of potential solutions.
6. Decision: The list with potential solutions is evaluated and based on the requirements and the a choice is made.
7. Purchase: the purchase is made.
8. Implementing: the solution is getting installed and starts working for the customer.
9. Implemented: The solution is actively working for the customer.
10. Achievement: the customer starts realizing the benefits they obtained by the solution
11. Loyal customer: creating satisfied and loyal customers can have benefits such as additional purchases and referrals.



As shown in this representation, a customer can go from the decision phase back to the sidelines phase. If a potential customer decides not to buy a product this can be a possible result. The model also takes into account customer loyalty. Loyal customers can result in awareness among others via referrals or they themselves can be redirected back to the interest phase for additional purchases. Loyal customers can, according to the model, lead to additional purchases, which makes loyal current customers again potential customers via retention. This might indicate that a good customer relationship could be important in a B2B market. Customer loyalty, relationship and repurchases will be discussed later.

The steps described above show that after a company becomes aware of their need for a solution to their problem, they actively explore the issue in greater depth. These steps, as mentioned before, might (partially) be skipped in case of a great deal of customer experience. They might already be aware of the vendors that are active in the market or even be a loyal customer and have no real need to know which other vendors there are. They will need information about possible solutions. In the case of an experienced buyer but not a loyal customer they will also need to find information about the possible vendors that can deliver the product that solves their problem. The effect of customer experience on the purchasing process could be that it might cut the timespan. In these phases it is the job of the product providing company, to make sure they are found as an alternative vendor and provide their prospect with all the information they need to make a decision. As Newman (1977) found, search activity increases when the consumer believes that the purchase is important, as there is a need to learn more and he can easily obtain and utilize information. This is also supported by Punj and Staelin (1983) as they claim that “information search is a critical component of the purchasing decision process for most consumer durables”. As the purchases in the private market lie between 50.000 and 300.000 euros (Commercieel plan team oost, 2012) it could be considered a relatively important purchase, which would indicate that there is increased information search activity.

2.2.1 Decision making strategy and risk

In making a purchasing decision there are always risks involved. The importance of information about products to customers is explained by Bauer (1960) as he states there are four types of risk that a customer is exposed to. These four are:

- Physical risk. There is the risk of injury when a wrong product is bought.
- Financial risk. The product might not prove its value and be a waste of money.
- Functional risk. The product might not do the intended job.
- Psychosocial risk. The risk of being associated with a product, which could cause embarrassment.

It is important for a firm to make sure they provide proper information with a message of trustworthiness to reduce these types of risk. The financial risk has also been stressed by Begg et al. (2003). They recognise four basic elements that influence the consumers choice, of which three are price or budget related. A firm has to make sure their potential customer gets the feeling they will obtain a high quality product, that does the intended job well and has low risk of failing or causing injuries. According to Rosenberg (1960) it is important to provide convincing information. He claims that the strength of the attitude of customers towards a product can be measured by determining the degree to which a person believes that the product will perform and the importance to the customer that it should do so. There are many ways to do this and it is essential for a firm to keep in mind the perceived costs of the search for information. As Blythe (2006) argues, there are four types of perceived costs when searching for information, which are:

- Time: the time that is spent on finding the right supplier
- Psychological cost: frustration and stress of finding information
- Financial costs: the costs involved in obtaining information
- Incurring social obligations: sometimes information searches involve social obligations

All together this means that a firm needs to ensure a low risk for their (potential) customers and little perceived costs in finding information about their products, as this is a very important step in the purchasing process. These risks and costs might be lower in case of an experienced (potential) customer, who might already know which product he wants, knows the supplier(s) and already has most of the information required to make a decision. There are however always plenty of inexperienced (potential) customers and section 2.3 will go into more detail about how firms can reach their customers to deliver their message.

2.2.2Relationships with customers

As stated earlier, a good customer relationship can be important in a B2B market. The relationship with a customer is more important in a B2B market than in a B2C market because generally there are fewer customers, with often longer and more complex purchasing cycles and a higher overall value in a B2B market than in the B2C market (brennan et al. 2007). Losing a customer therefore means losing a bigger percentage of the turnover of the firm. The purchasing model also showed how the additional purchases influence the turnover. This shows the importance of relationships in doing business in a B2B market. As Reed (1999) discovered, 5% increase in customer retention can lead up to 25-100% increase in customer value via cross selling. Cross selling can be achieved via customer loyalty, which is considered important in future dealings with firms (Lam, Shankar, Erramilli & Murthy, 2010). Customer loyalty can be obtained by satisfying customers in such a way they do not expect to find a better product/service at a competitor and as service management literature argues, is the result of a customer's perception of value received. Value here equals the perceived quality relative to the price (Hallowell, 1996). Reichheld and Sasser (1990) in turn state that satisfied customers are likely to buy in greater volumes and more frequently and to purchase other goods and services offered by the firm. Finally, according to Matzler and Hinterhuber (1998) a firm with high customer satisfaction and loyalty should also have less costs in attracting new customers. It has become clear that the customer relationship helps in creating customer loyalty which can lead to business success.

Chaston et al. (2003) showed that firms that have a good relationship with their customers are more successful. This is also supported by De Boer, Labro and Morlacchi (2000), who argue that supplier relationship is one of the most important determinant for the sustainability of a certain decision method in a particular purchasing situation. Oederkerken-Schroeder et al. (2003) found that a good relationship with a customer could even be more important than the price of a product. As Morgan and Hunt (1994) argue, a good relationship depends on commitment and trust and it is therefore essential that a firm shows they are trustworthy and committed to do their utmost to satisfy the needs of their customers, both in communication and in acts. The importance of trust was already mentioned earlier as it can reduce the perceived risk.

A vendor in the private sector of the lighting industry might face the problem that they are probably not very important to their customers. In the public sector the products concern streetlight etc. which has priority to some degree, however in the private sector lighting probably is not very important as it is not a part of the main product of most firms. Looking at the Kraljic matrix (Kraljic, 1983) (see appendix C) lighting products might be a upper left corner, identified as "leverage items" for the public sector. But the lighting products could very well be identified as "non-critical items", the bottom left corner, for the private sector. This means that although relationships are important in B2B markets, it might be hard to build up a relationship with these customers as lighting is just not that important to them.

Even when a firm is not deemed important enough by their (potential) customers to build on a long term relationship, it is important to do everything they can to create a good relationship with their (potential) customers to hopefully create extra sales.

2.3 Customer needs and vendor selection

Customer needs are important to understand in order to be successful as a firm in meeting them and more importantly to this research, to be able to successfully communicate that your firm is able to provide that best solution. The questions that arise are whether there are differences between customer needs in different sectors? What are those differences? And why are these differences in customer needs important for firms?

Every customer has different needs, for example based on their budget or what they think the product needs to be able to do. The utility theory states that utility can be measured in terms of price. People are willing to pay different sums for different items, depending on how much they desire or want it (Marshall 1920). Therefore different objects can have different values to different people. Consumers spend their income so as to maximize the satisfaction they get from products or, as Bach et al (1987) and Whitehead (1996) state, people will try to get the best value for money, the so called "consumer surplus". Consumer surplus, they state, is the difference between the customer's valuation of the product and the price paid. Bowman and Ambrosini (2000) state that firms should differentiate their products in ways which are valued by the customer to create the highest possible consumer surplus. The consumer surplus can be increased by either enhancing the perceived value of products while keeping the price at the same level, lowering the price, or both. This research attempts to discover how the value proposition can be increased or in terms of the text above, how to increase the perceived surplus in the private sector of the lighting market. Bach et al. (1987) stated that most people spend their money on what they expect will give them the most satisfaction. This effectively means that customers will evaluate overall value based on the perception of the costs and what is received (Zeithaml, 1991). It is therefore important for firms to know how they can influence this perception of costs and benefits to be selected as vendor more often. In order to do so, they will have to know what is expected of the product or service that is provided. This is not always easy as is explained by the ServQual model of Zeithaml, Parasuraman and Berry (1985) which shows five gaps between expected and perceived services. Although this research looks at products and the model has been created for services, the first gap can be altered slightly to fit their situation. The first gap states that there might be a difference between the expected service and what the management of a firm perceives their (potential) customers expect. This gap can be translated to marketing terms. This would then mean that there is a discrepancy between what the management expects their customers expect to see in terms of information and what their customers actually expect. They might for example think their customers find all the information they need on their website and that they are mainly looking for quality and price information, whereas the actual situation is that (potential) customers are looking for information on social media or via mailings and are more interested in information about delivery. A full graphic representation of the Servqual model can be found in Appendix D.

The question remains what, other than price, is important in the selection of a vendor. According to Dickson (1966), there are 23 selection criteria in selecting a vendor. Amongst these selection criteria are the quality of a product, the delivery of the product in terms of delivery schedule, of course price and many more. The full list of these criteria and their explanation can be found in Appendix E. Some of these criteria, such as price, reliability and geographical presence have been mentioned by Zeithaml et al. (1991) as well. Zeithaml et al (1991) mention some other criteria too, such as the responsiveness of a firm, the competence and product offering. As can be seen in appendix E, not every criteria mentioned by Dickson (1966) is equally important. The analysis of several articles (Sevkli, Koh, Zaim, Demirbag & Tagoglu (2006), Narasimhan (1983), Weber et al. (1991), Dempsey (1978)) acknowledge what Dickson (1966) already claimed. Many of the attributes listed by Dickson (1966) are either not mentioned in other articles or the research showed that they were not deemed important by the purchasing department of customer firms. This research will therefore select nine attributes that were either mentioned most frequently in the articles and/or those that were noted as most important by the articles. In the article of Weber et al. (1991) the authors analysed 74 articles to see how many of the criteria of Dickson (1966) have been used in them and they found that some criteria have been mentioned a lot more than others. For example price was mentioned by 80 of the analyzed articles, whereas the desire for business was only mentioned by one of the analysed articles. The results of this analysis done by Weber et al. (1991) can be found in Appendix F. The result of this research has been discussed with the account managers of Ziut to create a market specific list with ten criteria. One criteria, (environmental) durability and MVO, has been added to that list based on the view of the account managers of Ziut as they claimed durability is becoming increasingly important. The list of attributes that will be used for this research and their explanation is presented below.

Criteria and their explanation:
1. **Price:** The net price (including discounts and freight charges) offered by each vendor.
2. **Delivery:** The ability of each vendor to meet specified delivery schedules.
3. **Quality:** The ability of each vendor to meet quality specifications consistently.
4. **Technical and innovation capability:** The technical capability (including research and development facilities) of each vendor.
5. **Performance history:** The performance history of each vendor.
6. **Geographic location:** The geographic location of each vendor.
7. **Repair service:** The repair service likely to be given by each vendor.
8. **Control systems:** The operational controls (including reporting, quality control, safety control and inventory control systems) of each vendor.
9. **(environmental) Durability and MVO:** Durability of products and pollution (use of energy, pollution during production etc.)
10. **Warranties and claim policies:** The warranties and claims policies of each vendor.

MVO stands for Maatschappelijk Verantwoord Ondernemen, which is the Dutch translation of Corporate Social Responsibility (CSR). According to MVOnederland (2012), firms that work based on MVO guidelines take responsibility for the effects of its activities on both humans and environment. The environment has been a hot topic for the past decades. Municipalities as well as firms should try to show that they are concerned with the environment and using the MVO guidelines is a way to do that. Offering products that helps them show that they care about their environment is therefore rather important in this market (Kok-Swartjes et al. 2012).

These criteria are likely to play an important role for (potential) customers of a firm in selecting their vendor. It could be argued that as these criteria are important to potential customers and as they can only make a decision if they have information about these criteria, it could be assumed they will look for information on these topics. This would mean that it is important to adopt information about these subject in the communication with potential customers to ensure they can make a decision. As the Servqual model mentioned earlier, there might be a gap between what management thinks customers want and what they actually want. There is a chance that customers with experience with a vendor are more focused on certain criteria than those that do not have experience. It is imaginable for example that a customer who has had previous dealings with a vendor who is specialized in quality products but has little focus on price values prices less than those who do not have any experience with such a vendor or have experience with a vendor that has a different focus.

The importance of this list lies in the decision potential customers need to make. There are two main factors involved in making a decision for a vendor. These are the product/service specifications and the specifications of the vendor. Both types of specifications need to match the customer needs in the best way possible in order to be chosen. The main questions that remain are what kind of information the potential customers need to make a decision and in which way they find that information.

As for the product specifications, it is difficult to generalize the customer needs as most products require a custom approach. For municipalities that are looking for street lights there are of course some standard plans available, but especially for the lighting of buildings, the requirements will be different for each building and therefore for each potential customer. However, the type of information they require to make a decision about which vendor to buy their product from, could very well be the same for each party and will be a topic of research here.

2.4 Reaching (potential) customers

The needs of customers and how potential customers choose their vendor have been discussed. Knowing what information is relevant to potential customers is interesting, but even more interesting to this research is how to make sure these potential customers obtain the right information about your firm as you can only provide the right information if the information is found. This part will be concerned with a variety of ways firms can reach customers and share information with them.

There are many marketing tools a firm can use to reach their customers and to make their search for information easier. Blythe (2006) listed several, such as:

- Print advertising: Newspapers, magazines, flyers, brochures etc.
- Broadcast advertising: Radio, television etc.
- Outdoor advertising: Billboards, posters etc.
- Transport advertising: Advertisements in trains, busses, on train stations etc.
- Internet advertising: Banners, popups, websites, mailings, e-letters, social media
- Cinema advertising: On-screen commercials etc.

The list presented above is mainly focused on presenting the message of the firm to the customer, but there are also more two way street forms of communication. Examples of these types of direct communication are direct mailing, telephone contact, personal meetings with (sales) personnel, presence on fairs etc. Research done by Epsilon (2006) showed that the website of a firm, the sales representative and B2B magazines were the most important media in the purchasing process. Sorce and Dewitz (2006) found that 86% of the executives reported reading B2B magazines monthly and 68% visited corporate websites and 77% attended a trade show. In the B2B market it therefore seems that print advertising, internet advertising and direct contact with (sales) representatives of the firm are the most important forms of communication with (potential) customers. This research will therefore focus mainly on these three forms of communication.

As Berthon, Ewing, Pitt and Naudé (2003) state, the web reduced time and effort and with that costs in the search for information. Customers today have the possibility to access product information at hardly any to no costs in terms of money or time, where in the past they would have to buy magazines or make an appointment with a knowledgeable person. The main question remains, how do the current customers of a firm find them or how do they find their customers? This might shed some light on which marketing tools to focus on. Perhaps even more interesting is whether there is a difference, between the way the current customers search for information and the way the potential customers search for information, and if so, what that difference is. By knowing this difference, it would be possible to bring more focus to their marketing efforts and perhaps be more successful in reaching potential customers in the private sector. The next part will focus more on the use of the three main forms of communication with (potential) customers as mentioned before.

2.4.1 Internet marketing, print advertising and direct contact

The internet is a medium with two applications, namely communication and transaction. The cost reductions associated with these two functions are considered the main added-value (Boyle and Alwit, 1999; Porter, 2001; De Boer et al., 2002). Communication is the part where this research focusses on and the use of internet and media will be explained in the following part.

As internet marketing is important and a new development, called social media, started a few years back, it may be useful to also explain this development a little more, especially considering that online media is the only media that is currently growing (Butow & Bollwit, 2010). Many academics have focused on search engine marketing and social media (Pauwels, Srinivasan, Rutz and Bucklin, 2012). The internet as a medium has evolved beyond a mere channel. It is now offering new and exciting opportunities for marketers to interact with customers on levels that were never possible before (Pauwels et al. 2012). Furthermore Joseph, Robert and Rajshekhar (2001) found that internet / web marketing became dominating on the business landscape. The State of Digital Marketing report (Webmarketing123, 2011) shows a research done among B2B and B2C marketers. The research looks at three different types of digital marketing. Search engine optimization, pay-per-click and social media. Search Engine Optimization (SEO) is described as the art, craft and science of driving web traffic to web sites (Davis, 2006). It helps firms get a top search engine placement for relevant keyword phrases. It does this by making the search engine believe that your site is more relevant than those of others (Buma, 2010). Another type is the pay-per-click (PPC) method. PPC has become a popular branch of internet advertising (Anupam, Mayer, Nissim, Pinkas & Reiter, 1999). It works as followed; the webmaster of the site running the program agrees to pay each referrer site for each user who clicks through the referrer to the target (Anupam et al., 1999). This could be done via banners, logos etc. Finally there is social media, which concerns websites where people can keep social contacts. Social can be private, for example a person’s family or close friends, but can also be about business contacts etc. This last type is relevant to firms as they can reach their (potential) business contacts via social media and keep them up to date or gain their interest.

As this research focusses on a B2B market, only the results of the B2B part of the research done by the State of Digital Marketing (2011) will be discussed. The results show that search engine optimization has the biggest impact on lead generation (57,4%), followed by pay-per click (24,8%) and social media (17,9%). This order is the same for budget allocation, as most marketers indicate SEO receives the highest budget. The most important objectives of these digital marketing programs is lead generation (46,5%) and the generation of sales (22%) and the success of these programs is measured by website traffic, lead generation, website click-through rate, sales and call-to action conversations. As social media is up and coming according to the literature, the results on that topic are perhaps interesting to mention too. Among the different types of social media, LinkedIn generates most leads, closely followed by Facebook and Twitter, which is not surprising considering the same marketers indicate that their brand is most active on Facebook (34,6%), twitter (25,6%) and LinkedIn (25,3%). A total of 60% of the marketers indicated they want to increase the amount of money spent on social media and only 4% indicated they are planning to decrease the amount of money spent on social media. A quite understandable approach as in total, 68% of the marketers have generated leads from at least one of the three social media platforms mentioned above and 55% of the marketers have actually closed a deal from social media leads. Although this research has been done in the United States, the finding that Facebook is most popular also stands in the Netherlands. Nownederland (2012a) found that Dutch employees spent 58 minutes on average per day on social media. This shows that social media is a powerful tool in digital marketing.

