Customer Value in E-grocery

An investigation into Handla24 of ICA Bankeryd

Bachelor Thesis within Business Administration
Authors: Tuan Nguyen Trong
Phuong Phan Thi Khanh
Hai Ly Pham
Tutor: Professor Mona Ericson
Jönköping December, 2010
Acknowledgements

We would like to express our gratefulness to our tutor Professor Mona Ericson for her support and critical comments through the process of writing our thesis.

We also want to appreciate Handla24 of ICA Bankeryd for their cooperation, especially thank to our contact person, Katarina Sannelius.

Finally, we would like to thank our families and friends for supporting us.

Tuan Nguyen Trong       Phuong Phan Thi Khanh       Hai Ly Pham

Jönköping, 2010
Bachelor Thesis in Business Administration

Title: Customer Value in E-grocery–An investigation into Handla24 of ICA Bankeryd

Authors: Tuan Nguyen Trong, Phuong Phan Thi Khanh, Hai Ly Pham

Tutor: Professor Mona Ericson

Date: December, 2010

Subject terms: Customer value, value creation, typology of consumer value, e-commerce, e-grocery, Handla24, ICA Bankeryd

Abstract

Background
Electronic commerce (EC) has become popular due to the increasing demand of efficiency in shopping. The reason for this trend is the changes in technology and socio-demography. E-grocery, therefore, appears to be a fresh and attractive business concept that creates customer value for companies trading in supermarket industry. Handla24 of ICA Bankeryd is known as one of the foremost ICA retailers that generates e-grocery in Sweden. Starting in 2009, the service supplier went from zero customer to its current position of approximately 1400 regular customers. However, perceived value and further expectations from their customers have not been thoroughly understood yet. This issue is hindering Handla24 of ICA Bankeryd in expanding their customer group. Also, their ability to give appropriate service levels is potentially restricting further customer growth. With these issues rectified, Handla24 of ICA Bankeryd could become a stronger player in the market.

Purpose
The purpose of this thesis is to examine how customer values are created in e-grocery. We identify factors that deliver value to the existing customers and target a potential customer group in Jönköping city for Handla24 of ICA Bankeryd. We also provide recommendations on how Handla24 of ICA Bankeryd can attract this group.

Method
This thesis employs a combination of quantitative method and qualitative method. Data are collected through two face-to-face interviews with Handla24 of ICA Bankeryd. Customers in Jönköping are divided into two clusters: the existing customers and potential customers with two separate survey questionnaires for each of the clusters.

Conclusion
We conclude that e-grocery does create customer value. In the example of Handla24 - ICA Bankeryd, we identify four main factors that deliver value to their existing customers, namely delivery price, product range, convenience shopping and customer services. In order to target the potential customers for Handla24, we also recognize the characteristics that create the demand for e-grocery. The targeted customers are capable of shopping online due to the habit of surfing the Internet. In addition, they do not like either queuing at the store or carrying groceries home. This group is a female majority. It also includes families having children or having greater than or equal to 3 members. This customer group does not find 99 kr delivery fee of Handla24 - ICA Bankeryd reasonable, but they still have an interest in trying and recommending e-grocery of Handla24 to other people.
# Table of Contents

1 Introduction .................................................................................................................. 1
   1.1 Background ................................................................................................................. 1
   1.1.1 Customer value and its varieties ........................................................................... 1
   1.1.2 Electronic commerce in general and in grocery market ....................................... 2
   1.2 Handla24 of ICA Bankeryd ...................................................................................... 2
   1.3 Problem discussion ..................................................................................................... 3
   1.4 Purpose ....................................................................................................................... 3
   1.5 Thesis structure .......................................................................................................... 4

2 Theoretical Framework ................................................................................................ 5
   2.1 Definition and concept ............................................................................................ 5
       2.1.1 E-grocery concept .......................................................................................... 5
   2.2 Value Definition ....................................................................................................... 6
   2.3 Customer value in marketing context ...................................................................... 6
   2.4 How are customer values created in e-grocery? ..................................................... 9
   2.5 Four sources of customer value in Electronic Grocery Store (EGS) ....................... 9
   2.6 A list of 20 criteria to effectively assess how retailers create value for customer ... 10
   2.7 Theoretical emphasis ............................................................................................... 12

3 Method ............................................................................................................................ 13
   3.1 Choice of method ..................................................................................................... 13
   3.2 Marketing research method .................................................................................... 13
   3.3 Qualitative method .................................................................................................. 14
       3.3.1 Interview ......................................................................................................... 14
   3.4 Quantitative method ............................................................................................... 15
       3.4.1 Choice of survey ............................................................................................ 15
       3.4.2 Survey questionnaire ..................................................................................... 15
       3.4.3 Sampling designs ........................................................................................... 15
       3.4.4 Editing and coding data .................................................................................. 19
       3.4.5 Data processing and analysis ........................................................................... 20
   3.5 Collection of data ..................................................................................................... 20
   3.6 Trustworthiness ........................................................................................................ 21

4 Empirical Presentations ............................................................................................... 23
   4.1 Interview .................................................................................................................. 23
   4.2 Existing customers .................................................................................................... 23
       4.2.1 The factors contribute to the creation of value to Handla24 of ICA Bankeryd’s existing customers. ................................................................. 23
       4.2.2 Existing customers’ willingness to continue using Handla24 –ICA Bankeryd and to recommend it to other people ........................................... 25
   4.3 Potential customers .................................................................................................. 26
       4.3.1 The characteristics of potential customer group contribute to create demand for Handla24 of ICA Bankeryd. ......................................................... 26
       4.3.2 The factors of Handla24- ICA Bankeryd contribute to create values for their potential customer group. ................................................................. 29
       4.3.3 Potential customers’ willingness to try Handla24 - ICA Bankeryd and to recommend it to other people ......................................................................... 32

5 Analysis ........................................................................................................................... 33
5.1 Existing customer group ................................................................. 33
5.1.1 Q1: Which factors are contributing to the creation of value to the existing customers of Handla24 - ICA Bankeryd? .................................................. 33
5.1.2 Q2: How willing are the existing customers to continue using Handla24 and recommend it to other people, in correlation with the answers from Q1? .................................................. 35
5.2 Potential customer group .................................................................. 35
5.2.1 Q3: Which characteristics of potential customers will create demand for Handla24 of ICA Bankeryd? .................................................. 35
5.2.2 Q4: Which factors should Handla24 - ICA Bankeryd emphasize to create value for their potential customers? .................................................. 38
5.2.3 Q5: How willing are the potential customers to try Handla24 and recommend it to other people, in correlation with the answers from Q3 and Q4? .................................................. 41

6 Conclusions and Recommendations .................................................. 43
6.1 Conclusions and recommendations .................................................. 43
6.2 Suggestions for further study .......................................................... 45

References .......................................................................................... 46

Appendix 1 - Interview .......................................................................... 49
Appendix 2 - Survey questionnaires for existing customers ..................... 50
Appendix 3 – Survey questionnaires for potential customers ..................... 51
Appendix 4 – Translations of survey questionnaires ................................ 52
Appendix 5 - Coding table for analysis .................................................. 54
Appendix 6 - Analysis and interpretation for existing customers ............. 55
Appendix 7 - Analysis and interpretation for potential customers ........... 60
1 Introduction

This chapter provides an overall view about customer value and e-grocery in current circumstance, following the brief introduction of Handla24 - ICA Bankeryd. Problem discussions and statements along with the purpose and thesis questions are also presented.