The research of Samaniego, Arranz and Cabezudo (2006) shows that web site consultation is the highest in the supplier search stage of the purchasing process. They also found that web site consultation and e-mail sending are the most used methods of acquiring information via the internet. As stated in the previous part, some methods are based on two way communication, where the customer actively interacts with the supplier and one way communication where the firm merely presents itself. Whereas the website is generally meant to provide information about the firm and its products, mailings and social media can be used to answer question that might arise from the information (potential) customers find. It must be noted that social media was not adopted in the research of Samaniego et al. (2006). This can be explained by the year of publication, where Facebook had no more than approximately 1% of their current amount of users, which currently is close to 1 billion (Wikipedia, 2012) and Twitter did not even exist yet. The previous parts show however that social media has become more important in this search process and is becoming increasingly important still. Ray et al. (2011) stated, there is a need to diversify the social media strategy to ensure that messages reach the appropriate audiences. As stated in section 2.1.1, trust is paramount in the relationship with customers and Brafton (2011) found that customers that trust a brand are more likely to engage with marketing efforts, meaning that a vendor must ensure they seem trustworthy in their marketing efforts. Besides trust it is good to show pictures of events the vendor participates in or of work in progress, finished projects etc. on their social media accounts (twitter, 2012b).

Print advertising consists of all offline written advertising or, in this case, communication. Examples are, as mentioned earlier, newspapers, magazines, flyers, brochures etc. In 2006, almost 25% of the marketing budget was spend on print advertising in the B2B market (Epsilon, 2006). In 2004 this was 47% (Stevenson, 2004). Internet advertising has definitely become a competitor of print marketing as the costs are lower. A famous quote from John Wanamaker (1992), department store owner in the early twentieth century on this matter was “Half the money I spend on advertising is wasted; the trouble is I don’t know which half”. The internet lowered the costs and therefore the wasted money. However, print marketing has not yet been outcompeted. Flyers can be handed out actively, where internet information cannot simply be handed out. Printed material can also be combined with the direct contact which will be discussed later as printed information is generally a large source of basic information and forms a reminder for (potential) customers at fairs etc. (Kok-Swartjes, 2012c). As Blythe (2007) describes, print advertising struggles to compete with the internet and plays less of a central role, but is still important, especially in educating members of particular industries about new technologies, products and developments. Although this might indicate a smaller role for printed advertisements in the future, Yi (1990) found indirect approaches can generate less unfavourable cognitive responses among the recipients of ads than direct approaches would have.

Direct contact is the third important form of communication with the (potential) customer. The sales representative is involved in 50 to 60% of the cases, depending on the phase of the purchasing process (Sorce and Dewitz, 2006). This means that the direct contact between the firm and its (potential) customer can have a major influence on the eventual decision of the (potential) customer. The (sales) representatives should be active in their response to requests from (potential) customers, as Zeithaml et al. (1991) already noted that responsiveness if one of the key aspects for a firm providing services. Direct contact can also be done actively via for example cold calls. In a cold call a potential customer is called out of the blue by a firm, offering them their product or telling them how they might be of service to the firm. Many vendors have a list of firms they believe to have projects and try to track down the person in charge to gain more information and promote the firm at the same time (Kok-Swartjes, 2012c). Fairs where firms with similar clientele are present are also a useful method to get into a dialogue with a (potential) customer (Kok-Swartjes, 2012c). According to Kok-Swartjes (2012c) there are a lot of fairs in the lighting industry, which have proven to be quite an effective method of reaching customers and get them interested. Kaplan & Haenlein (2010) recommend companies to communicate with their customers as friends on a conversational level. After they made the initial engagement, the trend is to rely on those customers to engage with their friends, who will do the same etc. This leads to word of mouth commercials for the company, which is, although seemly a prevalent choice tactic among inexperienced customers facing a new decision task (Hoyer & Brown, 1990), rather unimportant in B2B markets as most firms that could refer another party, are competitors and are therefore unlikely to help them (Kumar, Persen & Leone, 2007)

All these activities should contribute to being found as alternative and becoming incorporated in the purchasing process of the customer. Marketing efforts could increase brand awareness and that could potentially increase the search for information about that brand. If people are aware of the existence of a vendor or, in case of current customers, have much experience with a vendor that sells products they are looking for, it could be argued that they are more likely to search for information about that firm then when they haven’t heard of the firm. The next part will show how brand awareness influences the search for information.

2.4.2 Brand awareness

Marketing activities can increase the brand awareness, which in turn can increase the sales of a firm. This section will discuss the types of brand awareness and how communicating with customers can increase sales via brand awareness. The importance of brand awareness is described by Hoyer & Brown (1990) as they found that subjects who are aware of one brand tend to choose the known brand even when its products are of lower quality than other brand they have had the opportunity to sample. This finding also proves the power of marketing as purchasers can apparently be moved to buy an inferior product based on a good marketing process. According to Nedungadi and Hutchinson (1985) brand recall plays an important role in whether a product is even considered for purchase at all. This again shows that brand awareness has a major impact on sales. As brand awareness is influenced by marketing efforts, it seems important to explain briefly which types of brand awareness there are and how it can be created.

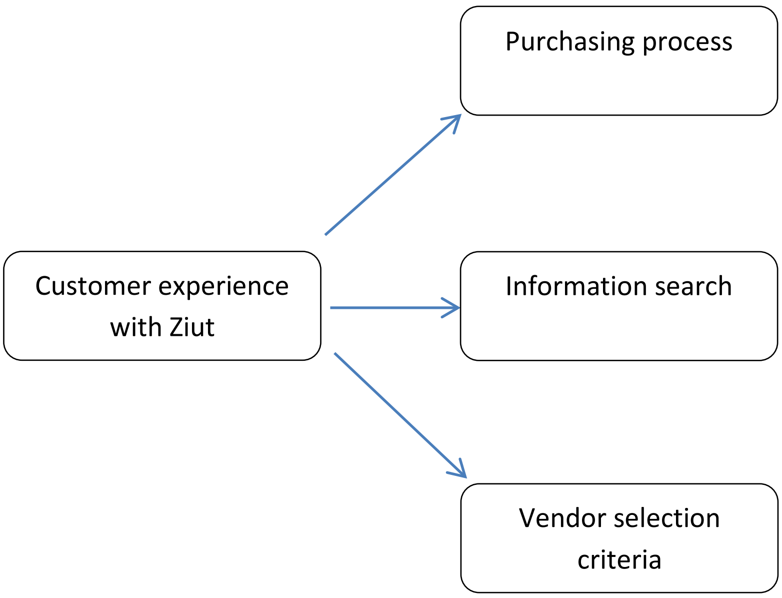
There are three types of brand awareness according to Laurent, Kapferer en Roussel (1995). These three are:

- Spontaneous awareness: Consumers are asked to name the brands they know, even if it is only by name. The spontaneous awareness of brand *X* is the percentage of respondents that indicate they know the brand.
- Top-of-mind awareness: The same question as with spontaneous awareness is used. The top-of mind awareness of brand *I* is the percentage of respondents who name brand *I* first.
- Aided awareness: A list of brand names are presented to the respondents. The aided awareness of brand *I* is the percentage of respondents that indicate they know the brand.

The first type is the most interesting for a firm as spontaneous brand awareness is, as Silk and Urban (1978) call it, a key variable in consumer behaviour, as a well-known brand is more likely to be considered for purchase. Top op mind awareness is important as brand *X* will be the first one they will approach or try to find information about. Aided awareness is the least important as people who are only familiar with a brand if they are aided, generally are less likely to purchase. When it comes to more experienced customers, it is likely that the vendors they have experience with are in the list of spontaneous awareness or at least top of mind awareness. The less experience a potential customer has with a vendor, the bigger the chance would be for that vendor to end up in the aided awareness category. Brand awareness and customer experience are connected with each other as customer experience creates brand awareness among those that have experience. They also both might increase the search activity about the known brands/vendors. All in all, brand awareness seems to help firms with their (potential) sales and in being found in the information search process and could therefore be considered an important goal of the marketing efforts.

2.5 Research framework

The previous chapters have shown the importance of the purchasing process, the information search within this process and the involved vendor selection criteria. Customers and potential customers in the private sector can search for information about vendors and their products in mainly three ways, printed sources, direct contact and internet based communication. There are several tools that are used in these categories, such as brochures, meetings and websites. Eventually (potential) customers will consider several criteria in selecting a vendor. The main question, as formulated in chapter 1 remains what the influence of customer experience is on all these elements. The image below shows an overview of the relationships that are being investigated in this research.



3. Methodology

This chapter is concerned with the used methodology and data analysis methods. In this research a choice has been made to use both qualitative and quantitative data. The qualitative data was mostly be obtained by means of interviews, whereas the quantitative data was obtained by means of a survey. This choice has been made as there are too many (potential) customers to interview and they might also not be inclined to participate to interviews as they have little to nothing to gain from an interview and it costs them quite a bit of time. For this reason a survey was developed to ensure a proper database for the analysis of the differences between the groups of (potential) customers and the account managers. How these interviews and surveys were conducted will be described below.

3.1 Interviews

The interviews that were held with the account managers of Ziut. They were used to find out more about the purchasing process in the specific market Ziut operates in. They should also shed some light on whether the ideas of the account managers at Ziut about what their potential customers look for in terms of information and how they look for that information is congruent with the reality.

One of the advantages of an interview is that there is that they can be more in-depth (Babbie, 2007). There are however, according to Babbie (2007), some things that have to be taken into account when interviewing somebody. The interviewer should for example dress similar to the people he is interviewing, he has to be familiar with the questions he is going to ask, he has to follow the question wording exactly and record the answers exactly. This is required to prevent gaps in the answers. If the interviewer leaves out certain parts of the answers, the data might automatically be biased. Therefore it is good to record the conversation. It is also important to ensure the questions are asked without implying the interviewee should answer in a certain way (Warren & Karner, 2005). Of course all these factors were taken into account to make sure the risk of bias etc. is minimized.

For these interviews, two structures were used. One part was semi-structured. A semi-structured interview is similar to a conversation, based on a set of topics to be discussed. The topics are predetermined, but there are no strict answers, so the interviewee is able to speak their mind without constraints of answer possibilities (Babbie, 2007). The structure of the interview is the same as the structure of this paper. First, the purchasing process was discussed in general to get more insight in what the purchasing process looks like in the lighting market. This was followed by questions concerning the currently used forms of communication and which they think should be used to (more) effectively reach customers. Finally, some questions were asked about elements found earlier in the literature described in section 2.2.1 and 2.5.2, such as customer relationships and brand awareness etc. Once the purchasing process was discussed, the account managers were asked to indicate which criteria mentioned in section 2.4 they think Ziut currently focusses on, which they think Ziut should be focussing on and whether they are happy with the performance of Ziut on these criteria. This questions were translated to Dutch to ensure every interviewee understood the questions. The list of topics is presented below:

Purchasing process and brand awareness (section 2.2 and 2.4.2)
Example questions to keep the conversation going:

Question (English)	**Question (Dutch)**
What does the sales process look like in the private sector? (general question)	Hoe ziet het verkoopproces in de private sector er uit? (algemene vraag)
Do you find the (potential) customer or does the (potential) customer find you?	Vindt uw bedrijf de (potentiële) klant, of vindt de (potentiële) klant uw bedrijf?
Are potential customers aware of your firm before you contact them?	Zijn de potentiële klanten bewust van uw bedrijf voordat u contact opneemt met ze?
Who is generally the contact person in your firm during a sales process? (position)	Wie is doorgaans het contactpersoon in uw bedrijf tijdens het verkoopproces? (positie)
What does the relationship with the customer look like? (frequency of contact/meetings etc.)	Hoe ziet de relatie met de klant er uit? (frequentie van contact/ontmoetingen etc.)
How often is there (personal) contact with the potential customer before the first sale?	Hoe vaak is er (persoonlijk) contact met de klant voor de eerste verkoop?
How much time does the average sales process take from first contact to first sale?	Hoeveel tijd kost het gemiddelde verkoopproces van eerste contact tot eerste verkoop?
How much time does the average sales process take for a current customer?	Hoeveel tijd kost het gemiddelde verkoopproces van een huidige klant?
How often is a customer satisfaction research conducted?	Hoe vaak word een klanttevredenheidsonderzoek uitgevoerd?

Communication with the (potential) customer (section 2.4)

Question (English)	**Question (Dutch)**
What are the most used media to communicate with customers during the sales process?	Wat zijn de meest gebruikte media om met klanten te communiceren tijdens het verkoopproces?
What should be the most used media to communicate with customers during the sales process in your opinion?	Wat zouden volgens u de meest gebruikte media moeten zijn in de communicatie met klanten tijdens het verkoopproces?
What are the currently used media for advertisements by Ziut?	Wat zijn de gebruikte media voor adverteren?
What should in your opinion be the used media for advertisements by Ziut?	Wat zouden volgens u de meest gebruikte media voor adverteren moeten zijn?
What type of information is currently presented in the advertisements of Ziut? (price/delivery/quality/technical and innovation capability/performance history/geographic location/repair services offered/used control systems/(environmental)durability and	Wat voor type informatie word er momenteel voornamelijk weergegeven in advertenties van Ziut? (prijs/levertijd/kwaliteit/technische en innovatieve capaciteiten/ prestatiegeschiedenis/geografische locatie/aangeboden reparatiediensten/

MVO/warranties and claim policies)	gebruikte controle systemen/duurzaamheid en MVO/garantiebeleid)
What type of information should, in your opinion, be presented in the advertisements of Ziut.	Wat voor type informatie zou er, volgens u, weergegeven moeten worden in advertenties van Ziut?

Selection criteria (section 2.3)

Question (English)	**Question (Dutch)**
Could you indicate with an X on which of the following criteria Ziut focusses in the private sector, which criteria you think Ziut should be focussing on, if you are happy with the performance of that criteria and whether you think the performance of a certain criteria should improve?	Zou u met een X aan kunnen geven welke van de volgende criteria Ziut momenteel op focust, welke criteria Ziut volgens u op zou moeten focussen, over welke criteria u tevreden bent met de prestaties en op welk vlak de prestatie zou kunnen verbeteren?

Criteria	Current focus of Ziut	Should be focused (more?)	Happy with Ziut's performance	Performance should improve
Price				
Delivery				
Quality				
Tech and innovation capabilities				
Performance history				
Geographic location				
Repair service offered				
Used control systems				
Durability and MVO				
Warranties and claim policies				

At the end of the interview the account managers were asked to fill in the following questions as to what they think their (potential) customers want. This was done on a seven point Likert scale, which will be explained in the section about the survey.

Subject (section)	***Question (English)***	***Question (Dutch)***
Information search (2.4) (7-point Likert)	Our (potential) customers find information about vendors of *lighting products* generally via: - *Printed sources* - *Internet* - *Direct forms of communication* - Other, namely:	Onze (potentiële) klanten vinden informatie over leveranciers van *verlichtingsproducten* doorgaans via: - *Geprinte informatiebronnen* - *Internet* - *Directe vormen van communicatie* - Anders, namelijk:
Information search (2.4) (7-point Likert)	Our (potential) customers find information about vendors of *lighting products* generally via: - Newspapers - Magazines - Flyers - Brochures - Other, namely:	Onze (potentiële) klanten vinden informatie over leveranciers van *verlichtingsproducten* doorgaans via: - Kranten - Bladen - Flyers - Brochures - Anders, namelijk:
Information search (2.4) (7-point Likert)	Our (potential) customers find information about vendors of *lighting products* generally via: - *Banners* - *Popups* - *Websites* - *Mailings* - *E-letters* - *Social media* - *Search engines* - Other, namely:	Onze (potentiële) klanten vinden informatie over leveranciers van *verlichtingsproducten* doorgaans via: - *Banners* - *Popups* - *Websites* - *Mailings* - *E-letters* - *Sociale media* - *Zoekmachines* - Anders, namelijk:
Information search (2.4) (7-point Likert)	Our (potential) customers find information about vendors of *lighting products* generally via: - *Direct mailing* - *Telephonic contact* - *Personal meetings* - *Fairs* - Other, namely:	Onze (potentiële) klanten vinden informatie over leveranciers van *verlichtingsproducten* doorgaans via: - *Direct mailcontact* - *Telefonisch contact* - *Persoonlijke ontmoetingen* - *Beurzen* - Anders, namelijk:
Vendor selection	In the search for information	In de zoektocht naar informatie

(2.3) (multi option question)	about vendors of *lighting products* and their products the (potential) customer searches for information about: - *Price of the product* - *Delivery (ability to meet delivery schedules)* - *The ability of the vendor to meet quality specifications* - *Technical and innovation capabilities of the vendor* - *Performance history of the vendor* - *Geographic location* - *Repair services offered* - *Used operating controls (quality control, inventory control etc.)* - *(environmental) Durability and MVO* - *Warranties offered* - Other, namely:	over leveranciers van *verlichtingsproducten* en hun producten zoekt de (potentiële) klant naar informatie over: - *Prijs van het product* - *Levering (vermogen om te voldoen aan leveringsschema's)* - *Het vermogen van de leverancier aan kwaliteitsspecificaties te voldoen* - *Technische en innovatieve capaciteiten van de leverancier* - *Prestatiegeschiedenis van de leverancier* - *Geografische locatie* - *Aangeboden reparatiediensten* - *Gebruikte operationele controles (kwaliteitscontrole, voorraadcontrole etc.)* - *Duurzaamheid en MVO* - *Aangeboden garantieregeling* - Anders, namelijk:
Vendor selection (2.3) (7-point Likert)	Could you indicate how you expect the (potential) customers weight the following items in their decision where to buy the required *lighting products*? - *Price of the product* - *Delivery (ability to meet delivery schedules)* - *The ability of the vendor to meet quality specifications* - *Technical and innovation capabilities of the vendor* - *Performance history of the vendor* - *Geographic location* - *Repair services offered*	Kunt u aangeven welk gewicht u verwacht dat (potentiële) klanten aan de volgende items geven in hun beslissing waar de benodigde *verlichtingsproducten* aan te schaffen? - *Prijs van het product* - *Levering (vermogen om te voldoen aan leveringsschema's)* - *Het vermogen van de leverancier aan kwaliteitsspecificaties te voldoen* - *Technische en innovatieve capaciteiten van de leverancier* - *Prestatiegeschiedenis van de leverancier*

	- *Used operating controls (quality control, inventory control etc.)* - *(environmental) Durability and MVO* - *Warranties offered* - Other, namely:	- *Geografische locatie* - *Aangeboden reparatiediensten* - *Gebruikte operationele controles (kwaliteitscontrole, voorraadcontrole etc.)* - *Duurzaamheid en MVO* - *Aangeboden garantieregeling* - Anders, namelijk:
Relationship (2.2.2)	What do think the (potential) customer expects from the relationship between you and your vendor? (e.g. discounts, innovations, trustworthiness, information sharing etc.)	Wat verwacht u van de relatie tussen u en uw leverancier? (bv. kortingen, innovaties, vertrouwen, informatie delen etc.)
Relationship (2.2.2) (7-point Likert)	When it comes to lighting products, the relationship with my vendor is an important element in the consideration of repurchasing from the same vendor.	Als het gaat om verlichtingsproducten is de relatie met mijn leverancier een belangrijk element in de overweging opnieuw in te kopen bij dezelfde leverancier.

This should provide a list media deemed important in communicating with customers. It should also indicate what the account managers of Ziut think Ziut should be focussing on to meet their (potential) customer's needs. This list was used to compare the expectancy of the managers with what the (potential) customers actually deem important. Together this information helps answering the three sub questions leading up to the main research question.

3.2 Survey method

Due to the large sample size it is impossible to interview every (potential) customer available in the selected segments within a reasonable amount of time. This combined with the fact it is more difficult to get an appointment with a potential customer for an interview than having them fill in a survey, makes the survey method a more suitable method than interviews. As Babbie (2007) stated, surveys are the probably the best method available to the social researcher who is interested in collecting original data from a population that is too large to observe directly. In this case an electronic survey was used as they provide a way of conducting studies when it is impractical or unfeasible to access certain populations, which is the case (Couper, 2000; Sheehan & Hoy, 1999; Weible & Wallace, 1998). As stated by Lazar and Preece (1999), electronic surveys are increasingly common. The results of these electronic surveys can me the same as postal survey results, with the advantage of quicker distribution and shorter response cycles (Slaughter, Norman, & Schneiderman, 1995; Taylor, 2000; Yun & Trumbo, 2000). As Fox et al. (2001) and Nie et al. (2002) claim, more and more segments of society are using the internet for communication and information. According to Nownederland (2012b,c) 94% of the Dutch population has an e-mail address and the same percentage uses internet daily. The group of people without an e-mail address consists of generally the elder, the younger and the lower educated. These groups are not likely to be potential respondents in this research and therefore there is almost no threat of excluding people. This makes the internet today a proper medium to use for the distribution of a survey. Nownederland (2012d) shows that 70% of the employees between 25 and 45 uses internet, while only 50% of the employees between the age of 45 and 65 uses internet. This perhaps has an influence on how they search for information, which is important for this research. Therefore the age was asked in the survey.

There is a table drawn up by Andrews, Nonnecke and Preece (2003) in which all the requirements for a good electronic survey are listed. This table can be found in Appendix G. Of course all of the requirements were met in the formulation of the survey used for this research. The questionnaire will contain a list of mainly closed questions, some of which have an option to provide a deviating answer (open ended), meaning that they are asked to answer for example yes or no but have the option to choose “other” and explain.

Questionnaires bring the risk of double-barreled questions and unclear questions (Babbie, 2007). Unclear questions should be avoided as they generally do not providing enough information (Babbie, 2007). These risks and more were countered by pretesting. To ensure the survey is well constructed, it was tested by a group of 10 people with different ages, educational levels etc. As Collins (2003) stated, pretesting enables a person to establish whether respondents understand the questions, consistently, according to what the researcher intended. The survey was adjusted if required, based on the feedback the pretesting session provides.

It was first explained to the participant why this survey is being held, in what kind of branch Ziut operates and what kind of products they sell. The participants were then be asked to try to remember their last purchase of such products when answering the questions. In the first question participants were asked to state in which branch their firm operates. This is both to see the response rate per branch, but also to see if there are any major differences between the branches Ziut focusses on. The participant were asked to give some information about the purchasing process, such as a timeframe, the amount of vendors that were evaluated etc. To keep the size of the survey acceptable not everything can be asked. This is done as Sahlqvist et al. (2011) found that shortening a relatively lengthy survey increases the response rate significantly. The (potential) customer were then be asked to indicate which forms of communication, found in the literature mentioned in section 2.5, he used most in the purchasing process and which of the in section 2.5 mentioned media in specific he used most to gain information about vendors and their products. Finally they were be asked to indicate which of the selection criteria mentioned in section 2.4 they think are most important in making their decision which vendor to buy their products from. This was done using a seven point Likert scale, recommended by Babbie (2007). The Likert scale was developed by Likert, Roslow and Murphy in 1934 and according to Ogden and Lo (2011), much quantitative research within psychology relies upon the use of Likert scales, which has emerged as the dominant measurement tool. This is due to the fact that the traditional analysis of mean scores is intuitively meaningful (Spector, 1980), it is easy to administer, quantify and code (Spector, 1992) and that the mean scores allow for parametric statistical tests (Camparo and Camparo (2012). The advantage compared to a 5 point Likert scale is that more variation in data is obtained as more nuance is available for the participants. This has an effect on the amount of middle answers and extreme answers because it allows respondents with a rather strong opinion to voice a more nuanced position and the extreme answers that are given become more meaningful (Hanzig et al.) Finally there were some general questions about the participant to potentially find differences between males and females, age and work experience in this regard. The function of the employee filling in the survey might give an indication who is responsible for projects concerning light in the private sector. To ensure every participant understands the questions, they were translated to Dutch, as can be seen in the table below. Definitions of the italic concepts, such as quality or delivery, were provided to the participants to ensure there is no confusion about the meaning of them. These definitions are be the same as those mentioned in chapter 2 and in appendix E.

Subject (section)	***Question (English)***	***Question (Dutch)***
Branch identification (1)	In which branch would you say your firm operates? (9 options)	Kunt u aangeven in welke branche uw bedrijf opereert? (9 opties)
Purchasing process (2.2)	Has your firm purchased a *lighting product* in the past two years?	Heeft uw bedrijf in de laatste twee jaar een *verlichtingsproduct* aangeschaft?
Purchasing process (2.2)	Who is responsible for purchasing *of lighting products* in your firm? (position(s))	Wie is/zijn er verantwoordelijk voor inkoop van *verlichtingsproducten* binnen uw bedrijf? (positie(s))
Purchasing process/ Vendor selection (2.2 / 2.3)	Who is responsible for making the final decision in the purchasing process in your firm? (position(s))	Wie is/zijn er verantwoordelijk voor de uiteindelijke beslissing in het inkoopproces binnen uw bedrijf? (positie(s))
Purchasing process (2.2)	How much time passed between feeling the need for a *lighting product* and the actual purchase the product last time your firm bought a lighting product? (in weeks)	Hoeveel tijd zat er de laatste keer dat uw bedrijf een *verlichtingsproduct* aanschafte tussen het ervaren van de behoefte aan een verlichtingsproduct en de daadwerkelijk aankoop? (in weken)
Purchasing process	Who is responsible for the	Wie is er verantwoordelijk voor het

(2.2)	gathering of information about vendors of *lighting products* and their products? (position)	vergaren van informatie over leveranciers van *verlichtingsproducten* en hun producten? (positie)
Information search (2.4)	How much time did the information search process take? (in weeks)	Hoe lang heeft het informatie zoekproces geduurd? (in weken)
Information search (2.4) (7-point Likert except other)	Information about vendors of *lighting products* is generally found via: - *Printed sources* - *Internet* - *Direct forms of communication* - Other, namely:	Informatie over leveranciers van *verlichtingsproducten* vind ik doorgaans via: - *Geprinte informatiebronnen* - *Internet* - *Directe vormen van communicatie* - Anders, namelijk:
Information search (2.4) (7-point Likert except other)	Information about vendors of *lighting products* is generally found via: - Newspapers - Magazines - Flyers - Brochures - Other, namely:	Informatie over leveranciers van *verlichtingsproducten* vind ik doorgaans via: - Kranten - Bladen - Flyers - Brochures - Anders, namelijk:
Information search (2.4) (7-point Likert except other)	Information about vendors of *lighting products* is generally found via: - *Banners* - *Popups* - *Websites of the vendors* - *Mailings* - *E-letters* - *Social media* - *Search engines* - Other, namely:	Informatie over leveranciers van *verlichtingsproducten* vind ik doorgaans via: - *Banners* - *Popups* - *Websites van de leverancier* - *Mailings* - *E-letters* - *Sociale media* - *Zoekmachines* - Anders, namelijk:
Information search (2.4) (7-point Likert except other)	Information about vendors of *lighting products* is generally found via: - *Direct mailing* - *Telephonic contact* - *Personal meetings* - *Fairs* - Other, namely:	Informatie over leveranciers van *verlichtingsproducten* vind ik doorgaans via: - *Direct mailcontact* - *Telefonisch contact* - *Persoonlijke ontmoetingen* - *Beurzen* - Anders, namelijk:
Vendor selection (2.3) (multi option question)	In my search for information about vendors of *lighting products* and their products I search for information about:	In mijn zoektocht naar informatie over leveranciers van *verlichtingsproducten* en hun producten zoek ik naar informatie

	- *Price of the product* - *Delivery (ability to meet delivery schedules)* - *The ability of the vendor to meet quality specifications* - *Technical and innovation capabilities of the vendor* - *Performance history of the vendor* - *Geographic location* - *Repair services offered* - *Used operating controls (quality control, inventory control etc.)* - *(environmental) Durability and MVO* - *Warranties offered* - Other, namely:	over: - *Prijs van het product* - *Levering (vermogen om te voldoen aan leveringsschema's)* - *Het vermogen van de leverancier aan kwaliteitsspecificaties te voldoen* - *Technische en innovatieve capaciteiten van de leverancier* - *Prestatiegeschiedenis van de leverancier* - *Geografische locatie* - *Aangeboden reparatiediensten* - *Gebruikte operationele controles (kwaliteitscontrole, voorraadcontrole etc.)* - *Duurzaamheid en MVO* - *Aangeboden garantieregeling* - Anders, namelijk:
Vendor selection (2.3) (7-point Likert except other)	Could you indicate the weight of the following items in your decision where to buy the required *lighting products*? - *Price of the product* - *Delivery (ability to meet delivery schedules)* - *The ability of the vendor to meet quality specifications* - *Technical and innovation capabilities of the vendor* - *Performance history of the vendor* - *Geographic location* - *Repair services offered* - *Used operating controls (quality control, inventory control etc.)* - *(environmental) Durability and MVO*	Kunt u aangeven hoe zwaar de volgende items mee wegen in uw beslissing waar uw *verlichtingsproducten* aan te schaffen? - *Prijs van het product* - *Levering (vermogen om te voldoen aan leveringsschema's)* - *Het vermogen van de leverancier aan kwaliteitsspecificaties te voldoen* - *Technische en innovatieve capaciteiten van de leverancier* - *Prestatiegeschiedenis van de leverancier* - *Geografische locatie* - *Aangeboden reparatiediensten* - *Gebruikte operationele controles (kwaliteitscontrole, voorraadcontrole etc.)*

	- *Warranties offered* - Other, namely:	- *Duurzaamheid en MVO* - *Aangeboden garantieregeling* - Anders, namelijk:
Purchasing process / vendor selection (2.2/2.3)	How many vendors of *lighting products* have you compared before making a decision where to buy your products last time your firm bought a lighting product?	Hoeveel leveranciers van *verlichtingsproducten* heeft u vergeleken bij uw vorige aankoop van een *verlichtingsproduct* voordat u een keuze maakte bij wie het product aan te schaffen?
Information search / Relationship (2.4 / 2.2.2)	Last time, how many times has there been *personal* contact with your current vendor of *lighting products* in the period between feeling the need for a lighting product and the actual purchase?	Hoeveel keer is er bij uw vorige aankoop *persoonlijk* contact geweest met uw huidige leverancier in de periode tussen het ervaren van de behoefte aan een *verlichtingsproduct* en de daadwerkelijke aankoop?
Relationship (2.2.2) (7-point Likert)	When it comes to lighting products, the relationship with my vendor is an important element in the consideration of repurchasing from the same vendor.	Als het gaat om verlichtingsproducten is de relatie met mijn leverancier een belangrijk element in de overweging opnieuw in te kopen bij dezelfde leverancier.
Experience / brand awareness (2.1 / 2.4.2)	Were you, before this survey, familiar with the firm Ziut?	Was u, voor deze enquête, bekend met het bedrijf Ziut?
Participant characteristics	What is your gender?	Wat is uw geslacht?
Participant characteristics	What is your age?	Wat is uw leeftijd?
Participant characteristics	What is your function in the company?	Wat is uw functie binnen het bedrijf?
Participant characteristics	How many years do you work in your current position?	Hoeveel jaar werkt u in uw huidige positie?
Participant characteristics	Would it be ok if Ziut were to contact you based on the results of this survey?	Zou Ziut contact met u op mogen nemen op basis van de resultaten van deze survey?
Participant characteristics (optional)	What is your firms name?	Wat is de naam van uw bedrijf?
Participant characteristics (optional)	What is the address of the firm?	Wat is het adres van het bedrijf?
Participant characteristics (optional)	In which city is your firm located?	Wat is de vestigingsplaats van het bedrijf?

This should provide a list of most used media and show which criteria are most important in the decision where to buy the products they need which should answer the last two sub questions.

Sampling

Finally there is the question how to select participants. As the group of current customers is too large to interview, the survey method was used. The potential customers were divided by branch and those that Ziut targets were included in this research. The Kamer van Koophandel (the Dutch Chamber of Commerce) registers firms per category using SBI codes. This system provides an easy way to find potential customers in the selected segments. As one of the requirements for a market is profitability and the list of firms is too long to send every firm the survey, the larger firms were contacted first as they are more likely to provide high turnover projects.

A selection was made based on the size of the firm. This was done as not every firm in the selected branches is large enough to be attractive. The size of firms was determined in terms of amount of employees. All firms in Holland must be registered at the Kamer van Koophandel and therefore their database was used to select the firms. A second criterion was added, which is that the firm must be economically active.

To ensure generalizability, the required sample size was calculated. There are many different formulas to calculate the required sample size, one of which indicated 119 would be enough, and several indicating 143 would be enough. To be safe, this research aimed to get at least the 143 required according to the formula presented in appendix H. As the response rate has to be taken into account in this, the selected sample size must be significantly larger (Salkind, 1997). According to Bondarouk (2011), Kaplowitz et al. (2004), Kim Sheehan (2001) and Dey (1997) the expected response rate is between 20% and 25%. Although there are researches that found lower responses, such as two researches of Porter and Whitcomb (2003), which resulted in a response rate of only around 14% for their e-mail surveys, most articles find a higher response rate. Some articles show however, such as the article of Hikmet and Chen, find that a response rate of 6,2% or 8,5% is not uncommon either. To ensure generalizability, a response rate of 6% was assumed, which means approximately 2400 firms were approached to participate in the survey.

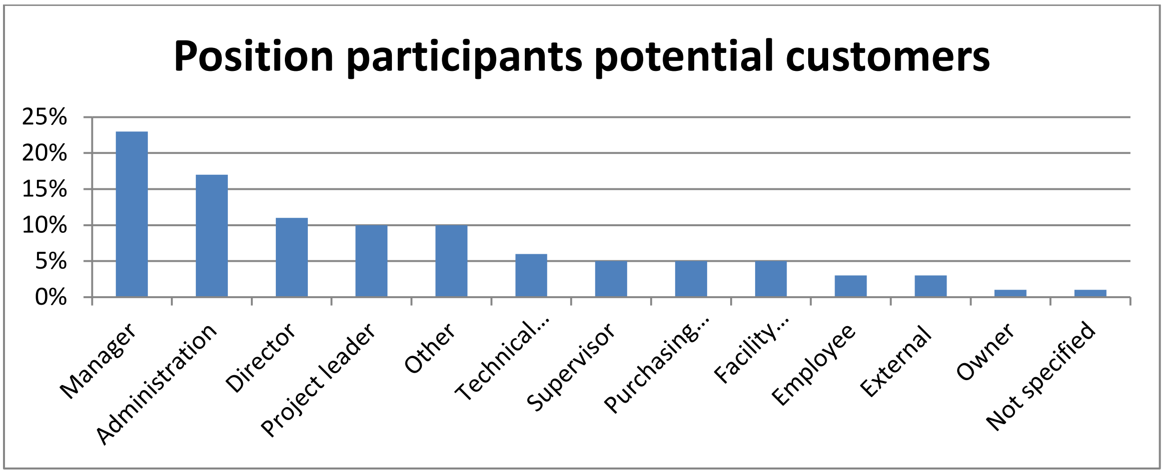
The largest 272 firms were selected branch and approached to participate in the survey. This method provided a full list of the population of larger firms in the selected branches (waste collection, treatment and disposal activities; materials recovery, construction of buildings and development of building projects, civil engineering, specialized construction activities, warehousing and support activities for transportation, accommodation, renting and buying and selling of real estate, human health activities, sports and recreation). As there are nine branches selected, this resulted in a list of 2448 firms.

The current customers were adopted in this research too as they are potential customers as well. As there are not too many current customers in the branches that are focused, all of them were approached. The results of the three groups can be compared with each other. How the analysis of the results was done, will be explained in the next section.

The final sample of potential customers looked as followed:

N completed	Response rate	Reminders sent
146	5,96%	3

A total of 146 participants completed the survey. The average age of the participants was 47 years, of which 80% was male and 20% female. The participants has been working 10,3 years on average in his current function and 58% of the firms had purchased a lighting product in the last 2 years and only 15,8% was familiar with Ziut before this survey. Below the position held by the participants is shown.