1.1 Background

1.1.1 Customer value and its varieties

Customer value plays a vital role within the company’s strategy and operation, especially in marketing. Zeithaml (1988, p.14) defined customer value as “the customer’s overall assessment of the utility of a product based on perceptions of what is received and what is given”. If companies associate and emphasize customer value in their organisational strategies, they may be able to allocate resources more efficiently and then effectively meet the customers’ demand.

Customer value has varied gradually due to continuous changes in socio-demography and technology developments. Firstly, technology development has enabled customers and companies to connect more easily through a virtual shopping interface called “the Internet”. The increasing number of customers using computer and the higher access ability on the Internet through hi-tech devices such as computer, mobile and PDAs have significant impacts on both customer value and buying behavior. Jarvenpaa and Todd (1997) indicated that customers enjoy shopping on Internet due to its convenience, time saving and providing a nice experience. Secondly, the changes in socio-demography have led to noticeable differences in the customers’ expectations and demands during the shopping experience (Youn-Kung, 2002). Today, a modern life style requires customers to shop more efficiently. This is due to single parent households, or households working longer hours. Therefore, ability to shop more efficiently becomes a vital aspect to modern life.

1.1.2 Electronic commerce in general and in grocery market

Turning into the 21st century, electronic commerce (EC) has become popular due to two factors mentioned above: the changes in socio-demography and the development of technology. EC has enabled the companies’ capability to create and enhance customer value. According to Anu (2002), EC means customers order products on the Internet and receive them after a certain time by home delivery service, mostly offered by the selling companies. Customers may find EC mostly in some industries such as fashion (HM, Zara, etc), beauty (Clinique, Sephora, etc) or electronic industry (e.g. Expert, Dustin home or Elgiganten). With the support of EC, placing orders of journals, books, CD music, games or DVDs are also processed online easily. In the grocery sector, EC could be found in “electronic grocery stores” (EGS), which offer an electronic interface for customers to order groceries, and the picking process as well as the delivery are taken care by the retailers (Anu, 2002).

Thus far, online stores, have become a quick and easy medium to sell and buy things. However, it is only stable for those industries trading in “imperishable” items such as clothes, CD or machines. These industries do not deal with perishable goods which have a limited product life. The supermarket industry, on the other hand, faces many difficulties when applying EC due to an uncertainty demand. According to Anu (2002), electronic commerce of groceries is known as the ordering of groceries on the Internet. He also
stated that “the groceries are one of the most difficult objects of trade for electronic commerce” (Anu, 2002, p.107). The main reason is characteristics of groceries. Companies must deal with “perishable” problems, limited shelf time, as well as suitable delivery system and temperature controlled storage equipment (Anu, 2002). Consequently, to overcome barriers and avoid unnecessarily higher cost of goods sold, companies need a detailed plan, delivery schedule and estimated storage times, along with cost efficiency in distribution to be able to compete with retail stores and other service providers. Environmental effects should also be taken into account. Another obstacle in implementing e-grocery is dealing with customer’s attitudes towards electronic grocery shopping. Anu (2002) said that customers’ looks may vary critically at an e-grocery store. Therefore, it is a real challenge for those who want to implement EC in grocery market and create customer value in e-grocery.

1.2 Handla24 of ICA Bankeryd

Creating customer value by successfully implementing e-grocery is a real challenge for companies and retailers. However, many firms and individuals have been entering this industry since the concept of e-grocery is promising and attractive. In Sweden, the giant supermarket company ICA has started to exploit customers’ demand through Internet. Handla24 is an Internet shop concept - “näthandelskoncept” for ICA retailers (Handla24 website, 2010). It was developed in collaboration with ICA Parken in Örebro, Sweden. Handla24 has the purpose of creating long-term development which will bring benefits for all ICA retailers who want to operate e-grocery and build mutually beneficial relationship with customers. Today, there are 13 ICA retailers in Sweden applying this e-grocery model of Handla24, from Östersund to Växjo, including ICA Bankeryd, Jönköping.

ICA Bankeryd is known as the foremost ICA retailer that has applied Handla24 concept into their store in 2009. In the early stage, they faced many difficulties in operation as well as advertising new services to their customers. They started with zero customer in the beginning (K. Sannelius, personal communication, 4 October 2010). Due to the newness of the service philosophy and regular shopping habit, customers were not willing to try e-grocery and they also doubted its feasibility. However, with the incessant efforts, ICA Bankeryd now has gained around 24,000 visits to their e-grocery website with 1,400 regular customers. Their main customers are the elderly and those who have families with small children. They offer a wide selection of approximately 8,000 to 10,000 products for customers to shop on the website (Appendix 1). Even though the diversity of ICA’s products online is still limited compared to the physical store (15,000 items), it almost meets the basic demands of customers. Handla24 of ICA Bankeryd also offers an additional service that embraces large orders and specific orders from certain customer groups such as: catering for companies, parties and gatherings including: fruit basket, coffee, cookies and drinks; and “middagskassen” which delivers weekly five nutritious meals for four people in term of receipts and ingredients.

1.3 Problem discussion

In Sweden, the number of companies working in e-grocery sectors is increasing rapidly nowadays, especially in big cities as Stockholm, Malmö and Göteborg. The growing number of e-grocery providers reflects the fact that demand is increasing. As we mentioned in part 1.1.1, the changes in socio-demography and technology development lead to a need of time saving and convenience in grocery shopping. However, there is still a gap between customers who like to try new things and customers who hesitate to change their regular
shopping habits. In other words, it requires tactics and flexible marketing strategies in order to convince customers to try e-grocery service and build their loyalty. Handla24 of ICA Bankeryd faces the same challenges. Although they have gained 1400 regular customers after nearly two years operating, they do hesitate about the expansion of e-grocery business due to the challenges of understanding customer value in e-grocery. They want to attract more customers but they are not able to plan their expansion due to lack of understanding about their customers’ demand. This issue has hindered them from implementing economies of scale which will reduce costs and thus, decrease the price to become more competitive or increase the margin.

In short, Handla24 of ICA Bankeryd and other e-grocery providers need to understand what customers think about the service and how customers perceive value from e-grocery. Hence, the e-grocery providers would find a better way to keep existing customers and attract new customers. It is the main problem that we are looking at in this thesis.

1.4 Purpose

The purpose of this thesis is to examine how customer values are created in e-grocery. We identify factors that deliver value to the existing customers and target a potential customer group in Jönköping city for Handla24 of ICA Bankeryd. We also provide recommendations on how Handla24 of ICA Bankeryd can attract this group.

The purpose refers to the following thesis questions:

Q1: Which factors are contributing to the creation of value to the existing customers of Handla24 - ICA Bankeryd?

Q2: How willing are the existing customers to continue using Handla24 and recommend it to other people, in correlation with the answers from Q1?

Q3: Which characteristics of potential customers will create demand for Handla24 of ICA Bankeryd?

Q4: Which factors should Handla24 - ICA Bankeryd emphasize to create value for their potential customers?

Q5: How willing are the potential customers to try Handla24 and recommend it to other people, in correlation with the answers from Q3 and Q4?
## 1.5 Thesis structure

The thesis continues with following chapters:

- **Chapter 2**
  Theoretical Framework
  This chapter explains customer value and e-grocery concept, and how e-grocery creates customer value. The Holbrook’s typology of consumer value and the four sources of customer value are presented. In the last section, the theoretical emphasis is clearly stated.