Per branch the respondents were distributed as followed:

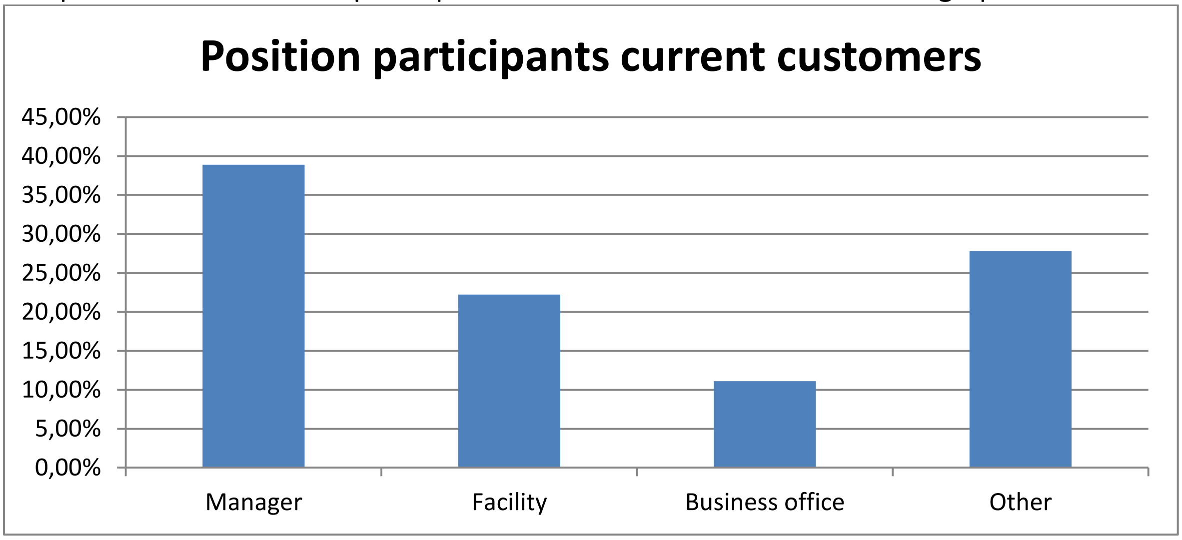
Branch	***N completed***
Waste collection	19
Construction of buildings	18
Civil engineering	12
Specialized construction activities	7
Warehousing	9
Accommodation	12
Real estate	14
Human health activities	30
Sports and recreation	25

The sample of current customers looked as followed:

N completed	Response rate	Reminders sent
25	5,23%	1

A total of 64 people participated in the survey, of which 25 completed the survey. The other 39 respondents started the survey, but did not complete it. The average age of the participants was 46,7 years, of which 92,3% was male and 7,7% female. The participant has been working 9,47 years on average in his current function and 55,35% of the firms had purchased a lighting product in the last 2 years. Below the position held by the participants is shown.

The position the customer participants hold in the firms is shown in the graph below.



3.3 Method of analysis

There are several methods that could potentially help in the answering of the questions formulated above which contribute to the research questions. A ranking of these media and selection criteria is important as it helps a firm to focus their marketing on the most important ones. A ranking can be computed based on the average scores of the items (Roselius, 1971). Rankings are often used in research (Alwin and Krosnick, 1985). They can show which of the criteria mentioned in the literature are generally most important in the decision of (potential) customers where to buy their products. It will also show which media are used most in the search for information about vendors and the products they offer.

3.3.1 One way ANOVA

The difference between the answers of the three groups based on experience will be analysed by means of a one way ANOVA test using SPSS in the next chapter. The same will be done when comparing the three groups with the answers given by the account managers. This shows for different aspects of the purchasing process, each marketing tool and for each type of information whether there is a difference between the groups. The ANOVA test will be able to answer this question through the use of variance (Babbie, 2007).The variance of a distribution, in this case for example the importance of price related information is a measurement of the extent to which a set of values are clustered close to the mean or range high and low away from it. The ANOVA test determines whether the difference between the groups is significant (Moore & McCabe, 2008) or produced by variations produced by random sampling error (Babbie, 2007). In the first case, there might be cause to differentiate in marketing efforts between the groups, in the latter case the difference might not actually exist, meaning differentiating would not be necessary or even desirable. In practice this means that the group of respondents that are currently customer of Ziut are compared with the group of respondents containing potential customers with and without experience with Ziut. This shows whether there is a difference in the purchasing process in general, how they find information and what kind of information they would like to find in their search for information about the supplier and its products.

3.3.2 Independent samples t-test

After a full priority ranking is formulated it is interesting to find out whether there is a difference between those participants that dropped out halfway through the survey and those that completed the survey. This is done to ensure there are no significant differences between those that were effectively reached and those that were not. This difference will be analysed by means of an independent samples t-test, using SPSS, in the next chapter. As mentioned in the article of Bridge and Sawilowsky (1999) this method is the most prevalent statistic used in medicine, psychology and education research. This shows for the purchasing process in general, for each marketing tool and for each type of information whether there is a difference between the two groups.

4. Analysis

This chapter will discuss the results from the survey and makes a comparison between the three groups based on experience with Ziut. Afterwards it is tested whether the account managers of Ziut have the right expectancy of the market they intend to operate and grow in. A comparison is also made between the different segments and it is tested whether the position of the participant makes any difference in the answers provided by them. Finally it is checked whether dropouts provided similar or different answers than those participants who did complete the survey. The significance level that was used for the analysis of the results was 5% as this is the standard significance level (Lehmann, 1958, Maas & Hox, 2005) and generally used for these types of analysis (Rice, 1988).

4.1 Results and comparisons

4.1.1 Purchasing process

The following table presents the main characteristics of the purchasing process of the lighting industry. It also differentiates between the three groups that were created based on the amount of experience with Ziut.

Characteristics purchasing process

Groups / ***Subjects***	***Total sample***	***Current customers***	***Potential customers with experience***	***Potential customers without experience***
Time between need and purchase (weeks)	5,99	9,48	6,56	5,17
Information search time (weeks)	3,28	6,80 (p =,005)	2,51	2,70
Vendors compared	2,53	2,88	2,41	2,48
Times contact before purchase	2,14	3,24	2,09	1,92

It can be concluded from this table that current customers take significantly more time to find information than potential customers with or without experience with Ziut. Although the rest of the differences are not statistically significant, it clearly shows that current customers spend more time than the other groups on the purchasing process as a whole, compare more vendors than the average and have more contact with the vendor before they purchase products.

The table below shows who is responsible for purchasing lighting products and who makes the final decision in the purchasing process.

<u>Responsible for purchasing</u> ***<u>Makes final decision</u>***

Category	*Percentage*	*Category*	*Percentage*
Manager	37,34%	Manager	36,86%
Purchasing department	24,87%	Director	19,51%
Director	7,87%	Purchasing department	15,44%
Technical department	5,98%	Business office	9,69%
Business office	5,53%	Facility department	2,92%
Facility department	3,41%	Owner	2,38%
Calculator	2,33%	Technical department	2,38%
Owner	2,31%	Calculator	2,08%
External	0,85%	External	0,90%
Municipality	0,85%	Nobody	0,62%
Material department	0,83%	Municipality	0,60%
Nobody	0,72%	Material department	0,53%
Advisor	0,25%	Project team	0,24%
Municipality	0,25%	Municipality	0,24%
Other	5,38%	*Other*	4,21%
Not specified	1,22%	Not specified	1,42%

It can be seen from this table that directors are generally not as often in charge of the purchasing process when it comes to lighting products as they make the final decision. The purchasing department is generally responsible for the purchasing of lighting products, but frequently does not have the authority to actually make the final decision where to buy the required lighting products.

The survey found that information is generally sought by:

- The purchasing department (16,06%)
- The project leader (13,95%)
- The technical department (13,63%)
- The manager (10,91%) or
- The director (9,99%)

4.1.2 Information search

For the analysis of the ranking questions SPSS has been used to do a one way ANOVA test to find out whether certain aspects were more important than other aspects. This test has been done for the three groups that were identified in the sampling section, which are the current customers, potential customers with previous experience with Ziut and potential customers who not yet have any experience with Ziut. Appendix I and the table below show the results of the ANOVA for the three main categories of communication/information and their mean value.

Mean scores given to different forms of communication

Scores on a 1-7 scale / *Item*	***Total sample***	***Current customers***	***Potential customers with experience with Ziut***	***Potential customers without experience with Ziut***
Internet	5,09	5,12	5,26	5,06
Direct forms of Communication	3,80	4,28	3,91	3,68
Printed sources	2,65	3,04	3,13	2,49

No significant differences were found among the three groups. Direct forms of communication do seem to be more used as the experience of (potential) customers increases.

The following table presents the results for *printed sources of information*. The results of the one way ANOVA done to compare the items for the three groups that were created based on whether they have experience with Ziut can be found below and in appendix I.

Mean scores given to printed sources of information

Scores on a 1-7 scale / *Item*	***Total sample***	***Current customers***	***Potential customers with experience with Ziut***	***Potential customers without experience with Ziut***
Brochures	3,01	3,04	3,04	2,99
Magazines	2,55	2,48	2,96	2,49
Flyers	2,04	2,32	2,00	1,99
Newspapers	1,31	1,44	1,61	1,23

No significant differences were found between the three groups.

The results below answer the question which type of *internet based information sources* are used most. It also compares these results for the three different groups that were created based on whether they have experience with Ziut. The results of the one way ANOVA can be found in appendix I.

Mean scores given to internet based sources of information

Scores on a 1-7 scale / *Item*	***Total sample***	***Current customers***	***Potential customers with experience***	***Potential customers without experience***
Website vendor	4,37	4,68	4,43	4,30
Search engines	4,10	4,60	3,57	4,10
Mailings	2,40	3,12	2,30	2,28
E-letters	1,81	2,64 (*p* = ,009)	1,83	1,64
Social media	1,49	2,04 (*p* = ,050)	1,74	1,33
Banners	1,25	1,48	1,39	1,18
Popups	1,23	1,44	1,39	1,15

It can be concluded from this table that e-letters are significantly more used by current customers than by potential customers with and without experience with Ziut. It can also be concluded that social media is significantly more used by current customers than by potential customers without any experience with Ziut.

The results of the question related to the usage of different *forms of direct communication* for the three groups that were created based on their experience with Ziut can be found below and in appendix I.

Mean scores given to direct forms of communication

Scores on a 1-7 scale / *Item*	***Total sample***	***Current customers***	***Potential customers with experience with Ziut***	***Potential customers without experience with Ziut***
Telephonic contact	3,35	4,20	3,48	3,15
Personal meetings	3,32	4,00	3,30	3,19
Direct mailing	3,11	4,04	3,17	2,90
Fairs	2,53	3,04	2,39	2,46

There were no significant differences found in between the three groups. It does show however that in general, with the exception of fairs, experience seems to increase the usage of these direct forms of communication. The option other in the survey showed that the vendor itself, the own network of a firm, an installer, external advice, colleagues and word of mouth were also important sources of information.

4.1.3 Selection criteria

The following question in the survey discovered the weight of each item that influences the decision of (potential) customers in where to buy their lighting products. The results of the one way ANOVA that was done can be found in appendix I. The main findings will be discussed here.

Mean scores given to the selection criteria

Scores on a 1-7 scale / *Item*	***Total sample***	***Current customers***	***Potential customers with experience with Ziut***	***Potential customers without experience with Ziut***
Price	4,95	4,68	5,39	4,92
Quality	4,56	4,92	4,39	4,53
Warranties & claim policies	4,33	4,12	4,04	4,43
Delivery	4,20	4,68	4,57	4,04
(environmental) durability and MVO	4,11	4,00	3,65	4,22
Technical and innovation capacity	4,04	4,40	3,70	4,02
Performance history	3,72	4,00	3,35	3,73

Repair service	3,58	3,80	3,39	3,57
Operating controls	3,20	3,72	2,96	3,14
Geographical location	2,95	3,16	2,78	2,93

No significant differences were found among the three groups.

A similar ranking as the one presented in the table above was found when asked about which items information is sought in the information search phase.

Finally the potential customers were asked to indicate to what degree they agree with the statement that a relationship with the vendor is an important aspect of the decision to repurchase at that vendor. The average score was a 5,16 on the 7 point Likert scale meaning that the relationship with the customer is deemed quite important.

4.2 Account managers of Ziut with the three groups

This section covers the comparison between the expectancy of the account managers of Ziut and the factual situation for the potential customers.

4.2.2 Account managers Ziut and comparison with the three groups

The account manager of Ziut were asked to answer similar questions to the ones on the survey presented to the (potential) customers, but in this case it measured what they expect the market to use and want and to get a better look at the purchasing process in the lighting market. In total there are 7 account managers working for Ziut on four different locations. All together 3 account managers participated, on which the analysis is based.

The account managers agreed that in most cases Ziut finds their customer instead of the other way around. The process starts with getting in contact with a “suspect” or “prospect”, which are the potential customers. The answers deviated from each other what happens next in the purchasing process. In some cases a long time passes to build up a relationship with the potential customer before a sale is made while another account manager indicated the next step was making an offer. As all account managers indicated that a new customer takes between 1 and 2 years, it seems they indeed build a relationship first. The sales process takes up about 9,5 weeks for current customers. Both these numbers are a lot higher than those indicated by the three groups, which could be explained by the fact that the account managers consider working on the relationship part of the purchasing process. The relationship with the customer was also deemed an important factor in the decision to repurchase at the same vendor. According to the account managers, (potential) customers expect to be contacted regularly by their (potential) vendor to be kept in the loop about developments. They also expect a reasonable price/quality ratio and transparency. The frequency with which Ziut has contact with their (potential) customers differs a lot, ranging from weekly to once every 6 months, but the account manager agreed that before the first sale there generally has been contact with the (potential) customer at least 3 times.

The employees of Ziut generally communicate via direct forms of communication and internet and the account managers believe this is the right strategy. The account managers explained that mostly they use flyers, brochures, telephonic contact, personal meetings, fairs and (direct) mailings to get and/or stay in contact with (potential) customers. They believe however that they should make more use of search engines and social media to get the attention of their (potential) customers.

Ziut provides information about their technical and innovation capabilities as well as the repair services they offer and the durability of their products. They repeated that Ziut is not very price competitive and apparently decided not to focus on prices in their communication with the (potential) customers. Notable here perhaps is that when asked what they think potential customers search for, the account managers indicated this most likely concerns price, delivery, quality, technical and innovation capacity, durability and repair services related information.

There is currently a focus on price, delivery, quality, technical and innovation capacity, performance history, durability and MVO and warranties and claim policies according to the account managers and they believe they should perhaps focus more on repair services, operating controls and warranties and claim policies and focus less on durability and MVO. This last part might also be the result of the fact that they are currently content with the performance of Ziut on durability and MVO. They are also content with their performance history and their ability to meet quality specifications. There is room for improvement in the area of pricing, delivery, quality, technical and innovation capacity, performance history, operating controls and durability and MVO.

Finally the account managers have been asked to answer the same questions as those asked in the survey but from the point of view of that they expect the potential customers would answer. As only 3 account managers cooperated with this thesis, it is somewhat useless to compare the average scores with those of the potential or current customers. Only the differences that really stand out will therefore be discussed here.

The results show that there are no differences between the expectancy of the account managers of Ziut when it comes to the three main forms of communication (printed, internet and direct) and the actual usage of these forms of communication by the three groups (see Appendix J). It was shown that the account managers (5,33) value direct forms of communication somewhat higher than the other groups (lowest 3,68, highest 4,28), but perhaps due to the fact that there are only 3 account managers, this results is not significant.

A significant difference was found between the average value given by the account managers and the three other groups for mailings (*p* = ,014), e-letters (*p* = ,006), direct mailing (*p* =,013) and telephonic contact (*p* = ,032). The table below shows the average values of the items that showed a significant difference between the account managers and at least one of the three groups.

Differences between expectancy account managers and their (potential) customers

Mean score / Item	*Expectancy of the account managers*	*Current customers of Ziut*	*Potential customers with experience with Ziut*	*Potential customers without experience with Ziut*
Mailings	4,67 (*p* = ,014)	3,12	2,30	2,28
Direct mailings	5,33 (*p* = ,013)	4,04	3,17	2,90
E-letters	3,33 (*p* = ,006)	2,64	1,83	1,64
Telephonic contact	5,00(*p* = ,032)	4,20	3,48	3,15

Other notable differences are found between the value given to personal meetings (*p* =,057), social media (*p* = ,072) and fairs (*p* = ,079). The values given to these items by the account managers of Ziut may not differ significantly from the values given by the one of the other groups, but as there are only three account managers and the difference is almost significant it might provide an indication of a difference. In general, account managers valued almost every item, both in terms of used media as well as in terms of selection criteria, somewhat higher than the three other groups.

4.3 Influence of type of branch and position contact

4.3.1 Influence of type of branch on answers

This section compares the different branches with each other to see if there are any differences between them in the use of certain information sources (printed, internet based and direct forms of communication) and the vendor selection criteria. To ensure an orderly overview, not all differences between all branches are mentioned but only those cases where one branch differs from at least two other branches. The table in appendix K shows all differences between all branches.

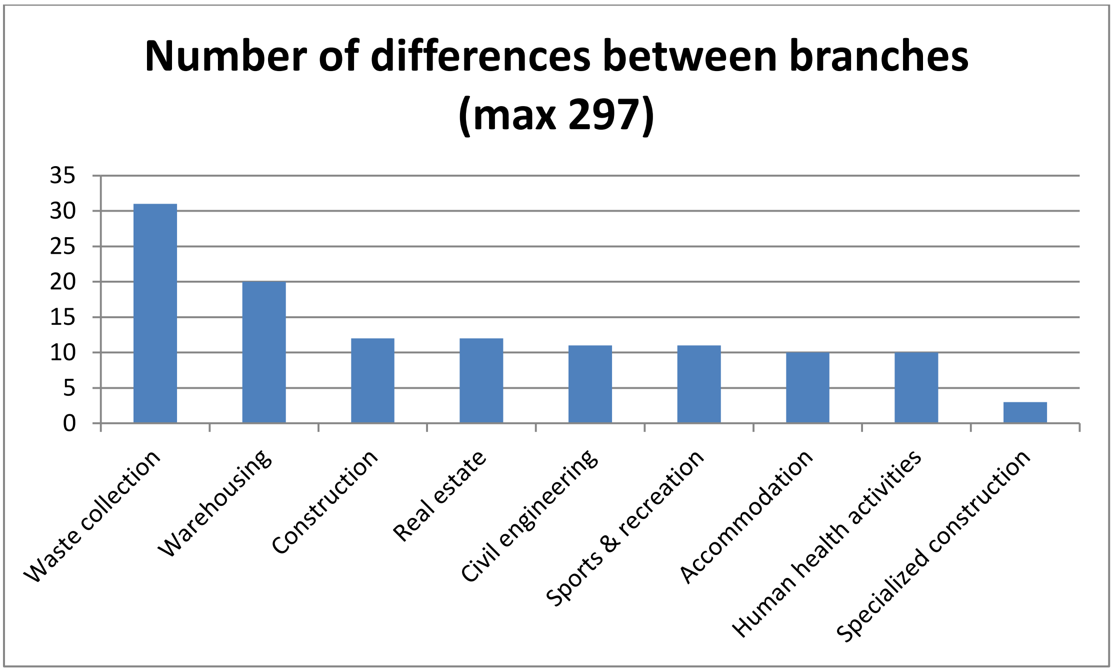
The comparison of the potential customers in different branches showed that potential customers in the branch “waste collection, treatment and disposal activities; materials recovery” deviate most from the other branches, especially when it comes to the use of printed sources. Potential customers in waste collection use printed sources less often than potential customers in construction (*p* = ,000), civil engineering (*p* = ,008), warehousing (*p* = ,005), real estate (*p* = ,000) and human health activities (*p* = ,003). Among these printed sources, they use magazines less than potential customers in construction of buildings (*p* = ,030), civil engineering (*p* = ,028), warehousing (*p* = ,004), real estate (*p* = ,004), human health activities (*p* = ,003) and sports & recreation (*p* = ,005). Flyers are also used less by potential customers in the branch waste collection than those in construction of buildings (*p*= ,004), civil engineering (*p* = ,032), warehousing (*p*= ,010) and sports (*p*= ,026) . The same goes for newspapers compared to potential customers in civil engineering (*p*= ,003), warehousing (*p*= ,027) and sports & recreation (*p*= ,009).

There are also differences in the usage of internet based sources between the branch waste collection and other branches, as potential customers in waste collection use mailings less often than potential customers in construction (p= ,021), civil engineering (p= ,013), warehousing (p= ,004), real estate (p= ,004), human health activities (p= ,030) and sport (p= ,011). In the category direct communication, fairs are less used by potential customers in the waste collection branch than those in real estate (p= ,025) and human health activities (p= ,004).

Potential customers in the branch "construction of buildings and development of building projects" use printed sources more often than those in specialized construction (p= ,031) and accommodation (p= ,017) but use newspapers less often than those in civil engineering (p= ,005), warehousing (p= ,038) and sports & recreation (p= ,007).

Finally, potential customers in civil engineering seem to value the relationship with the vendor more important than those in warehousing (p = ,039) and real estate (p = ,027).

The results above and in appendix K and in the graph below show that overall most branches are relatively similar to each other with the amount of differences ranging between 3 and 31 where the maximum would be 297 differences (33 compared items times 9 branches). Waste collection has relatively many differences with other branches, having more differences (31) with the 8 remaining branches than all the differences among those remaining 8 combined (29). Potential customers in the branch specialized construction activities however, are very similar to those in other branches.



4.3.1 Influence of the position of the participant on answers
The results showed that it is mostly the purchasing department, the project leader, the technical department, the manager and/or the director who searches for information and it also showed that the manager, director and the purchasing department are generally responsible for making the final decision where to buy the required lighting products. For that reason the answers of these groups have been compared to find out whether there are differences to be taken into account when approaching or keeping in contact with a contact person of a firm. The result of the ANOVA test done for these groups showed that there were no significant differences for any item.

4.4 Differences between dropouts and completed surveys
As the question whether the participant was familiar with Ziut before the survey was asked in the final stages of the survey, a comparison between the three groups cannot be made here. Therefore the comparison is limited to the potential and current customers.

4.4.1 Differences between dropouts and completed surveys by potential customers
As a lot of the participants started the survey but did not finish it, it is interesting to see whether there are significant differences between the two groups. For this purpose, an independent samples t-test has been done using spss, of which the results can be found in appendix L.

The results showed for potential customers that there were no significant differences in the purchasing process, as they took a similar amount of weeks to complete the whole process, took about the same amount of time to find information, compared a similar amount of vendors and also had a similar amount of times contact with their vendor before purchasing. There were also no differences found in how the two groups find information as they use the same sources of information and forms of communication.

A difference was found however in the weight given to the vendor selection criteria. The dropouts significantly value price (p = ,006), delivery (p = ,009), quality (p = ,000), technical and innovation capacity (p = ,040) and (environmental) durability and MVO (p =,008) less than those who did finish the survey.

4.4.1 Differences between dropouts and completed surveys by current customers
The results showed for potential customers that there were no significant differences in the purchasing process, as they took a similar amount of weeks to complete the whole process and took about the same amount of time to find information. The comparison between the two groups could not be made for the amount of vendors they compared or the amount of times they had contact with their vendor before their purchase as none of the participants in the dropout group provided an answer to these questions.

Comparing the dropouts in the group of current customers of Ziut with those that completed the survey, it was found that the group of dropouts use internet based sources (*p* = ,039) and direct forms of communication (*p* = ,027) less often than those that did complete the survey.

Among those internet sources, it was found that the website of the vendor is significantly (*p* =,038) less used by the dropouts than by those who completed the survey.

Among the direct forms of communication, the results showed that direct communication (*p* = ,008), telephonic contact (*p* = ,004) and personal meetings (*p* = ,004) are significantly used less by the dropouts than by those who did complete the survey. It must be noted though that there were only 4 people in the dropout group at this stage.

Finally, the group of dropouts, consisting of only 2 participants at this stage, valued delivery (*p* = ,043) significantly less than the group of participants who did complete the survey.

5. **Conclusions, implications, reliability, and limitations.**

This chapter will draw conclusions from the analysis made in the previous chapter and forms recommendations based on these conclusions. Afterwards the reliability and limitations of this research will be discussed.

5.1 Conclusions

This section will discuss the main conclusions from the analysis presented above.

The first sub question “*What does the purchasing process of the (potential) customers in the private sector of the lighting market and focused by Ziut, look like and how is this influenced by customer experience with Ziut?”* was discussed in the literature as there are several steps in this process going from sidelines all the way to a loyal customer. As the results in the previous chapter showed, the purchasing process in the private sector of the lighting market takes 6 weeks on average from start to finish, of which 3 are spent on finding the required information about products and vendors. About 2-3 vendors are compared before making a choice for a vendor. On average the (potential) customer has contact with the vendor 2 times before purchasing products. In this purchasing process, the relationship with their customer is valued highly, which could have an impact on customer loyalty, which has an impact on future sales, as was claimed in section 2.2 and 2.2.2.

In general the results of the survey showed that there are only a few differences in the purchasing process between (potential) customers that do have experience with Ziut and those that do not. Somewhat surprisingly, current customers do take more time to find information about products and vendors than potential customers that either have or don’t have any experience with Ziut. In general, even though there is a lack of statistical significance, it seems that customer experience has a linear relationship with the time spent on the purchasing process as a whole and the amount of times there is contact between the (potential) customer and the vendor before purchasing a product. All the other researched elements of the purchasing process where found to be similar, no matter the amount of experience with Ziut.

The second sub question of this research was “*What kind of information do the (potential) customers in the lighting market use when assessing the value proposition presented by suppliers and how is this influenced by customer experience with Ziut?”* The results presented in section 4.1.3 show that the three topics that (potential) customers look for most are price, quality and warranties & claim policies. They also gave the highest value to these selection criteria, indicating they use these criteria the most when assessing the value proposition presented by a supplier.

Again the three groups, based on customer experience, were compared using an one way ANOVA test in SPSS and as presented in section 4.1.3 the results showed that there was no difference in the values given to the selection criteria for any of the three groups. This indicates that customer experience with Ziut has no influence on how they assess a value proposition.

The third sub question is "*Which media do the (potential) customers in the lighting market use to find this information and how is this influenced by customer experience with Ziut?*". As can be seen in section 4.1.2, the internet is the most used source of information, amongst which the website of the vendor and search engines are the prime tools by which information is found. Direct forms of communication are used less often than the internet, yet telephonic contact, personal meetings and direct mailings could still be considered relatively important sources of information. Finally the printed sources of information are used the least of all three and based on the results of the survey only brochures seem to hold any meaning to (potential) customers in finding information.

The ANOVA test for the three groups based on customer experience with Ziut indicated that the only difference there is, is found in e-letters and social media. E-letters are significantly more used by current customers than potential customers with and without experience. Potential customers with experience with Ziut also use e-letters more than those without any experience with Ziut, but this difference is not significant. The same results were found for social media, which is again significantly more used by current customers, who have the most experience with Ziut, than potential customers who do not have any experience with Ziut. Again this results is the same for potential customers who do have experience with Ziut compared to those potential customers who do not, but this difference is not significant either. It seems customer experience with Ziut has an impact on the usage of both e-letters and social media as a source of information, but not on any other source of information used by (potential) customers in the lighting market.

The fourth and final sub question is formulated as "*Do the managers of Ziut have a good view of the purchasing process, the information search process and the used selection criteria for selecting vendors for firms in the private sector of the lighting industry?*". The results of section 4.2.2 show that the three account managers of Ziut who cooperated with this research have a relatively good view of the purchasing process, the used media to find information and the weight of the selection criteria used in the assessment of the value proposition of a vendor. They deemed mailings, direct mailing and fairs more important than they actually are, particularly for potential customers.

Together this leads up to the answer to the main research question, which is "*What is the influence of customer experience with Ziut on the purchasing process, the information search and the used vendor selection criteria?*". Based on what was found in the results and is already described above, it can be concluded that the influence of customer experience is fairly limited. Customer experience influenced the usage of only a few forms of media. It did however seem to significantly increase the time that is spend on finding information. This result was stronger when comparing current customers with potential customers who do have experience with Ziut than for those who do not.

5.2 Practical implications

The conclusions mentioned above indicate that there is no reason to approach the purchasing process differently for current customers, potential customers with or without experience with Ziut. It does show that there is a need to work on building up a good, trustworthy relationship with the (potential) customer as this is valued highly and might result in additional sales.

The results showed that current and potential customers mostly search for information about price, delivery, quality, the technical and innovation capacity of the vendor, (environmental) durability and MVO and warranties and claim policies. As these items are also deemed the most important items in the decision where to buy the required products, Ziut should ensure clear communication and information regarding these items. Ziut should also focus on improving their competitiveness in these areas, especially price as the account managers indicated they are already satisfied with their results on quality and Hans ten Broeke (2012) indicated they are currently not very price competitive. Becoming more price oriented, without compromising the quality of the products would help their position in the market. An alternative could also be to adopt low price products in their product range to attract those customers that solely purchase based on price as well. This might also provide Ziut with the opportunity to build up a relationship with these customers and later on convince them to purchase a more expensive, durable products. Again there is no need for differentiation based on earlier experiences with Ziut.

It is indicated by the account managers of Ziut that they are not satisfied with their performance on warranties and claim policies. As this is an important item in the decision where to buy the required lighting products, it would be good to focus more on their offered warranties and claim policies. The account managers indicate they are not happy with the performance of Ziut when it comes to delivery and that they feel that there is room for improvement. The (potential) customers indicated that this is an important element in their decision, meaning this too should be improved. Finally, on the fifth spot there is (environmental) durability and MVO. This item is important and focused by Ziut. The account managers of Ziut indicated they are happy with their performance on this item so it would be advisable to make or keep this items as their prime focus to obtain or sustain a leading position in this area. It is advised that they keep doing customer satisfaction research to ensure that they are improving or retain the score on these aspects of their product/service.

As internet is the primary source of information, it would therefore be wise for to ensure that every possible peace of information a vendor wants to distribute is findable on the internet. Among these internet sources, most people use the website of the vendor and search engines. Search engine optimization (SEO), as mentioned in the literature would be strongly advised as both the website of Ziut would be found more easily that way and Ziut would be able to distribute their information better, lowering the time and psychological cost occurred in the information search process. It is also very important to create an easy to use website that contains all the information that (potential) customers look for to keep psychological costs low. E-letters could be considered for current customers as it is found that they deem this forms of communication more important than the potential customers do, but overall should not be the prime focus as it is still not considered as the most used source of information. Social media was found to be not very important. Although social media, as explained in section 2.5.1, is still a reasonably new development and will perhaps become more important in the future, it should not be a part of the prime focus of Ziut. It is recommendable though that they keep their Facebook and twitter up to date as it might reflect badly on a firm if they do have an account but it is outdated. Besides that, based on the results of the research by Newcom Research & Consultancy (2013) more and more people indicate that they expect social media to play a bigger role in the future in finding information so it would be wise to keep an eye on this development. Banners and popups, if used right now, should not be used in the future as it is likely that the cost-effectiveness ratio is not great.

It is important to have regular direct communication via the telephone especially with current customers. Communication, especially with current customers, should also occur via direct mailing as they indicated they use this form of media a lot to find information too. Although the survey shows that fairs are only moderately used, it is the experience of Ziut that they gain quite a few customers via this method (Kok-Swartjes, 2012c) and it therefore seems logical to keep up this activity.

Although printed sources are used the least, this form of communication should not be completely ignored. The results indicate that it is a waste of time and money to use newspapers or flyers to reach potential or current customers. Communication via flyers, which Ziut uses frequently (Wieggers, 2013, Ippel, 2013), should therefore be terminated or at least kept to a minimum. The same goes for the use of magazines to reach customers. Among the printed sources, brochures are used most by both potential and current customers and should therefore, to remain diversified in approaching (potential) customers, still be made. All these activities should contribute to being found more easily, working on a good relationship with current leads and customers and gaining brand awareness. Brand awareness, according to this research, is something Ziut lacks in their current market as only 15,8% of the potential customers indicated they were aware of Ziut before the survey and is therefore an important step they need to take to get a foothold in the private sector of the lighting market and to be considered as a possible vendor more often.

When trying to get in contact with potential customers in the waste collection branch it might be wise to not focus on printed sources, but get and stay in contact via direct forms of communication and the internet, such as via telephonic contact, personal meetings or direct mailings. Potential customers in the construction of buildings and development of building projects branch on the other hand can perhaps be approached using printed sources, with the exception of newspapers, which they seem to use less often than some other branches.

It does not matter which position the contact person holds within the customer firm as to how he or she should be approached.

Finally as the account managers of Ziut seem to have a proper view of the markets´ purchasing process, the used media by (potential) customers to find information about vendors and their products and their preferences in terms of selection criteria, it seems unnecessary to conduct a research such as this regularly.

5.3 Scientific implications

This research has several scientific implications.

Firstly it showed that even though literature states that customer experience influences the purchasing process, this research has not found much empirical evidence to support these theories. The time spent on the search process was only different for current customers, who take more time to find information than those who do not have any experience. According to the literature there might be an inverted U-shaped relationship between experience and the information search. This research presents an opposite result as they show that when experience increases, at first, the amount of time spent on the information search decreases slightly and that when a customer has a lot of experience (current customer), he spends more time on the information search. The difference between the potential customers with and without experience with Ziut is relatively small however making this U-shaped relationship uncertain. It can be concluded though, that this research found no empirical evidence to support the inverted U-shaped relationship between customer experience and the time spent on the information search. In general, even though there is a lack of statistical significance, it seems that customer experience has a linear relationship with the time spent on the purchasing process as a whole and the amount of times there is contact between the (potential) customer and the vendor before purchasing a product.

This research also adds a specific case to the set of studies that have been conducted in marketing. This research looks specifically at the light market. It creates a more focused list, based on the list of Dickson (1966), of most important factors in selecting a vendor and a list of most important subjects in terms of information in selecting a vendor in this particular market. The research also contributes to the list that was created by Dickson (1966). The added items (environmental) durability and MVO was not on the list and proved to be quite important. This might be a difference in time, as perhaps in 1966 people did not care much about durability yet and today they do. Technical capability is on the list of Dickson (1966), but innovation was not. The definition of technical capability by Dickson (1966) does mention research and development facilities which is why innovation was added to the title of the items, to emphasise innovation, which plays a major role in the business world as it is today. It also sheds some light on the way customers, which in this research are mostly both firms and consumers at the same time, search for information and what kind of information they value in the search for a supplier of their required goods.

5.4 Validity and limitations

5.4.1 Validity

The validity of this research, the potential threats and solutions to those threats will be discussed in this part.

Statistical conclusion validity, according to Shadish, Cook & Campbell (2002), is the validity of inferences about the correlation (co variation) between treatment and outcome. There are several threats to this type of validity, among which is low statistical power. This potential problem can be solved by increasing the sample size. In this research the amount of interviews were limited due to the limited amount of account managers working at Ziut. The amount of surveys were limited as Ziut simply does not have more customers in the private sector than those that were approached. Increasing the sample size would have been impossible for those two groups. This could potentially be a threat to this research. A different problem could be a too large sample size. When a sample size becomes too large, the smallest difference in means will be considered statistically significant (Babbie, 2007). This is called the “too-large sample size” problem (kennedy, 2003). To be able to generalize to the group of firms selected for this research it was required to have at least 143 participants. As this does not seem like a too large sample size, it is unlikely that the “too-large sample size” problem is present in this research. There is no treatment in this research which means that there was no search for a cause-effect relationship which by itself prevents most threats to this type of validity.

Internal validity is a validity of inferences about whether the observed co variation between A (the presumed treatment) and B (the presumed outcome) reflects a causal relationship (Shadish et al., 2002). Ambiguous temporal precedence is a commonly mentioned threat to this type of validity, which is concerned with which variable is the cause and which is the effect. As mentioned before, this research does not look at a cause-effect relationship which means all the potential threats in this area are not present in this research. The same goes for testing and instrumentation, as there was only one survey conducted for each participant there will be no change over time.