- **Chapter 3**
  Method
  This chapter denotes the choice of research method combining the qualitative and quantitative method. The difference between qualitative and quantitative methods are presented. The interview, survey conducting process and data collection are also described. In the end, the trustworthiness of method is expressed.

- **Chapter 4**
  Empirical Presentation
  This chapter presents the empirical material. The material consists of two groups: potential customers and existing customers. The graph and text are used to illustrate the gathered information.

- **Chapter 5**
  Analysis
  This chapter presents the analysis and interpretation based on the empirical presentations and the framework of theories. It is divided logically into two sections: existing customer group and potential customer group, along with answering the thesis questions.

- **Chapter 6**
  Conclusions and Recommendations
  This chapter presents the most important results from our study. Recommendations for Handla24 of ICA Bankeryd and suggestions for further studies are also provided.
2 Theoretical Framework

This chapter builds on customer value theories and e-grocery issues. It is divided into four components; firstly, giving e-grocery concept and value definition; secondly, providing typology of customer value; then, presenting how customer values are created through e-grocery, and lastly emphasising theories used.

2.1 Definition and concept

This section brings the concept of e-grocery and the definitions of customer value.

2.1.1 E-grocery concept

Electronic grocery shopping (e-grocery) is a new service concept constituted by the development of information technology and the utilization of the Internet in ordering goods. According to Anu (2002, p.117), “the electronic grocery stores (EGS) offer an electronic ordering interface, and the retailer takes care of picking, and typically also delivery of the goods to the customer”. Although Hoyt (2001) differentiated the core value as grocery shopping and the home delivery of the ordered goods as an additional value in e-grocery concept, these two services are accompanied together within a process of customer shopping online. The appearance of e-grocery attracts customers who appreciate time saving and express little desire for shopping or leaving home to buy groceries. Thus, online grocery shopping and home delivery service more or less have together enhanced the customer value.

Development of e-grocery

Grocery Express, founded in San Francisco in 1981, was the first EGS which sold groceries through a simple online commercial interface, phone and fax with home delivery service (Mendelson, 2001). Since the service was fresh and attractive, the market grew fast in the last half of 1990s with the entries of many players operating in different business models; such as Webvan, Streamline, Homegrocer, Peapod, Groceryworks and Tesco. However, just a few models could survive in this potential industry which is full of challenges. Most companies closed down or were acquired by traditional grocery retailers who did not have difficulties as they had established logistics and economies of scale systems. Tesco (1996), on the other hand, had been able to gain success and profit due to the method that compromised e-grocery stores with physical grocery stores. They picked these ordered products directly from shelves in their supermarkets as to systematically control the flows of goods. Reinhardt (2001) analyzed that Tesco’s e-grocery stores had grown to be the leader in e-grocery industry with 535 million euros in revenue 2002. Some other big players today are Peapod, Safeway, Sainsbury, Asda Wal-Mart, Iceland, and Carrefour (Van Gelder, 2002).

Potential benefits e-grocery could bring to customers

As e-grocery requires the least effort from customers to place an order and gain the goods which are delivered home in an agreed period, EGS concept is considered to be convenient and simple. Shopping online is also fully accessible 24/7 and allows for rapid transactions with the immediate delivery of information about products. Not all of these characteristics can be provided by the traditional shopping malls. In an exploratory research, Aylott and Mitchell (1998) showed that customers found grocery shopping stressful due to the fact that they had to queue in the long line when the stores were crowded. With buying groceries on the Internet, customers avoid queuing time in store. In addition, the benefit that
customers receive from e-grocery is to have an opportunity to compare price of products and find the suitable products. They could also review comments of other customers about the products purchased, then make their purchasing decisions easier.

**Challenges that could hinder e-grocery in creating customer value**

Many studies have been conducted to explain difficulties that an EGS could face. Firstly, the products are perishable; Baker (2000) warned that customers might be skeptical and want to examine the quality before purchasing. The service, therefore, could be locally limited. Secondly, Bill, Pirkko and Tawfik (2002) emphasized problems in satisfying customer demand, in particular due to individual preferences which could decrease customer value as well. Another challenge for EGS is costs. For home delivery service, groceries need to be controlled by temperature and have a suitable time-plan to reduce cost such as extra gas and electricity wastes. Higher costs could increase the price of products, however the price level for e-grocery should not be higher than physical store. Fourthly, the convenience of e-grocery may diminish if buyers must wait for the goods to be delivered. Finally, it is a real challenge for companies to convincingly change customers’ regular shopping habits (Cane dy, 1999).

2.1.2 Value Definition

If marketers study Kotler’s concept (1991) about marketing, they would view marketing as the managerial process which comprehends the facilitation and consummation of exchanges. Kotler (1991) also defined the exchange interest as a transaction between two parties in which each party gives up something of value for something of greater value in return. Recently, Kotler and Armstrong (2010, p.29) broadly redefined that “marketing is a social and managerial process by which individuals and organizations obtain what they need and want through creating and exchanging value with others”. According to these definitions, the value is recognized as an important role playing at the heart of all marketing activities. As a result, “value” attracts much attention from researchers.

Having received attentions, “value” has been defined in different perspectives. Porter (1985) provided a basic definition of value which is what buyers are willing to pay. Within the pricing literature, Leszinski and Marn (1997) viewed value as the trade-off between customers’ perceptions of benefits obtained and sacrifices incurred. This literature, however, stated that price was not alone affecting the purchase of customer, the past association with the product or service also affected the price perceptions and the value determination of customers consequently. For example, Zeithaml (1988) provided four types of customer definitions of value which were (1) being lowly price, (2) having what they wanted, (3), getting quality from the price paid, and (4) obtaining total benefits for total sacrifice incurred. Furthermore, in the customer behavior literature, the term of customer needs and what is desirable were also used to define value. As the consideration of Rokeach (1973, p.298), he concerned “value is an enduring belief that a specific mode of conduct or end-state of existence is personally or socially preferable to an opposite or converse mode of conduct or end-state of existence”.

2.2 Customer value in marketing context

The term value is commonly recognized for its broad meaning. When coming to use the term customer value, many authors try to define what and how customers perceived values in marketing context. Though, Zeithaml (1988, p.14) referred customer value as “the custom-
er’s overall assessment of the utility of a product based on perceptions of what is received and what is given”. Holbrook (1999) strongly argued for the meaning of consumer value and also spent one chapter “Introduction to consumer value” in his book named “Consumer value: a framework for analysis and research” to develop the theory of consumer value. Holbrook used the concept of Kotler about marketing to refer the term consumer value. He argued “the Kotlerian concept indicates that implications concerning consumer value are central to our understanding of marketing and, indeed, that the concept of consumer value constitutes the foundation, defining basis, or underlying rationale for the marketing concept in the sense that each party to a transaction gives up one thing in return for something else of greater value” (Holbrook, 1999, p.2).

**Typology of Consumer Value**

In marketing, the term “customer” often implies the buyer or end-user of a product or service while “consumer” may be understood as the end-user of a product or service (Kotler, 2010). We apply the typology of consumer value (Holbrook, 1999) because it supports our investigation into customer value of e-grocery.

Holbrook’s (1999) main focus in his book was to capture the nature and types of consumer value. He proposed the framework which was designed to classify various types of value in the consumption experiences. After that he presented a typology which identified six key dimensions of consumer value. Then based on these dimensions, the typology of consumer value was developed and became a framework for understanding, analyzing and researching consumer value.

Bevan and Murphy (2001) briefly explained each Holbrook’s dimension in the figure 2.1 and 2.2.

**Figure 2.1: Key dimensions of Holbrook’s typology of consumer value**

<table>
<thead>
<tr>
<th>Key Dimensions</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Extrinsic</strong></td>
<td>The offering is not valued in itself but rather for its ability or function to achieve something, e.g. the extrinsic value of money or value of a hammer which exists to function to drive in nails</td>
</tr>
<tr>
<td><strong>Intrinsic</strong></td>
<td>Relates to the essential nature of offering which is valued as an end in itself, e.g. a music concert</td>
</tr>
<tr>
<td><strong>Self oriented</strong></td>
<td>The source of value derived from an offering is its capacity to contribute to an individual for his or her own sake, e.g. reading a book for pleasure</td>
</tr>
<tr>
<td><strong>Other oriented</strong></td>
<td>Value derived from an offering is in terms of what or how the offering may affect or influence others. Others may be at micro level, e.g. family &amp; friends; intermediate level, e.g. community, Country, the world; or at macro level, e.g. the Cosmos, Mother nature, Deity. One may include purchasing goods in order to impress others as being other oriented.</td>
</tr>
<tr>
<td><strong>Active</strong></td>
<td>Value is active when it involves a physical or mental manipulation of a tangible or intangible offering, e.g. value derived from using time-saving devices.</td>
</tr>
<tr>
<td><strong>Reactive</strong></td>
<td>Value is reactive when something is undertaken by the offering or with a consumer being part of the consumption experience, e.g. the experience of receiving a quality service.</td>
</tr>
</tbody>
</table>
Figure 2.2: Holbrook’s typology of consumer value

<table>
<thead>
<tr>
<th></th>
<th>Extrinsic</th>
<th>Intrinsic</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Self oriented</strong></td>
<td><strong>Active</strong> Effiency</td>
<td><strong>Play</strong> Play</td>
</tr>
<tr>
<td></td>
<td><em>Convenience</em></td>
<td><em>Enjoyment</em></td>
</tr>
<tr>
<td></td>
<td><strong>Reactive</strong> Excellence</td>
<td><strong>Aesthetics</strong></td>
</tr>
<tr>
<td></td>
<td><em>Quality of product or service</em></td>
<td></td>
</tr>
<tr>
<td><strong>Other oriented</strong></td>
<td><strong>Active</strong> Status</td>
<td><strong>Ethics</strong></td>
</tr>
<tr>
<td></td>
<td><em>Success communicated to others via offering</em></td>
<td><em>Virtue communicated to others via offering</em></td>
</tr>
<tr>
<td></td>
<td><strong>Reactive</strong> Esteem</td>
<td><strong>Spirituality</strong></td>
</tr>
<tr>
<td></td>
<td><em>Reputation communicated to others via offering</em></td>
<td><em>Faith embedded in offering</em></td>
</tr>
</tbody>
</table>

**Excellence and efficiency**

Excellence, as a consumer value, is acquired through the quality of product or service. According to Oliver (1996), the quality could be expressed as the attainment, the desirability and the usefulness. The attainment implies the high level of technical accomplishment in product or service offered, while the desirability concerns the consumers’ need for attachment to the offering; and finally, the usefulness refers to “fit for the purpose” based on the traditional view of the quality. In other words, efficiency is a consumer value acquired through the conveniences of actively using product or services. For instance, consumers save time when using product or service.

**Status and Esteem**

According to Holbrook (1999), status is derived from an individual who wants to actively manipulate his or her behavior in order to achieve a favorable response from others. In contrast, the esteem is an outcome as a result of an individual who reactively responds to others appreciation.

**Ethics and Spirituality**

Ethics in value is expressed by Holbrook (1999) when consumers purchase a friendly-environmental product or service; there is a form of intrinsic value. Consumer value is accrued through the virtue where consumers communicate to others by making those purchases. Whereas, the spirituality deriving the consumer value refers to the sense of communication inside consumers themselves.
**Play and Aesthetics**

Play is referred to the value which consumers get enjoyment actively from product or service, while aesthetics is referred to the value which consumers achieve reactively from product or service.

2.3 How are customer values created in e-grocery?

*Based on the previous studies and researches, this section clearly explains how e-grocery delivers values to customers.*

2.3.1 Four sources of customer value in Electronic Grocery Store (EGS).

Bill et al. (2002) conducted research relating to Finnish Internet grocery business in order to discuss four different ways in which customer values can be created through electronic grocery shopping. These ways were discussed from the perspective of a single grocery retailer, both online and physical store. Grocery retailers offered customers:

1. competitive prices,
2. a broad and/or specialized assortment,
3. superior shopping conveniences, and
4. superior customer services.

In their study, Bill et al. (2002) also noted that the four ways would be set limit or extend depending on the chosen business model of company in the market-space. In addition, most internet grocery stores in Finland and many other countries chose “extended retailer” business model which was to operate e-grocery as extensions of existing physical retail business. However, “Nettimarket.com”, a grocery shop in Turku, Finland was a different example. They operated virtually in the start-up stage so they had the opportunity to choose a quite different approach of business model. Bill et al. (2002) used Nettimarket.com as an illustration to four ways of creating customer value.

**Price level**

The Nettimarket.com example showed that the competitive price was not the heart of creating customer value in e-grocery. Teranto, the owner of Nettimarket.com, shared an opinion that his company’s business model had obvious benefits such as no warehouse cost and risk, low rent for localities, no cash-counter personnel, no loss of products, no burglary, and so forth, compared to physical grocery stores. He thought that his business model would have the possibility to compete on price. However, during the operation, he recognized that due to small margin, transportation cost, pricing policy, etc and his experiences, e-grocers did not have to undercut the physical retailers’ price in order to attract customers. In fact, e-shoppers were willing to pay a slightly higher price than in the physical store, or to pay the same price in physical store plus delivery fee. Moreover, he was convinced that no e-grocers, regardless business model, would ever be able to compete on price due to the high delivery and assembly cost. Bill et al. (2002) suggested that due to the pricing policy and the “extended retailer” business model, there was no possibility to offer reduced price in the electronic markets. Customers were willing to pay in order to obtain conveniences benefits and other advantages.
Product range

For potential web competitors, the larger product assortment provided the greater the competitive advantages gained; hence, the assortment was seen as an important factor in store choice (Arnold, Oum, & Tigert, 1983; and Arnold, Handelman, & Tigert, 1998). Indeed, according to Alba, Lynch, Weitz, Janiszewski, Lutz, Sawyer, and Wood (1997), the most important customer benefit of e-commerce was based on the wider selection of items and the wider availability of hard-to-find products. Therefore, before deciding to embrace Internet commerce for the large grocery chains, companies should try to offer a wider assortment in their online stores than physical stores or additional value to customer on the offered product range. According to Esa Mattsson, a Spar-retailer, who argued for a chain-value, centrally-operated EGS system, said that it would be easier for EGS to offer a wide selection approximately 30,000 products for customers; whereas most physical grocery retailers offered a limited amount of items (exceeding 10,000) due to stock risk and the lack of shelf space. Consequently, a comprehensive online system would be more preferable than a physical store by offering a competitive service which might be impossible to implement for physical retailers. In addition, Hamilton (1998) believed that the groceries would do well online because the lack of hypermarkets in peripheral regions could bring customers to e-hypermarkets in order to achieve substantial benefits.