Construct validity is broadly defined as the extent to which an operationalization measures the concept it supposed to measure (Cook and Campbell, 1979). Without assessing construct validity, one would not be able to estimate or correct for the confounding influences of random error and method variance, which could result in rejecting a hypothesis based on excessive error in measurement or not rejecting it because of inadequacy of measurement or theory (Bagozzi, Yi and Philips, 1991). One potential threat in this research is the experimenter’s expectancy (shadish et al., 2002). The interviewer might ask questions that imply a certain answer is expected. This expectancy might lead the interviewee to answer what the interviewer expects to hear, even if it is not true. The same problem exists with survey questions. As mentioned before in section 3.2, there is a threat of formulating questions in a wrong way. These potential threats were taken into account in formulating the survey questions and the survey was tested on these threats before they were send out. The interviews however were semi structured, which means this threat is present. Shadish et al. (2002) mention the inadequate explication of constructs as another threat. The failure to adequately explicate a construct could, they state, lead to incorrect inferences about the relationship between operation and construct. The constructs used in the interviews and surveys were explained and the survey was tested to ensure that every construct was well understood by the participants. The other threats to the construct validity of this research mentioned by Shadish et al. (2002) seem no reason for concern.

Finally external validity. External validity is described by Cook & Campbell (2002) and is about whether the cause-effect relationship holds over a variation in persons, settings, treatment variables and measurement variables. A causal relationship that is found among certain units might not hold if other units would be studied. As stated earlier, there might be a difference between the units that refuse to participate in a survey and those that do participate in the survey. The same problem arises with the potential customers of Ziut that were not adopted in this research. The results also showed there was were hardly any differences between dropouts and completed surveys, indicating that the threat of there being a difference between those that refused to participate in this research and those that did participate is relatively small. The difficulty is in this case that adopting for a potential customer who is not currently in the process of buying a product in the market this research focusses on in this research, the results could be very unreliable. The potential customers were asked to answer the questions based on what they did in their last project. As this might change over time, there is a chance that the results are not reliable anymore at this point in time. Interaction of the causal relationship with settings is not likely. Even though this research does not aim to find a causal relationship, the setting might have had an influence on the results of the interviews. There is however no reason to assume that the account managers of Ziut or the competitor of Ziut would provide different answers if a different setting would have been used.

Another threat might be the method of observation. Although in this case there is no observation, it is possible to interpret observation as “measuring” here. In this case a survey was held among the purchase personnel of (potential) customers in the private sector. Would the results have been the same if interviews were held? Although there is no guarantee that the results would be the same, there is no reason for the participants to answer differently either. This is again a threat that plays a role and it is not possible to check what the influence is.

5.4.2 Limitations & drawbacks

There are several limitations to this research, which will be discussed in this section.

Firstly, only those (potential) customers that operate in the targeted segments have been approached, leaving out other segments of the private market. This effectively means that although the most interesting segments have been approached, this research cannot generalize to the entire private sector.

The second limitation is that this research cannot generalize to the all firms in the selected segments due to the low sample size. All the conclusions drawn in this research can only be generalized to the 2448 approached firms.

Another limitation is that not all the vendor selection criteria mentioned by Dickson (1966) were adopted in this research. This means that perhaps one or more of those items that were not adopted in this research actually are deemed important and/or (potential) customers often look for those items.

Finally some respondents provided feedback on the survey. There were a few potential customers who did not agree with the segment classification made by the Kamer van Koophandel (Dutch Chamber of Commerce). They indicated they could not finish the survey due to the fact they felt they were unable to provide an answer to the question in which branch their firm was active. The absence of the option “other” in this question resulted in non-response for them. This issue has been solved by creating a survey with the same questions but with the option “other” for this particular question. This issue might however have resulted in non-response for some participants who did not provide this feedback, resulting in a lower response rate. This issue was not found in the pre-tests of the survey as it was anticipated that all firms would agree with the classification of the Kamer van Koophandel.

5.5 Future research

To gain more insight in the private sector of the lighting industry there are a some possibilities to do more research.

Firstly, the sample size could be increased and at the same time the research should not limit itself to only 9 segments to be able to generalize to the entire private sector. This would provide even more insight into the way business in the lighting market search for information and what criteria they use to evaluate vendors. Besides being able to generalize to the entire private sector, it would also increase the statistical strength of this research as a larger sample size generates a higher statistical validity. This larger sample size could also shed more light on the differences in search strategies between certain position held in a firm and show, with more certainty, what they value most when deciding where to buy the required lighting products.

As explained in section 5.2.2 not all criteria on the list of Dickson (1966) have been adopted in this research. To ensure that none of the left out criteria are actually deemed important, more research should be done. This research did not incorporate them as a compromise to the response rate, which would most likely have dropped due to a large survey. A larger sample size would also provide a perhaps somewhat more accurate ranking of the adopted items and perhaps even uncover new items that this research did not find.

Another interesting aspect would be to approach competitors of Ziut to participate in the survey, to not just compare these results with that of the account managers of Ziut, but also to find out if supply fills demand in an optimal way or what could be improved to better serve the market.

More specifically in the interest of Ziut, a research could be set up as this research only looks at the lighting industry and leaves out the sight and mobility department of Ziut. It would also be interesting to not only compare current customers with potential customers with and without experience with Ziut, but also compare the private sector with the public sector, which this research unfortunately has not been able to do due the fact that Ziut believed their customers in the public sector are already too smothered by the large amount of researches they are asked to participate in.

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Ziut 2012d: Commercieel plan 2012 presentatie (slide 5)

Ziut 2012e: Commercieel plan 2012 presentatie (slide 4)

Ziut 2012f: Commercieel plan 2012 presentatie (slide 9)

Appendix A

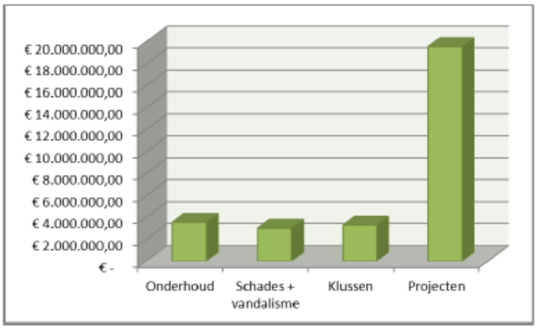
OMZETVERDELING PER DIENST

Prognose licht, zicht, mobiliteit en new business

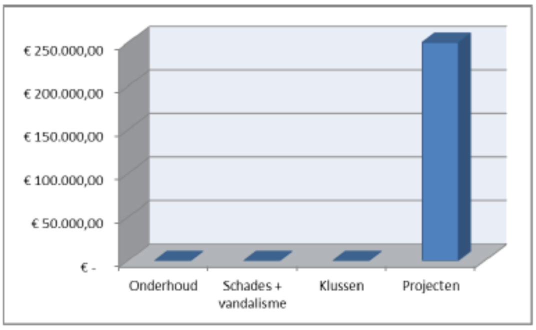
Prognose	2012	%	
Licht	€ 29.275.375,0	93 %	xx
Zicht	€ 250.000,0	1 %	
Mobiliteit	€ 664.000,0	2 %	
New business + S&E	€ 1.417.000,0	4 %	
Totaal	€ 31.606.675,0	100 %	

(1) Op basis van de afgegeven prognose 2012 vastgesteld in november 2011

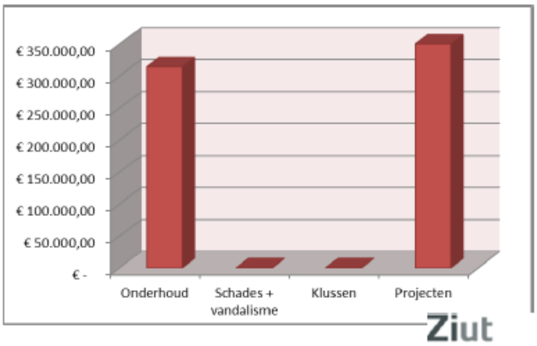
Omzetprognose Licht 2012



Omzetprognose zicht



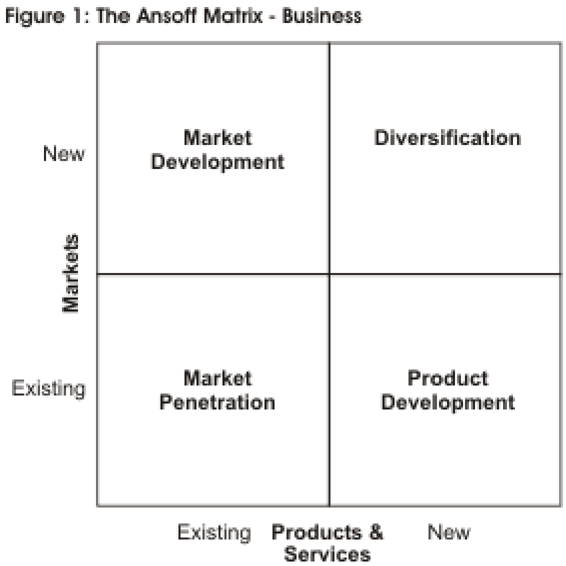
Omzetprognose mobiliteit



Ziut

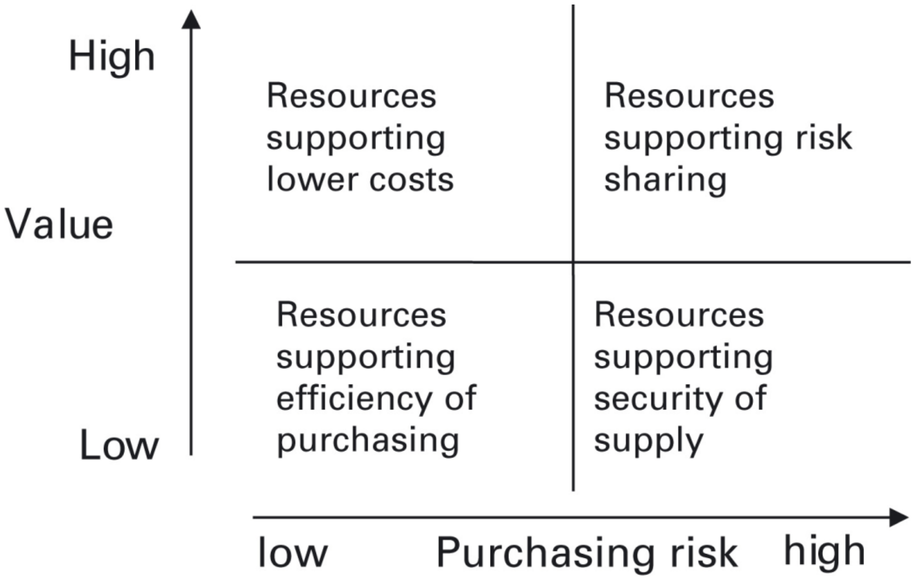
Commercieel plan Team Oost 2012 9

Appendix B



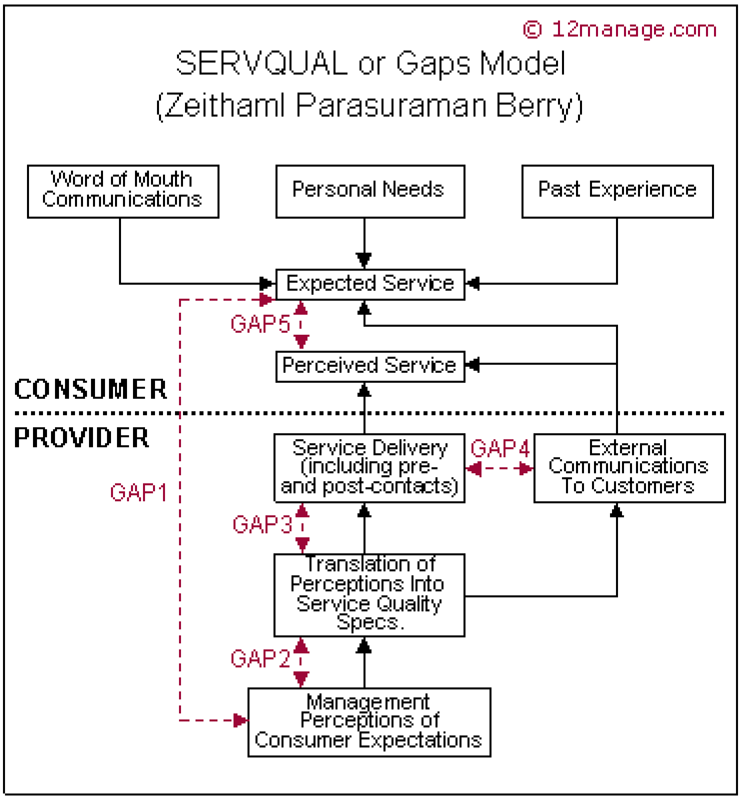
Ansoff Matrix (mindtools, 2012)

Appendix C



Kraljic Matrix (Kraljic, 1983)

Appendix D



Servqual model (12manage.com, 2012)

Appendix E

Dickson's vendor selection criteria and rank.

Rank	Factor Mean	Evaluation rating
1 Quality	3.508	Extreme importance
2 Delivery	3.417	
3 Performance history	2.998	
4 Warranties and claim policies	2.849	
5 Production facilities and capacity	2.775	Considerable importance
6 Price	2.758	
7 Technical capability	2.545	
8 Financial position	2.514	
9 Procedural compliance	2.488	
10 Communication system	2.426	
11 Reputation and position in industry	2.412	
12 Desire for business	2.256	
13 Management and organization	2.216	
14 Operating controls	2.211	
15 Repair service	2.187	Average importance
16 Attitude	2.120	
17 Impression	2.054	
18 Packaging ability	2.009	
19 Labour relations record	2.003	
20 Geographical location	1.872	
21 Amount of past business	1.597	
22 Training aids	1.537	
23 Reciprocal arrangements	0.610	Slight importance

Explanation of the criteria:

1. **Quality:** The ability of each vendor to meet quality specifications consistently.
2. **Delivery:** The ability of each vendor to meet specified delivery schedules.
3. **Performance history:** The performance history of each vendor.
4. **Warranties and claim policies:** The warranties and claims policies of each vendor.
5. **Production facilities and capacity:** The production facilities and capacity of each vendor.
6. **Price:** The net price (including discounts and freight charges) offered by each vendor.
7. **Technical capability:** The technical capability (including research and development facilities) of each vendor.
8. **Financial position:** The financial position and credit rating of each vendor.
9. **Procedural compliance:** Compliance or likelihood of compliance with your procedures (both bidding and operating) by each vendor.
10. **Communication system:** The communication system (with information on progress data of orders) of each vendor.
11. **Reputation and position in the industry:** The position in the industry (including product leadership and reputation) of each vendor.
12. **Desire for business:** The desire for your business shown by each vendor.
13. **Management and organization:** The management and organization of each vendor.
14. **Operating controls:** The operational controls (including reporting, quality control, and inventory control systems) of each vendor.
15. **Repair service:** The repair service likely to be given by each vendor.
16. **Attitude:** The attitude of each vendor toward your organization.
17. **Impression:** The impression made by each vendor in personal contacts with you.
18. **Packaging ability:** The ability of each vendor to meet your packaging requirements for his product.
19. **Labour relations record:** The labour relations record of each vendor.
20. **Geographic location:** The geographic location of each vendor.
21. **Amount of past business:** The amount of past business that has been done with each vendor.
22. **Training aids:** The availability of training aids and educational courses in the use of the product of each vendor.
23. **Reciprocal arrangements:** The future purchases each vendor will make from your firm.

Appendix F

Table 4
Criteria discussed in annotated bibliography

Dickson's study		Criteria	Number of articles	(%)
Rank	Rating [a]			
6	1	Net price	61	80
2	1	Delivery	44	58
1	1A	Quality	40	53
5	1	Production facilities and capacity	23	30
20	2	Geographic location	16	21
7	1	Technical capability	15	20
13	2	Management and organization	10	13
11	2	Reputation and position in industry	8	11
8	1	Financial position	7	9
3	1	Performance history	7	9
15	2	Repair service	7	9
16	2	Attitude	6	8
18	2	Packaging ability	3	4
14	2	Operational controls	3	4
22	2	Training aids	2	3
9	2	Bidding procedural compliance	2	3
19	2	Labor relations record	2	3
10	2	Communication system	2	3
23	3	Reciprocal arrangements	2	3
17	2	Impression	2	3
12	2	Desire for business	1	1
21	2	Amount of past business	1	1
4	1	Warranties and claims	0	0

[a] Ratings: 1A = Extreme importance. 1 = Considerable importance. 2 = Average importance. 3 = Slight importance.