Shopping convenience

The norm of shopping convenience is multidimensional. Here are some aspects. The benefit that customers can gain through e-commerce is to shop from anywhere and anytime they want. Moreover, shopping groceries in physical stores becomes dislike by most of customers (Schwartz, 1997; Coral, 1999); hence, the faster and more convenient of e-commerce will be a favorite alternative for the majority. Time-saving in shopping is also the actual benefit and the sufficient motivation for customers when they choose online stores.

Customer service

In EGS, customer service is highly challenged compared to the physical stores. The catalogue of online product, which is not linked directly to the wholesaler’s system, is a drawback for EGS because customers do not know exactly whether this item is in stock. Therefore, customers will not satisfy with the services. According to Peppers and Rogers (1999), it is really difficult to tailor services for each customer, although customer database and the use of current information management procedures could be reached easily by technical feasibility. Another possible barrier to EGS is that goods quality might be damaged after the delivering process. With the extension of retailer model as EGS, retailers have the possibility to control and minimize the storage lost, to reduce the labor costs of picking, as well as to increase the picking speed (Kamarainen, Smaros, Jaakkola, & Holmstrom, 2001).

2.3.2 A list of 20 criteria to effectively assess how retailers create value for customer

There are various ways for retailers to create customer value. Scott and Lamont (1977) suggested that identifying values is helpful in explaining how customers behave when making a choice in retail stores, as well as which stores they choose to enter. Besides, if retailers know what factors can create value for customers, they are also on the way to creating a competitive advantage. In his book, Ghosh (1994) listed five ways in which retailers create value.
Offering the right product, depth and breadth range of goods,
(2) Creating good atmosphere, appealing to customers senses of sight, sound, scent, taste and touch;
(3) Reduce any risks related to shopping activities, for instance payment security issues;
(4) Creating shopping convenience, for example home delivery services
(5) Controlling costs, for example price promotion.

Similarly, Quelch (1999) said that customers may not know stores explicitly; however, they can weigh five factors in order to determine which a particular store they will patronize. He expressed five factors as;

(1) the breadth and depth of product assortment,
(2) the price of the goods sold,
(3) service,
(4) the convenience of the shopping experience, and
(5) ambiance.

Quelch (1999) provided more information supporting for his ideas. Assuming all others factors are roughly equal, a retailer will be the winner if at least one of these factors makes customer perceive superiorly. Moreover, if several factors of a retailer are superior for customer perceived, there will be no competitor. He also emphasized strongly that these factors are priorities of the retailer to create customer values, even e-commerce.

Based on Quelch’s (1999) and Ghosh’s (1994) perspectives as well as the research of Morganosky and Cude (2000) associated with the customer response to online retailing, Bevan and Murphy (2001) developed a list containing 20 criteria to assess effectively how e-retailers create values for their customers. They also used this list in their research with the aim of identifying and evaluating ways in which online Britain retailers created customer value. The following list will present the 20 criteria to assess for an online store in their research.

1. What is the size of the range?
2. How and when do you pay? How safe is it?
3. Are prices the same as in physical stores?
4. Are there delivery costs?
5. Speed and ease of use
6. Can you make selection preferences?
7. Is the online basket information easy to access and alter?
8. Can you alter or update your order?
9. Can you get product information or labeling details?
10. Are recipe details and ingredients available?
11. Are there products other than groceries on offer?
12. How are the products categorized?
13. Can you use loyalty cards and coupons?
14. Can you create a regular shopping list?
15. Is the availability of offers the same as in physical stores?
16. What is the availability of the service?
17. Delivery details and times.
18. What happens if there is a delivery mistake?
19. Are there any help mechanisms or ways of contacting the store for guidance?
20. Comments on the site or special services offered.

2.4 Theoretical emphasis

With the presentation of theories above, we once again emphasize why these specific theories have been chosen.

The first section of the theoretical framework presents value definition and the e-grocery concept with its development, its potential benefits and its challenges. Based on these theories, we aim to understand what value and e-grocery are; thus, we have an overview of the e-grocery and customer value in the marketing context.

The second section presents Holbrook’s (1999) typology of consumer value: excellence and efficient, status and esteem, ethics and spirituality, play and aesthetics. The theory helps us to evaluate what type of consumer value can be created and how they are created.

The last section presents theories regarding how customer values are created particularly by e-grocery. We put much attention on the four sources of customer value including price level, product range, shopping convenience and customer service (Bill et al., 2002); and a list of 20 criteria creating value to the customers (Bevan & Murphy, 2001). Based on this section, we will generate the survey questionnaires and the interview questions.
3 Method

In this chapter, choice of methods is stated and explained. Considerations and comparisons between quantitative and qualitative methods are taken into account. The interview and survey process are also presented with the advantages and disadvantages of survey techniques. The chapter ends with a discussion on trustworthiness over both quantitative and qualitative methods.

3.1 Choice of method

In this thesis, the empirical materials are collected through a method combining quantitative and qualitative methods. However, the thesis aims to understand the value in customer side; the quantitative method is primarily used as the basis of all investigations and analysis. The majority of questions in the customer surveys is close-ended kinds with the aim of collecting quantitative data. On the other hand, the qualitative method contributes to the beginning part and partly in the final conclusion as well as in the recommendations. Qualitative method brings a bird’s-eye view of the current situation and helps us figure the important factors to be considered before conducting the surveys.

According to Birn (1992), the information often answers two basic questions, namely what is happening? and why is it happening?. What-questions concern performance data which are quantitative data; while Why-questions relate to behavior and attitude data which are qualitative data. Because Handla24 of ICA Bankeryd and we want to understand the value that the customers have been received and further expectations on their service, we find the combination method mostly suitable.

In addition, our study is related to marketing field; and in the marketing context, the marketing research method is a special method to help the firm study its activities such as customers, products and services. Therefore, our method of study is also based on the marketing research method characteristics. In the following section, the marketing research method will be explained clearly and concisely.

3.2 Marketing research method

Customer value could be perceived through certain factors in marketing strategy such as price, product quality, customer service, guarantee service, and so on. However, the effective level of each factor varies according to different industrial sectors and their own market. Given the Handla24-ICA Bankeryd in e-grocery industry where individual customer value could be difficult to ask for, a marketing research is conducted to understand customer value delivered by the service in a large population.

According to Burns and Bush (2005), they denote four significant utilities of marketing research. Firstly, it brings an overview of the existing opportunities and challenges in the market. Secondly, after identifying the situation, it generates, refines and evaluates marketing actions that firms should conduct in order to grasp their opportunities and weaken their problems. Moreover, marketing research might also take control over marketing performance by assessing whether marketing campaign is going well. Last but not least, by understanding the market correctly, a firm might use marketing research to set marketing plan as a whole process to gain sustainably effectiveness.

In this thesis, the marketing research contributes to the first and second utilities. Quantitative surveys show the advantages and disadvantages of the service that customers currently
perceive. These factors imply market opportunities and challenges towards Handla24-ICA Bankeryd. If Handla24 knows exactly what customers think and need, they may utilize the opportunities and release the challenges. As a result, the research outcomes suggest necessary changes in marketing actions to keep existing customers and attract new potential buyers. In another word, Handla24-ICA Bankeryd might use this study to build long-term customer relationship.

Understanding the benefits of this method, we decide to conduct a marketing research in which the market of Handla24-ICA Bankeryd is divided into two main components: the existing customers and the potential customers. In each component, the survey questions are designed to commit their own objectives.

### 3.3 Qualitative method

Qualitative research is explained as an interpretive and naturalistic approach to its subject (Denzin & Lincoln, 1994). It has several ways to collect empirical materials, namely: personal experiences, personal communications or interviews, and observations in conferences and so on. The data collected by qualitative method is called qualitative data. Saunders, Lewis, and Thornhill (2003) defined qualitative data as non-numerical data or data that have not been quantified. It means qualitative researchers look for words and texts, try to understand them and make interpretations; thus analyze them and compare with their initial settings to see how they happen in real life. Qualitative data are harder to generalize and face higher possibility to become subjective than quantitative data (De Vaus, 2002). As a result, qualitative data have been under controversy about its use in marketing research.

Qualitative data have their own benefits in the sense of deepening the understanding about the topic by the internal information and extensively explaining marketing challenges. In order to understand Handla24 - ICA Bankeryd marketing strategy, we choose interviews with Handla24 - ICA Bankeryd representatives. The main objects of interviews are: how the service works to create customer values, what the organizational strategy is and future expansion of the firm related to customer side. Furthermore, the observation in the warehouse is another way to deepen knowledge of the performing system, so we could understand the factors that increase or decrease customer’s values.

#### 3.3.1 Interview

An interview refers as a purposeful discussion between two or more people with the aim of gathering valid and reliable data that are relevant to research questions and objective (Saunders et al., 2003). Interviews could be conducted on telephone or by meetings (face-to-face interview). Yin (1994) and Saunders et al. (2003) discussed three popular kinds of interview. The first kind is open-ended interview or unstructured or in-depth interviews where interviewees express their own thoughts in the area of interest. The opinions are not limited; therefore the result of this kind of interview is considered to be rich and related to several factors within the interesting area. The second form is focused-interview or semi-structured interviews where respondents can still speak on the own interests subject and also receive certain questions from the interviewer in order to answer the main object. The ultimate aim of this interview is to confirm the facts that interviewees have been previously assumed in their study. The final form is the most focused form or structured interviews, in which questions will be constructed as a survey and the respondents will answer all the questions accordingly. This form is more specific and time-saving; information is easy to understand and compare, however it lacks of variety.
During the study, two face-to-face interviews are conducted with a representative of Handla24-ICA Bankeryd. Due to the fact that qualitative method is used to determine the ultimate object and important factors that have significant impacts on customer value, we try to keep the interviews open-ended to deliver rich information. Besides, advanced preparations of question including guidelines with specific objectives are provided to the respondents in order to make the semi-structured interviews highly efficient.

The first interview was conducted on the 4th of October, 2010 at ICA Bankeryd’s office. It took 1.5 hours. We firstly acted like normal customers surfing Handla24-ICA Bankeryd’s website and answering 20 questions which are 20 criteria to assess how customer’s value is created by retailers of Bevan and Murphy (2001) as we discussed in part 2.4. Thereafter, our experiences over the service were used to conduct interviews with an ICA Bankeryd’s representative. The company could also re-evaluate its service and describe in detail its current performance to us. The content of this interview concerned general information of Handla24-ICA Bankeryd: its history, its services and important information towards customers (Appendix 1). In addition, Handla24 - ICA Bankeryd’s representative emphasized the expansion plan in order to make sure that our study would help them reach their potential targeted customers.

The second interview was conducted on the 21st of October, 2010 at ICA Bankeryd’s office. It took 45 minutes. In this interview, we presented the final version of the surveys and got feedback from Handla24 - ICA Bankeryd’s representative. After that, 150 surveys were confirmed to be distributed to the existing customers through Handla24 delivery trucks during weeks 43 and 44. Furthermore, we were introduced to the working area of Handla24 - ICA Bankeryd and observed working system, such as the confirming orders, picking, packing and delivering.

3.4 Quantitative method

Thomas (2003) views quantitative method as the method that focuses on measurements and amount of characteristics displayed by people or events involved in a research. The measurements and amount could be more or less, larger or smaller, often or seldom, not at all or very much. In addition, the quantitative data can be used to statistical analysis for the large population. Therefore, to achieve the study objectives successfully, the quantitative method is chosen to collect the quantitative data.

3.4.1 Choice of survey

According to William and Barry (2007, p.186), “the survey is defined as a method of collecting primary data based on communication with a representative sample of individuals”. The answers of a survey attempt to describe what is happening or to learn the reason for a particular marketing activity. Based on these functions, we decide to use survey as the main quantitative method to answer the questions and achieve the study objectives. In the next section, the process of designing self-administered survey questionnaires is described.

3.4.2 Survey questionnaire

Questionnaire design

“Questionnaire design is more of an art than a science and there is no universal design that would be suitable for all situation” (Oakshott, 2001, p.17). Hence, the actual questionnaire
design would base on certain factors that researchers focus on, such as the type of respondent (business, students, customers), the method of data collection (postal, telephone, or face to face), and the resource available. According to William and Barry (2007), the questionnaire designer should consider three questions based on survey objectives before creating a survey. The first question is what should be asked. It means the questionnaire should be relevant to fulfill all needed information to address the main question. We design survey questionnaire based on the frame of theory and Handla 24 - ICA Bankeryd context. The survey for potential customers has 22 questions which are divided into three parts. Part one including from question 1 to question 6 and part three consisting from question 18 to 22, aim to gather information related to the factors of customer which contribute on Handla24 - ICA Bankeryd delivered values to their customers. The second part from question 7 to 17, we use the four sources of customer value in EGS of Bill et al. (2002) (presented in part 2.3.1) and Holbrook’s typology (1999) (presented in part 2.2) to build questions for asking customers. We express price level in question 10, product range in question 8 and 9, convenient shopping in question 11, 12, 13, 14, excellence typology in question 7, ethics typology in question 15. With question 16 and 17, we try to get the customers’ willingness to try and recommend Handla24-ICA Bankeryd. The detail of the first survey questionnaire refers to appendix 3.

In addition, the survey for the existing customers consists of 16 questions which are categorized into two parts. The questionnaires in part I are also based on the Bill et al. ’s four source of customer value. We strive to express price level in question 3, product range in question 1 and 2, convenient shopping in question 4, 5, 6, 7, and customer service in question 8, and 11. The second part which includes from question 14 to 19 is to gather personal customers’ information. The appendix 2 shows detail the second survey.

According to William and Barry (2007), the second question which should be asked by survey designer, is how questions should be phrased. According to Oakshott (2001), questions have two forms, namely close-ended question and open-ended question. The close-ended question, or alternatively called fixed-alternative question (William & Barry, 2007) is a type of questions giving the respondents a choice of answers and generally easier to answer and analyze, while the open-ended question is type of questions allowing respondents more flexibility. In the surveys of this thesis, the close-ended question is chosen for most questions in each survey, apart from two open-ended questions. In the close-ended questions, the dichotomous questions, which have only two answers such as yes or no, are also used. In addition, we avoid complexity and misunderstand by using simple and conversational language; as well as avoiding leading and loaded questions, ambiguity, double-barreled items along with making assumptions.