Appendix G

Table 1: Survey Design Quality Criteria

Supports multiple platforms and browsers/e-mail clients (Yun & Trumbo, 2000)
Controls for browser settings (Yun & Trumbo, 2000)
Detects multiple submissions automatically (Yun & Trumbo, 2000)
Presents questions in a logical or adaptive manner, for example, provides control of when and how questions are displayed (Kehoe & Pitkow, 1996; Norman, Friedman, Norman, & Stevenson, 2001)
Allows saving responses before completion (Smith, 1997)
Collects open-ended or quantified-option responses (Bachmann & Elfrink, 1996; Kiesler & Sproull, 1986; Loke & Gilbert, 1995; Schaefer & Dillman, 1998; Yun & Trumbo, 2000)
Provides automatic feedback with completion (Smith, 1997)
Uses paper questionnaire design principles (Dillman, 2000; Oppenheim, 1992; Preece, Rogers & Sharp, 2002; Witmer, Colman, & Katzman, 1999)
Provides automatic transfer of responses to a database (Kehoe & Pitkow, 1996; McCoy & Marks, 2001; Smith, 1997)
Prevents survey alteration (Witmer et al., 1999)
Provides response control and economical displays (Preece et al., 2002; Stanton, 1998)
Provides for links to definitions, menus, button and check box options, animation, sound, graphics options, and so forth (Preece et al., 2002; Yun & Trumbo, 2000)
Does not require familiarity with survey presentation software (Sheehan & Hoy, 1999)
Displays appear quickly to participant (Couper, Traugott, & Lamias, 2001)
Tracks response source of response failure (Paolo, Bonamino, Gibson, Patridge, & Kallail, 2000)

Appendix H

$$n >= \frac{N \times z^2 \times p(1-p)}{z^2 \times p(1-p) + (N-1) \times F^2}$$

n = The required amount of respondents
z = The standard deviation with a certain reliability percentage. This is 1.96 for 95% reliability.
N = The size of the population
p = The chance somebody gives a certain answer
F = Standard error (generally 3%, 5% or 7%)
(Journalinks (2012), marktonderzoek.punt (2011), surveysystem (2012))

$$n >= \frac{2448 \times 1{,}96^2 \times (1/9)(1-(1/9))}{1{,}96^2 \times (1/9)(1-(1/9)) + (2448-1) \times 0{,}05^2}$$

N> 142,9622 = 143

Appendix I

Forms of communication

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Printed sources	Between Groups	12,343	2	6,171	2,503	,085
	Within Groups	414,300	168	2,466		
	Total	426,643	170			
Internet sources	Between Groups	,827	2	,413	,108	,898
	Within Groups	643,676	168	3,831		
	Total	644,503	170			
Direct forms of communication	Between Groups	7,740	2	3,870	1,138	,323
	Within Groups	571,500	168	3,402		
	Total	579,240	170			

Printed sources of information

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Newspapers	Between Groups	3,309	2	1,654	1,143	,321
	Within Groups	243,264	168	1,448		
	Total	246,573	170			
Magazines	Between Groups	4,399	2	2,200	,832	,437
	Within Groups	443,928	168	2,642		
	Total	448,327	170			
Flyers	Between Groups	2,282	2	1,141	,486	,616
	Within Groups	394,432	168	2,348		
	Total	396,713	170			
Brochures	Between Groups	,086	2	,043	,013	,987
	Within Groups	548,908	168	3,267		
	Total	548,994	170			

Internet based sources of information

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Banners	Between Groups	2,404	2	1,202	,919	,401
	Within Groups	219,783	168	1,308		
	Total	222,187	170			
Popups	Between Groups	2,402	2	1,201	1,031	,359
	Within Groups	195,703	168	1,165		
	Total	198,105	170			
Website vendor	Between Groups	3,085	2	1,542	,372	,690
	Within Groups	696,962	168	4,149		
	Total	700,047	170			
Mailings	Between Groups	15,047	2	7,523	2,700	,070
	Within Groups	468,111	168	2,786		
	Total	483,158	170			
E-letters	Between Groups	20,687	2	10,344	4,836	,009
	Within Groups	359,325	168	2,139		
	Total	380,012	170			
Social Media	Between Groups	12,327	2	6,163	3,042	,050
	Within Groups	340,387	168	2,026		
	Total	352,713	170			
Search engine	Between Groups	12,828	2	6,414	1,189	,307
	Within Groups	906,481	168	5,396		
	Total	919,310	170			

Direct forms of communication

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Direct mailing	Between Groups	27,012	2	13,506	3,573	,030
	Within Groups	635,094	168	3,780		
	Total	662,105	170			
Telephonic contact	Between Groups	23,143	2	11,572	3,330	,038
	Within Groups	583,804	168	3,475		
	Total	606,947	170			
Personal meetings	Between Groups	13,741	2	6,871	2,048	,132
	Within Groups	563,569	168	3,355		
	Total	577,310	170			
Fairs	Between Groups	7,631	2	3,815	1,235	,293
	Within Groups	518,942	168	3,089		
	Total	526,573	170			

Selection criteria

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Price	Between Groups	6,421	2	3,211	1,315	,271
	Within Groups	410,105	168	2,441		
	Total	416,526	170			
Delivery	Between Groups	11,947	2	5,974	2,313	,102
	Within Groups	433,889	168	2,583		
	Total	445,836	170			
Quality	Between Groups	3,826	2	1,913	,677	,510
	Within Groups	471,962	167	2,826		
	Total	475,788	169			
Technical and innovation capacity	Between Groups	5,993	2	2,997	1,019	,363
	Within Groups	493,796	168	2,939		
	Total	499,789	170			
Performance history	Between Groups	5,163	2	2,581	,841	,433
	Within Groups	515,364	168	3,068		
	Total	520,526	170			
Geographical location	Between Groups	1,774	2	,887	,279	,757
	Within Groups	534,753	168	3,183		
	Total	536,526	170			
Repair services	Between Groups	2,043	2	1,022	,310	,734
	Within Groups	553,641	168	3,295		
	Total	555,684	170			
Operating controls	Between Groups	8,593	2	4,296	1,553	,215
	Within Groups	464,647	168	2,766		
	Total	473,240	170			
(environmental) Durability and MVO	Between Groups	6,598	2	3,299	,965	,383
	Within Groups	574,291	168	3,418		
	Total	580,889	170			
Warranties and claim policies	Between Groups	4,241	2	2,120	,752	,473
	Within Groups	473,759	168	2,820		
	Total	478,000	170			

Appendix J

Comparison between the account managers and the three groups

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
	Between Groups	12,343	3	4,114	1,677	,174
Printed sources	Within Groups	416,967	170	2,453		
	Total	429,310	173			
	Between Groups	,852	3	,284	,075	,973
Internet sources	Within Groups	645,676	170	3,798		
	Total	646,529	173			
	Between Groups	14,661	3	4,887	1,442	,232
Direct forms of communication	Within Groups	576,167	170	3,389		
	Total	590,828	173			
	Between Groups	6,397	3	2,132	1,462	,227
Newspapers	Within Groups	247,931	170	1,458		
	Total	254,328	173			
	Between Groups	4,537	3	1,512	,573	,633
Magazines	Within Groups	448,595	170	2,639		
	Total	453,132	173			
	Between Groups	7,206	3	2,402	1,013	,388
Flyers	Within Groups	403,099	170	2,371		
	Total	410,305	173			
	Between Groups	,402	3	,134	,041	,989
Brochures	Within Groups	557,575	170	3,280		
	Total	557,977	173			
Banners	Between Groups	5,855	3	1,952	1,478	,222

	Within Groups	224,450	170	1,320		
	Total	230,305	173			
Popups	Between Groups	2,555	3	,852	,732	,534
	Within Groups	197,703	170	1,163		
	Total	200,259	173			
Website vendor	Between Groups	3,337	3	1,112	,271	,846
	Within Groups	697,629	170	4,104		
	Total	700,966	173			
Mailings	Between Groups	30,147	3	10,049	3,644	,014
	Within Groups	468,778	170	2,758		
	Total	498,925	173			
E-letters	Between Groups	27,503	3	9,168	4,235	,006
	Within Groups	367,991	170	2,165		
	Total	395,494	173			
Social Media	Between Groups	14,447	3	4,816	2,373	,072
	Within Groups	345,053	170	2,030		
	Total	359,500	173			
Search engine	Between Groups	17,317	3	5,772	1,077	,360
	Within Groups	911,148	170	5,360		
	Total	928,466	173			
Direct mailing	Between Groups	41,648	3	13,883	3,689	,013
	Within Groups	639,760	170	3,763		
	Total	681,408	173			
Telephonic contact	Between Groups	31,161	3	10,387	3,014	,032
	Within Groups	585,804	170	3,446		
	Total	616,966	173			
Personal meetings	Between Groups	25,673	3	8,558	2,560	,057
	Within Groups	568,235	170	3,343		

	Total	593,908	173			
	Between Groups	21,063	3	7,021	2,297	,079
Fairs	Within Groups	519,609	170	3,057		
	Total	540,672	173			
	Between Groups	9,688	3	3,229	1,332	,266
Price	Within Groups	412,105	170	2,424		
	Total	421,793	173			
	Between Groups	13,812	3	4,604	1,804	,148
Delivery	Within Groups	433,889	170	2,552		
	Total	447,701	173			
	Between Groups	7,406	3	2,469	,883	,451
Quality	Within Groups	472,629	169	2,797		
	Total	480,035	172			
	Between Groups	7,169	3	2,390	,822	,484
Technical and innovation capacity	Within Groups	494,463	170	2,909		
	Total	501,632	173			
	Between Groups	5,171	3	1,724	,568	,637
Performance history	Within Groups	516,030	170	3,035		
	Total	521,201	173			
	Between Groups	3,299	3	1,100	,348	,791
Geographical location	Within Groups	537,419	170	3,161		
	Total	540,718	173			
	Between Groups	3,721	3	1,240	,378	,769
Repair services	Within Groups	558,308	170	3,284		
	Total	562,029	173			
	Between Groups	12,388	3	4,129	1,509	,214
Operating controls	Within Groups	465,314	170	2,737		
	Total	477,701	173			

	Between Groups	8,928	3	2,976	,878	,454
(environmental) Durability and MVO	Within Groups	576,291	170	3,390		
	Total	585,218	173			
	Between Groups	4,241	3	1,414	,507	,678
Warranties and claim policies	Within Groups	474,426	170	2,791		
	Total	478,667	173			
	Between Groups	,394	2	,197	,110	,896
Relationship value	Within Groups	301,022	168	1,792		
	Total	301,415	170			

Appendix K

Differences between branches

A minus before the significance value means that the branch mentioned in the column uses or values the mentioned item less than the branch mentioned in the rows.

Branch	Waste	Construction	Civil engineering	Specialized construction	Warehousing	Accommodation	Real estate	Human health	Sports
Waste	-	Printed sources (*p*= -,000) Magazines (*p* = -,030) Flyers (*p* = -,004) Brochures (*p* = -,039) Mailings (*p* = -,021)	Printed sources (*p* = -,008) Newspapers (*p* = -,003) Magazines (*p* = -,028) Flyers (*p* = -,032) Mailings (*p* = -,013)	E-letters (*p* = -,050)	Printed sources (*p* = -,005) Newspapers (*p* = -,027) Magazines (*p* = -,004) Flyers (*p* = -,010) Banners (*p* = -,041) Mailings (*p* = -,004) E-letters (*p* = -,001) Social media (*p* = -,026)	-	Printed sources (*p* = -,000) Magazines (*p* = -,004) Mailings (*p* = -,004) Fairs (*p* = -,025)	Printed sources (*p* = -,003) Magazines (*p* = -,003) Mailings (*p* = -,030) Fairs (*p* = -,004)	Newspapers (*p* =-,009) Magazines (*p* = -,005) Flyers (*p* = -,026) Mailings (*p* = -,011)
Construction			Newspapers (*p* = -,005)	Printed sources (*p* = ,031)	Newspapers (*p* =-,038) Popups (*p* = -,026)	Printed sources (*p* = ,017)	Relationship value (*p* = ,049)	-	Newspapers (*p* = -,007)
Civil engineering				-	Repair services (*p* = ,039)	Mailings (*p* = ,040)	Relationship value (*p* = ,027)	Newspapers (*p* = ,014)	-

					Relationship value (*p* = ,039)				
Specialized construction					-	-	Printed sources (*p* =-,031)	-	
Warehousing						Mailings (*p* = ,014) E-letters (*p* = ,011) Quality (*p* = ,021) Repair services (*p* = ,023) Operating controls (*p* = ,013)	Quality (*p* =,022)	Social media (*p* = ,011)	Relationship value (*p* = -,010)
Accommodation							Printed sources (*p* = -,017) Mailings (*p* = -,016)	-	Mailings (*p* = -,043)
Real estate								Relationship value (*p* = -,022)	Relationship value (*p* = 0,003)
Human health									Newspapers (*p* = -,019) Social media (*p* = -,017) Fairs (*p* = ,049)
Sports									

Appendix L

Dropouts vs completed surveys potential customers forms of communication

Group Statistics

	Grouping	N	Mean	Std. Deviation	Std. Error Mean
Printed	Completed survey	146	2,5890	1,57861	,13065
	Dropouts	42	2,8810	1,68497	,26000
Internet	Completed survey	146	5,0890	1,98936	,16464
	Dropouts	42	4,7619	2,00985	,31013
Direct forms of communication	Completed survey	146	3,7192	1,88183	,15574
	Dropouts	42	3,8810	1,91531	,29554

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Printed	Equal variances assumed	,011	,915	-1,040	186	,300	-,29191	,28062	-,84552	,26170
	Equal variances not assumed			-1,003	63,180	,320	-,29191	,29098	-,87335	,28953
Internet	Equal variances assumed	,004	,949	,937	186	,350	,32714	,34912	-,36161	1,01589
	Equal variances not assumed			,932	65,887	,355	,32714	,35112	-,37392	1,02819
Direct forms of communication	Equal variances assumed	,087	,768	-,489	186	,625	-,16177	,33080	-,81438	,49083
	Equal variances not assumed			-,484	65,505	,630	-,16177	,33406	-,82885	,50530

Dropouts vs completed surveys potential customers printed sources of information

Group Statistics

	Grouping	N	Mean	Std. Deviation	Std. Error Mean
Newspapers	Completed survey	146	1,2877	1,24268	,10285
	Dropouts	29	1,3793	1,34732	,25019
Magazines	Completed survey	146	2,5616	1,64829	,13641
	Dropouts	29	2,0690	1,64601	,30566
Flyers	Completed survey	146	1,9932	1,57347	,13022
	Dropouts	29	1,8276	1,53690	,28540
Brochures	Completed survey	146	3,0000	1,82700	,15120
	Dropouts	29	2,5862	1,76306	,32739

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Newspapers	Equal variances assumed	,507	,477	-,358	173	,721	-,09164	,25620	-,59733	,41405
	Equal variances not assumed			-,339	38,052	,737	-,09164	,27050	-,63922	,45594
Magazines	Equal variances assumed	,002	,960	1,471	173	,143	,49268	,33503	-,16859	1,15395
	Equal variances not assumed			1,472	39,959	,149	,49268	,33472	-,18383	1,16919
Flyers	Equal variances assumed	,106	,745	,519	173	,604	,16556	,31870	-,46348	,79461
	Equal variances not assumed			,528	40,533	,601	,16556	,31370	-,46819	,79932
Brochures	Equal variances assumed	,253	,615	1,120	173	,264	,41379	,36936	-,31524	1,14283
	Equal variances not assumed			1,147	40,860	,258	,41379	,36062	-,31457	1,14216

Dropouts vs completed surveys potential customers internet based sources

Group Statistics

	Grouping	N	Mean	Std. Deviation	Std. Error Mean
Banners	Completed survey	146	1,2123	1,17567	,09730
	Dropouts	18	,7778	,80845	,19055
Popups	Completed survey	146	1,1918	1,10369	,09134
	Dropouts	18	,7778	,80845	,19055
Website of the vendor	Completed survey	146	4,3219	2,08421	,17249
	Dropouts	18	4,5000	2,25571	,53168
Mailings	Completed survey	146	2,2808	1,66399	,13771
	Dropouts	18	2,5556	2,03563	,47980
E-letters	Completed survey	146	1,6712	1,47208	,12183
	Dropouts	18	1,6111	1,97451	,46540
Social media	Completed survey	146	1,3904	1,41115	,11679
	Dropouts	18	1,7778	2,23753	,52739
Search engines	Completed survey	146	4,0137	2,35763	,19512
	Dropouts	18	3,6667	2,54374	,59956

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Banners	Equal variances assumed	1,970	,162	1,522	162	,130	,43455	,28545	-,12914	,99824
	Equal variances not assumed			2,031	26,807	,052	,43455	,21396	-,00460	,87370
Popups	Equal variances assumed	1,329	,251	1,539	162	,126	,41400	,26893	-,11705	,94505
	Equal variances not assumed			1,959	25,552	,061	,41400	,21132	-,02073	,84874
Website of the vendor	Equal variances assumed	,001	,977	-,339	162	,735	-,17808	,52532	-1,21543	,85927
	Equal variances not assumed			-,319	20,740	,753	-,17808	,55896	-1,34138	,98522
Mailings	Equal variances assumed	2,404	,123	-,644	162	,520	-,27473	,42637	-1,11670	,56723
	Equal variances not assumed			-,550	19,900	,588	-,27473	,49917	-1,31633	,76686
E-letters	Equal variances assumed	3,699	,056	,157	162	,875	,06012	,38285	-,69590	,81614
	Equal variances not assumed			,125	19,399	,902	,06012	,48108	-,94539	1,06563
Social media	Equal variances assumed	7,022	,009	-1,021	162	,309	-,38737	,37949	-1,13676	,36203
	Equal variances not assumed			-,717	18,703	,482	-,38737	,54017	-1,51917	,74443
Search engines	Equal variances assumed	,304	,582	,584	162	,560	,34703	,59401	-,82597	1,52003
	Equal variances not assumed			,550	20,764	,588	,34703	,63051	-,96510	1,65917

Dropouts vs completed surveys potential customers direct forms of communication

Group Statistics

	Grouping	N	Mean	Std. Deviation	Std. Error Mean
Direct communication	Completed survey	146	2,9452	1,98887	,16460
	Dropouts	13	2,2308	2,00640	,55648
Telephonic communication	Completed survey	146	3,2055	1,90432	,15760
	Dropouts	13	3,1538	2,37508	,65873
Personal meeting	Completed survey	146	3,2055	1,88613	,15610
	Dropouts	13	2,3077	1,88788	,52360
Fairs	Completed survey	146	2,4452	1,76569	,14613
	Dropouts	13	2,0769	1,93484	,53663

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Direct communication	Equal variances assumed	,267	,606	1,240	157	,217	,71444	,57604	-,42335	1,85222
	Equal variances not assumed			1,231	14,183	,238	,71444	,58031	-,52870	1,95757
Telephonic communication	Equal variances assumed	3,171	,077	,092	157	,927	,05163	,56276	-1,05992	1,16319
	Equal variances not assumed			,076	13,409	,940	,05163	,67732	-1,40710	1,51037
Personal meeting	Equal variances assumed	,011	,916	1,644	157	,102	,89779	,54595	-,18057	1,97614
	Equal variances not assumed			1,643	14,219	,122	,89779	,54638	-,27239	2,06796
Fairs	Equal variances assumed	,023	,880	,715	157	,476	,36828	,51496	-,64886	1,38542
	Equal variances not assumed			,662	13,839	,519	,36828	,55617	-,82588	1,56244