Thirdly, the question “what is the best question sequence?” also needs to be considered. We strive to avoid “order bias” in which bias is caused by the influence of earlier questions on a questionnaire (William & Barry, 2007). For example, to avoid the influence of survey’s titles to customer’s responses, the title “Survey of shopping experience” is used regardless to the gathering information related to e-grocery and customer values. Moreover, the funnel technique, which is asking general questions before specific questions, is used. In addition, the filter question technique is used to determine respondents who are not qualified to answer questions. For instance, in the Survey of shopping experience for the potential customers, question “Did you use this service before? Yes / No (If yes, please move to Part III)” is used to eliminate the existing customer from answering the wrong type of survey, which may deliver wrong information. We carefully design and pre-test the surveys several times with different respondents in order to collect validity and reliability of responses.
**Scale measurement**

The 7-point numerical scale is used as the respondents’ options to response positions for most questions in two surveys. The numerical scale is an attitude rating scale similar to a semantic differential. This popular attitude measurement technique is to get the respondents’ reaction to some concepts using a series of seven point bipolar rating scales (William & Barry, 2007). The bipolar adjectives are “very inconvenient or very convenient”, “not very useful or very useful”, “strongly disagree or strongly agree”, and “not very willing or very willing”.

**Questionnaire Translation**

According to Pan and Bouic (2009), the translation of survey has to satisfy four basic requirements which are: to make sense, to express the original paper’s spirits and manner, to have a natural and easy form of expression, as well as to produce a similar response. Because the research focuses on Swedish residents living in Jönköping län, the surveys need to have two language versions: original English version and translated Swedish version. In order to satisfy the second requirements of survey translation, a native Swedish speaker and we work in collaboration to discuss the main idea of each question. A translated survey version with fluent Swedish language along with correct and easy expression is made. Therefore, risk of misunderstanding has been eliminated. After careful draft producing and several times checking the translated versions, the surveys were completed. The pilot test is also used to finally confirm that basic requirements were met. The final version of survey in both English and Swedish are included in *appendix 4*.

**3.4.3 Sampling designs**

**Selecting sample**

Two kinds of available sampling techniques, which are probability sample and non-probability sample, are well known for selecting sample (Saunders et al, 2003). With the non-probability samples, the probability of each case being selected from the population is not known. This technique is impossible to answer research questions and objectives that are required the statistical inferences. Whereas, with the probability samples, the chance or probability is usually equal for all cases which are known and selected from the population. Besides, it is possible to answer the research questions and objectives that are required to estimate statistically the characteristic of the population from sample (Saunders et al, 2003). Based on the research objectives and characteristic of survey questionnaires, the probability sampling technique will be used.

In this thesis, there are two kind of survey needed to conduct and choose sample. The first survey is tended to investigate existing customers and the other surveys objective is to investigate the potential customers. The *simple random sampling* technique is used to select probability sample for the first survey. According to Saunders et al, (2003), the simple random sampling is required to number each element of sample and randomly select to survey. In fact, the population of existing customer is about 1400 customers. ICA Bankeryd has a list of customer, so they can support us for sampling process.

Furthermore, with the potential customer research, the population of research is delimited as Jönköping city. Besides, the population could be categorized into four relevant and significant strata based on the studying, working, unemployed and retired attributes. There-
fore, the *stratified random sampling* technique is used to select the probability sample. The stratified random sampling is known as a modification of random sampling in which the population is divided into two or more relevant and significant strata based on one or a number of attributes (Saunders et al, 2003). The factor of stratified random sampling would be easier for us to conduct survey.

**Pilot test**

Pilot testing is a trial run of procedures and instruments planned to sample. It is usually used to catch the potential problems for avoiding costly mistakes. Pilot test is typically used if it is the first time of using method of collecting data or the first time of collecting data from a particular group. The fact is that the survey questionnaires and the population have not ever tested and sampled; hence the pilot test of 20 respondents is conducted. The main purpose is to test the survey questionnaires in order to avoid misunderstanding or errors questions regarding to language used, translated version in Swedish among the general population. In addition, another purpose is to determine the standard deviation of sample for calculating the sample size. Based on the respondents’ reaction, misunderstanding and inquiries, the surveys have to change some parts. For example, the respondents concern about the detail of Handla24 concept; therefore we need to provide detail information about Handla24 service and highlight the important aspects to remind respondents.

**Sample size**

“Many decisions made by business and the government are the result of information obtained from sample data, because it is often too costly or impractical to collect data on the whole population” (Oakshott, 2001, p.14). Therefore, the sample size needs to be decided. When coming to determine sample size section, William and Barry (2007) point out that to evaluate a marketing project, firstly most people would ask how big was the sample. The ICA’s representative also asked us at the first time of meeting: “how many survey do you need?” (K.Sannelius, personal communication, 4 October 2010). In order to answer those questions, according to William and Barry (2007), the following formula and factors (*Figure 3.1*) in determining sample size are used to calculate sample size

\[
E = Z \frac{S}{\sqrt{n}} \quad \text{or} \quad n = \left(\frac{SZ}{E}\right)^2
\]

Where
- \(Z\) = standardized value that corresponds to the confidence level
- \(S\) = sample standard deviation or estimate of the population standard deviation
- \(E\) = acceptable magnitude of error, plus or minor error factor
- \(n\) = sample size

*Figure 3.1: Adapted from Zikmund & Babin (2007)*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Symbol</th>
<th>Typical source of information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard deviation</td>
<td>(S)</td>
<td>Pilot study or rule of thumb</td>
</tr>
<tr>
<td>Magnitude of error</td>
<td>(E)</td>
<td>Managerial judgment or calculation</td>
</tr>
<tr>
<td>Confidence level</td>
<td>(Z_{C.L})</td>
<td>Managerial judgment</td>
</tr>
</tbody>
</table>
Levels of confidence and associated z values
(Saunders et al., Research methods for business students, 2009)

<table>
<thead>
<tr>
<th>Levels of confidence</th>
<th>z values</th>
</tr>
</thead>
<tbody>
<tr>
<td>90% certain</td>
<td>1.65</td>
</tr>
<tr>
<td>95% certain</td>
<td>1.96</td>
</tr>
<tr>
<td>99% certain</td>
<td>2.57</td>
</tr>
</tbody>
</table>

We wish to have a 95% confidence level ($Z = 1.96$). According to the pilot tests, the standard deviation ($S$) of 1.36 and 1.0 are calculated for the potential customer group and the existing customer group respectively. Based on the characteristic of 7-point numerical scale, the magnitude of error ($E$) wishes to be 0.25. Therefore, the sample size ($n$) of 114 and 62 are calculated for the potential group and the existing group respectively. Moreover, in order to lessen other errors, the number of 150 and 65 respondents would be surveyed for each group.

3.4.4 Editing and coding data

Coding is known as the process of transferring a numerical score to edited data (William & Barry, 2007). In the coding process, codes are used for “interpreting, classifying, and recording data” (William & Barry, 2007, p.485). For those qualitative or dichotomous responses, we will use dummy coding to code. Dummy coding assigns two variables: 0 to one category and 1 to the other. When responses represents a small number of subjects; in order to solve this problem, we can code 1, 2, 3, 4 and 5 or more to make sure that all categories are all-inclusive. Moreover, with the missing data, coding for them is also made. It is represented with numeric value “99”. Finally, error checking and verification will be implemented to ensure that all codes are legitimate.