Dropouts vs completed surveys potential customers vendor selection criteria

Group Statistics

	Grouping	N	Mean	Std. Deviation	Std. Error Mean
Price	Completed survey	146	4,9932	1,55140	,12839
	Dropouts	7	3,2857	2,36039	,89214
Delivery	Completed survey	146	4,1233	1,60555	,13288
	Dropouts	7	2,4286	2,50713	,94761
Quality	Completed survey	146	4,5068	1,67845	,13891
	Dropouts	7	2,0000	2,30940	,87287
Technical and innovation capacity	Completed survey	146	3,9726	1,72185	,14250
	Dropouts	7	2,5714	2,22539	,84112
Performance history	Completed survey	146	3,6712	1,77379	,14680
	Dropouts	7	2,4286	2,76026	1,04328
Geographical location	Completed survey	146	2,9110	1,80008	,14898
	Dropouts	7	1,7143	1,97605	,74688
Repair services	Completed survey	146	3,5411	1,86113	,15403
	Dropouts	7	2,2857	2,62769	,99317
Operating controls	Completed survey	146	3,1096	1,69023	,13988
	Dropouts	7	1,8571	2,11570	,79966
(environmental) Durability and MVO	Completed survey	146	4,1301	1,88374	,15590
	Dropouts	7	2,1429	2,54484	,96186
Warranties and claim policies	Completed survey	146	4,3699	1,68570	,13951
	Dropouts	7	3,4286	2,43975	,92214

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Price	Equal variances assumed	3,725	,055	2,773	151	,006	1,70744	,61575	,49084	2,92403
	Equal variances not assumed			1,894	6,251	,105	1,70744	,90133	-,47676	3,89163
Delivery	Equal variances assumed	6,083	,015	2,653	151	,009	1,69472	,63873	,43272	2,95671
	Equal variances not assumed			1,771	6,238	,125	1,69472	,95688	-,62518	4,01461
Quality	Equal variances assumed	3,201	,076	3,793	151	,000	2,50685	,66085	1,20115	3,81255
	Equal variances not assumed			2,836	6,308	,028	2,50685	,88386	,36944	4,64426
Technical and innovation capacity	Equal variances assumed	2,164	,143	2,076	151	,040	1,40117	,67503	,06745	2,73490
	Equal variances not assumed			1,642	6,349	,149	1,40117	,85311	-,65879	3,46114
Performance history	Equal variances assumed	7,027	,009	1,762	151	,080	1,24266	,70543	-,15113	2,63645
	Equal variances not assumed			1,179	6,240	,281	1,24266	1,05356	-1,31147	3,79680
Geographical location	Equal variances assumed	,352	,554	1,711	151	,089	1,19667	,69932	-,18504	2,57838
	Equal variances not assumed			1,571	6,487	,163	1,19667	,76159	-,63350	3,02685
Repair services	Equal variances assumed	3,888	,050	1,710	151	,089	1,25538	,73418	-,19522	2,70598
	Equal variances not assumed			1,249	6,292	,256	1,25538	1,00505	-1,17648	3,68725
Operating controls	Equal variances assumed	1,582	,210	1,894	151	,060	1,25245	,66131	-,05416	2,55905
	Equal variances not assumed			1,543	6,373	,171	1,25245	,81180	-,70615	3,21104
(environmental) Durability and MVO	Equal variances assumed	2,395	,124	2,683	151	,008	1,98728	,74071	,52380	3,45076
	Equal variances not assumed			2,039	6,319	,085	1,98728	,97441	-,36812	4,34268
Warranties and claim policies	Equal variances assumed	2,660	,105	1,413	151	,160	,94129	,66626	-,37511	2,25769
	Equal variances not assumed			1,009	6,278	,350	,94129	,93263	-1,31653	3,19911

Dropouts vs completed surveys potential customers purchasing process

Group Statistics

	Grouping	N	Mean	Std. Deviation	Std. Error Mean
Amount of suppliers compared	Completed survey	146	2,4726	1,50032	,12417
	Dropouts	3	1,6667	2,08167	1,20185
Amount of times contact with supplier	Completed survey	78	2,3077	1,86776	,21148
	Dropouts	3	2,0000	1,73205	1,00000
Relationship value	Completed survey	146	5,1575	1,34261	,11112
	Dropouts	3	5,6667	1,52753	,88192

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Amount of suppliers compared	Equal variances assumed	,454	,502	,915	147	,362	,80594	,88056	-,93425	2,54612
	Equal variances not assumed			,667	2,043	,572	,80594	1,20825	-4,28946	5,90133
Amount of times contact with supplier	Equal variances assumed	,016	,899	,281	79	,780	,30769	1,09694	-1,87572	2,49110
	Equal variances not assumed			,301	2,183	,790	,30769	1,02212	-3,75540	4,37078
Relationship value	Equal variances assumed	,002	,961	-,649	147	,517	-,50913	,78465	-2,05978	1,04151
	Equal variances not assumed			-,573	2,064	,623	-,50913	,88889	-4,22230	3,20403

Group Statistics

	Grouping	N	Mean	Std. Deviation	Std. Error Mean
Time between need and purchase (weeks)	Completed survey	146	5,3904	9,23141	,76400
	Dropouts	65	7,8846	18,14240	2,25029
Information search (weeks)	Completed survey	144	2,6718	4,06204	,33850
	Dropouts	37	4,0811	8,41750	1,38383

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Time between need and purchase (weeks)	Equal variances assumed	1,977	,161	-1,323	209	,187	-2,49420	1,88561	-6,21146	1,22305
	Equal variances not assumed			-1,050	79,140	,297	-2,49420	2,37644	-7,22427	2,23586
Information search (weeks)	Equal variances assumed	1,698	,194	-1,460	179	,146	-1,40928	,96535	-3,31420	,49565
	Equal variances not assumed			-,989	40,401	,328	-1,40928	1,42463	-4,28767	1,46912

Dropouts vs completed surveys current customers forms of communication

Group Statistics

	Grouping	N	Mean	Std. Deviation	Std. Error Mean
Printed	Finished survey	25	3,0400	1,59374	,31875
	Dropouts	7	2,4286	1,27242	,48093
Internet	Finished survey	25	5,1200	1,71561	,34312
	Dropouts	7	3,4286	2,22539	,84112
Direct forms of communication	Finished survey	25	4,2800	1,56844	,31369
	Dropouts	7	2,7143	1,60357	,60609

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Printed	Equal variances assumed	,303	,586	,932	30	,359	,61143	,65634	-,72899	1,95184
	Equal variances not assumed			1,060	11,857	,310	,61143	,57697	-,64736	1,87022
Internet	Equal variances assumed	,575	,454	2,163	30	,039	1,69143	,78210	,09416	3,28869
	Equal variances not assumed			1,862	8,107	,099	1,69143	,90841	-,39858	3,78143
Direct forms of communication	Equal variances assumed	,001	,981	2,324	30	,027	1,56571	,67372	,18979	2,94164
	Equal variances not assumed			2,294	9,475	,046	1,56571	,68246	,03361	3,09782

Dropouts vs completed surveys current customers printed sources of information

Group Statistics

	Grouping	N	Mean	Std. Deviation	Std. Error Mean
Newspapers	Finished survey	25	1,4400	,96090	,19218
	Dropouts	5	,8000	,83666	,37417
Magazines	Finished survey	25	2,4800	1,50333	,30067
	Dropouts	5	1,2000	1,30384	,58310
Flyers	Finished survey	25	2,3200	1,21518	,24304
	Dropouts	5	1,4000	1,67332	,74833
Brochures	Finished survey	25	3,0400	1,64520	,32904
	Dropouts	5	2,0000	2,00000	,89443

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Newspapers	Equal variances assumed	,458	,504	1,384	28	,177	,64000	,46254	-,30747	1,58747
	Equal variances not assumed			1,522	6,316	,177	,64000	,42063	-,37692	1,65692
Magazines	Equal variances assumed	,358	,554	1,770	28	,088	1,28000	,72333	-,20167	2,76167
	Equal variances not assumed			1,951	6,335	,096	1,28000	,65605	-,30493	2,86493
Flyers	Equal variances assumed	,618	,438	1,455	28	,157	,92000	,63227	-,37516	2,21516
	Equal variances not assumed			1,169	4,879	,296	,92000	,78681	-1,11770	2,95770
Brochures	Equal variances assumed	,500	,485	1,248	28	,222	1,04000	,83303	-,66639	2,74639
	Equal variances not assumed			1,091	5,140	,324	1,04000	,95303	-1,38988	3,46988

Dropouts vs completed surveys current customers internet based sources

Group Statistics

	Grouping	N	Mean	Std. Deviation	Std. Error Mean
Banners	Finished survey	25	1,4800	,91833	,18367
	Dropouts	4	1,5000	2,38048	1,19024
Popups	Finished survey	25	1,4400	,91652	,18330
	Dropouts	4	1,2500	1,89297	,94648
Website of the vendor	Finished survey	25	4,6800	1,67631	,33526
	Dropouts	4	2,5000	2,88675	1,44338
Mailings	Finished survey	25	3,1200	1,66633	,33327
	Dropouts	4	1,7500	2,36291	1,18145
E-letters	Finished survey	25	2,6400	1,38082	,27616
	Dropouts	4	1,2500	1,50000	,75000
Social media	Finished survey	25	2,0400	1,51327	,30265
	Dropouts	4	1,0000	1,41421	,70711
Search engines	Finished survey	25	4,6000	2,10159	,42032
	Dropouts	4	2,7500	3,20156	1,60078

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Banners	Equal variances assumed	8,916	,006	-,032	27	,975	-,02000	,63244	-1,31767	1,27767
	Equal variances not assumed			-,017	3,144	,988	-,02000	1,20433	-3,75506	3,71506
Popups	Equal variances assumed	3,988	,056	,330	27	,744	,19000	,57619	-,99225	1,37225
	Equal variances not assumed			,197	3,229	,856	,19000	,96407	-2,75875	3,13875
Website of the vendor	Equal variances assumed	5,274	,030	2,188	27	,038	2,18000	,99643	,13549	4,22451
	Equal variances not assumed			1,471	3,331	,229	2,18000	1,48180	-2,28127	6,64127
Mailings	Equal variances assumed	,604	,444	1,448	27	,159	1,37000	,94640	-,57185	3,31185
	Equal variances not assumed			1,116	3,494	,335	1,37000	1,22756	-2,24219	4,98219
E-letters	Equal variances assumed	,068	,796	1,851	27	,075	1,39000	,75100	-,15092	2,93092
	Equal variances not assumed			1,739	3,860	,160	1,39000	,79923	-,86117	3,64117
Social media	Equal variances assumed	,330	,571	1,285	27	,210	1,04000	,80917	-,62028	2,70028
	Equal variances not assumed			1,352	4,182	,245	1,04000	,76916	-1,05930	3,13930
Search engines	Equal variances assumed	2,946	,098	1,526	27	,139	1,85000	1,21194	-,63669	4,33669
	Equal variances not assumed			1,118	3,426	,336	1,85000	1,65504	-3,06536	6,76536

Dropouts vs completed surveys current customers direct forms of communication

Group Statistics

	Grouping	N	Mean	Std. Deviation	Std. Error Mean
Direct communication	Finished survey	25	4,0400	1,61967	,32393
	Dropouts	4	1,5000	1,91485	,95743
Telephonic communication	Finished survey	25	4,2000	1,58114	,31623
	Dropouts	4	1,5000	1,73205	,86603
Personal meeting	Finished survey	25	4,0000	1,41421	,28284
	Dropouts	4	1,5000	1,91485	,95743
Fairs	Finished survey	25	3,0400	1,67033	,33407
	Dropouts	4	2,0000	2,44949	1,22474

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Direct communication	Equal variances assumed	,136	,716	2,850	27	,008	2,54000	,89128	,71124	4,36876
	Equal variances not assumed			2,513	3,720	,071	2,54000	1,01074	-,35155	5,43155
Telephonic communication	Equal variances assumed	,303	,586	3,136	27	,004	2,70000	,86088	,93362	4,46638
	Equal variances not assumed			2,929	3,845	,045	2,70000	,92195	,09897	5,30103
Personal meeting	Equal variances assumed	,858	,362	3,140	27	,004	2,50000	,79606	,86663	4,13337
	Equal variances not assumed			2,504	3,543	,075	2,50000	,99833	-,41863	5,41863
Fairs	Equal variances assumed	1,691	,205	1,089	27	,286	1,04000	,95527	-,92004	3,00004
	Equal variances not assumed			,819	3,461	,465	1,04000	1,26949	-2,71227	4,79227

Dropouts vs completed surveys current customers vendor selection criteria

Group Statistics

	Grouping	N	Mean	Std. Deviation	Std. Error Mean
Price	Finished survey	25	4,6800	1,65126	,33025
	Dropouts	2	2,5000	3,53553	2,50000
Delivery	Finished survey	25	4,6800	1,65126	,33025
	Dropouts	2	2,0000	2,82843	2,00000
Quality	Finished survey	24	4,9167	1,66594	,34006
	Dropouts	2	2,5000	3,53553	2,50000
Technical and innovation capacity	Finished survey	25	4,4000	1,65831	,33166
	Dropouts	2	2,0000	2,82843	2,00000
Performance history	Finished survey	25	4,0000	1,60728	,32146
	Dropouts	2	2,0000	2,82843	2,00000
Geographical location	Finished survey	25	3,1600	1,65025	,33005
	Dropouts	2	1,5000	2,12132	1,50000
Repair services	Finished survey	25	3,8000	1,47196	,29439
	Dropouts	2	2,0000	2,82843	2,00000
Operating controls	Finished survey	25	3,7200	1,45831	,29166
	Dropouts	2	2,0000	2,82843	2,00000
(environmental) Durability and MVO	Finished survey	25	4,0000	1,65831	,33166
	Dropouts	2	2,5000	3,53553	2,50000
Warranties and claim policies	Finished survey	25	4,1200	1,64114	,32823
	Dropouts	2	2,5000	3,53553	2,50000

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Price	Equal variances assumed	2,638	,117	1,680	25	,105	2,18000	1,29750	-,49225	4,85225
	Equal variances not assumed			,864	1,035	,542	2,18000	2,52172	-27,39860	31,75860
Delivery	Equal variances assumed	1,065	,312	2,128	25	,043	2,68000	1,25949	,08604	5,27396
	Equal variances not assumed			1,322	1,055	,404	2,68000	2,02708	-20,09877	25,45877
Quality	Equal variances assumed	2,493	,127	1,841	24	,078	2,41667	1,31256	-,29231	5,12565
	Equal variances not assumed			,958	1,037	,509	2,41667	2,52302	-27,03952	31,87285
Technical and innovation capacity	Equal variances assumed	,996	,328	1,898	25	,069	2,40000	1,26428	-,20383	5,00383
	Equal variances not assumed			1,184	1,056	,438	2,40000	2,02731	-20,35855	25,15855
Performance history	Equal variances assumed	1,170	,290	1,627	25	,116	2,00000	1,22963	-,53248	4,53248
	Equal variances not assumed			,987	1,052	,497	2,00000	2,02567	-20,90375	24,90375
Geographical location	Equal variances assumed	,081	,779	1,351	25	,189	1,66000	1,22840	-,86995	4,18995
	Equal variances not assumed			1,081	1,099	,462	1,66000	1,53588	-14,15207	17,47207
Repair services	Equal variances assumed	1,713	,203	1,581	25	,126	1,80000	1,13842	-,54462	4,14462
	Equal variances not assumed			,890	1,044	,532	1,80000	2,02155	-21,47496	25,07496
Operating controls	Equal variances assumed	1,776	,195	1,523	25	,140	1,72000	1,12928	-,60579	4,04579
	Equal variances not assumed			,851	1,043	,546	1,72000	2,02115	-21,59122	25,03122
(environmental) Durability and MVO	Equal variances assumed	2,545	,123	1,152	25	,260	1,50000	1,30215	-1,18183	4,18183
	Equal variances not assumed			,595	1,035	,656	1,50000	2,52190	-28,06115	31,06115
Warranties and claim policies	Equal variances assumed	2,687	,114	1,255	25	,221	1,62000	1,29082	-1,03850	4,27850
	Equal variances not assumed			,642	1,035	,633	1,62000	2,52145	-27,98356	31,22356

Dropouts vs completed surveys current customers purchasing process

Group Statistics

	Grouping	N	Mean	Std. Deviation	Std. Error Mean
Amount of vendors compared	Finished survey	25	2,8800	1,78699	,35740
	Dropouts	0[a]	.	.	.
Amount of times contact with vendor	Finished survey	0[a]	.	.	.
	Dropouts	0[a]	.	.	.
Relationship value	Finished survey	25	5,2000	1,29099	,25820
	Dropouts	1	6,0000	.	.

a. t cannot be computed because at least one of the groups is empty.

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Relationship value	Equal variances assumed	.	.	-,608	24	,549	-,80000	1,31656	-3,51725	1,91725
	Equal variances not assumed			.	.	.	-,80000	.	.	.

Group Statistics

	Grouping	N	Mean	Std. Deviation	Std. Error Mean
Time between need and purchase (weeks)	Finished survey	25	9,4800	11,33623	2,26725
	Dropouts	8	15,1250	17,20828	6,08405
Information search (weeks)	Finished survey	25	6,8000	11,54340	2,30868
	Dropouts	4	1,5000	1,73205	,86603

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Time between need and purchase (weeks)	Equal variances assumed	4,954	,033	-1,077	31	,290	-5,64500	5,23919	-16,33041	5,04041
	Equal variances not assumed			-,869	9,028	,407	-5,64500	6,49277	-20,32562	9,03562
Information search (weeks)	Equal variances assumed	1,702	,203	,903	27	,374	5,30000	5,86903	-6,74226	17,34226
	Equal variances not assumed			2,149	26,959	,041	5,30000	2,46577	,24031	10,35969