In addition to coding, editing is one of the important steps in data analysis. Editing is defined as “the process of checking and adjusting data for omissions, consistency, and legibility” (William & Barry, 2007, p.480). This way, in fact, helps us to have a ready data for analysis. Our main task is to check all errors as well as omissions which appear on questionnaires or other data collection forms. So, when the errors or problems are discovered, we will adjust the data in order to make them complete, consistent, and readable. Besides, we can use a specific decision rule for handling problems in order to edit these item non-responses and to obtain completeness. According to William and Barry (2007), the “item nonresponse” is known as an unanswered question on the questionnaire leading to the missing data. Sometimes, missing data can leave blank. However, in some situations, when the relationship between two questions is important, a plug value will be used. Plug value is defined as “an answer that an editor plugs in to replace blanks or missing values so as to permit data analysis; choice of value is based on a predetermined decision value.” (William & Barry, 2007, p.483). Following is several choices for this technique. We can leave the response blank because the risk of creating error by plugging a value is great. Secondly, plugging in alternate choices for missing data or randomly selecting an answer can also be used. Finally, based on the respondent's choices to other question, we can impute a missing value.
From a raw data, we code a dichotomous response including “yes” or “no”; “female” or “male” with the dummy coding “1” and “0”. With an occupation of respondents, they are also coded from 1 to 4 respectively to student, working, unemployment and retirement. Besides, for those missing data such as “age” or “member in the family”, the code “99” is applied. After coding for all missing data, transferring data into SPSS is implemented. We use the technique “plug value” to replace the other missing data on questionnaires by suitable variables with the purpose of facilitating the later analysis. The coding table is included in Appendix 5.

3.4.5 Data processing and analysis

We use Microsoft Office Excel (MS Excel) and the Statistical Package for the Social Sciences (SPSS) to record and analyze all figures. With MS Excel, it is used for particularly creating charts and tables, while SPSS serves for analyzing statically data. Many different tools are used in SPSS such as distribution, mean, and statistical test to evaluate results. The detail of statistic test, correlation and regression is included in Appendix 6. Finally, based on the results that we get from SPSS, the reliable conclusions will be made to answer for the thesis questions.

3.4.6 The advantage and disadvantage of survey technique

There are a number of advantages and disadvantages of survey technique. When properly conducted, the surveys offer many advantages. According to William and Barry (2007), the surveys provide a quick, inexpensive, efficient, and accurate mean of assessing information about population. They also noted that survey research techniques have become quite scientific and accurate over the last fifty years and particularly during the last two decades. Hence, we can use survey to collect primary data using directly to address research objectives. Besides, due to the limited resources such as time and monetary, the survey is the best choice to obtain data quickly and inexpensively. On the other hand, the disadvantage of survey is to risk with many errors in survey technique. The disadvantages are specified for particular forms of survey data collection such as personal interview, telephone, mail, Internet and other self-administered formats. In fact, the surveys supporting this thesis are designed as self-administered questionnaires. The surveys are printed and distributed as in-person drop-off. The respondent takes responsibility for reading and answering the questions. The errors may rise due to the inconvenient, time consuming and ability of respondents to answer survey.

3.5 Collection of data

Primary data are gathered for direct purposes of the undertaken research while secondary data are collected through different sources that were initially contributed to previous researches rather than the one that is being conducted (Saunders et al, 2003). Primary data come from the activities such as interviews, surveys, conferences and observations. Since all these activities are specifically tailored to the research’s problem, they are more focusing and specific; thus delivering more precise information. However, all activities require resources such as finance, time and personnel to conduct. Meanwhile, secondary data come mostly from Internet sources. They are easy and inexpensive to collect but the data may deliver unnecessary information. Because the data are made for another aim, the information might be too general or wrongly oriented.

Primary data are the key material in this thesis. The reason for choosing primary data is that we want to be proactive in marketing research to collect information directly fulfilling the
purposes. The surveys for customers and face-to-face interviews with ICA Bankeryd’s representative are the beneficial ways to understand deeply what we want to know, and what they got to know. Another reason is that there has been no such previous study conducted.

### 3.6 Trustworthiness

The trustworthiness is a need for both quantitative and qualitative study. The concepts of validity and reliability are really important and essential in quantitative research. There is still a debate for the relevant term of validity and reliability using for qualitative research (Bryman, 2001). For example, Lincoln and Guba (1985) used four criteria in qualitative research such as credibility, transferability, dependability and confirmability as adjustment for reliability and validity. However, the term reliability and validity can use in both qualitative and quantitative research; hence we use those terms to express the trustworthiness of our study where the interview technique is used as qualitative method, and the survey questionnaire technique is used as quantitative method.

In spite of relating to each other, both validity and reliability are different in meanings. For a measurement, it cannot be perfectly both reliable and valid. In fact, being valid without reliability and vice versa are inevitable. However, we try to maximize both validity and reliability, as well as critically review the work with the aim of keeping the trustworthiness for the whole process of conducting study.

**Reliability**

This term is known as “an indicator of measure’s internal consistency” (William & Barry, 2007, p.321). Consistency is the key element to understand the reliability. For the reliability of interview, we have to concern the issues of bias. There are various types of bias to consider (Saunders et al, 2003). The first bias is related to the interviewer. It is referred to comment, tone, or non-verbal behavior of the interviewer. To reduce this bias, we prepare the interview questions, the way of asking question, and try to organize the structure of interview process. Other bias is concerned with the interviewee or response bias. This is where interviewee is not willing to answer question or discuss, because the information is sensitive or the interviewee is not empowered to give information. Therefore, we not only try to contact people who can provide us information through the interview, but also prepare insensitive questions. In addition, unsuitable time for interviewee may cause the bias, so we schedule the interview-time with interviewee. To reduce these biases, we increase the validity of interview data collection.

The reliability of survey questionnaire depends on robustness of questionnaire and in particular, whether the data collection is consistent at different time, and under different conditions (Saunders et al, 2003). To check the reliability of the questionnaires, we are careful with questionnaire design process, and translation process. We also conduct the pilot tests. Therefor, we ensure the reliability of questionnaires.

**Validity**

For good measure, data should be both precise and accurate. While reliability represents how precise a measure is, validity deals with the accuracy of how a measure assesses the intended concept. Validity, in fact, is defined as “the accuracy of a measure or the extent to which a score truthfully represents a concept” (William & Barry, 2007, p. 323). We try to
maximize the validity of the interviews and the survey questionnaires. Firstly, to make interview valid, the researcher must concern to gain access to the participants’ knowledge and experience and be able to infer the meaning that participant intended from participants’ language used. Three members have to carefully conduct the interviews, and be able to understand and classify the meaning of respondent, as well as the topic discussed. Therefore, we ensure the validity of the interview.

Secondly, the validity of survey questionnaires concerns the measurement of the questions. Each question should measure what researchers intend it to measure (Saunders et al, 2003). Researchers refer to content validity, criterion-related validity, and construct validity for questionnaires. The content validity refers to the measurement device, in our case, it is measurement question. The criterion-related validity is the ability of the measurement to make accurate prediction. Construct validity concerns the measurement questions actually measure the presence of the constructs researchers intended to measure. We try to guarantee the three kind of validity by defining the clear requirements and question designs. The questionnaires are designed to measure what we intend to measure. We also conduct a pilot test to make sure the three kind of validity of survey questionnaires. In addition, the surveys are checked and confirmed by ICA’s representative.

Moreover, validity falls into two categories. Internal validity refers “to the extent the differences that have been found for the dependent variable directly relate to the independent variable” (Mackey & Gass, 2005, p.90), while external validity is the ability to predict outcomes which are external to the setting that the experiment takes place within (Crisp, 2000). With the internal validity of data collection, we have a good measurement of dependent variable which is the demand of customer for e-grocery. Furthermore, we can use external validity of data to predict or target the potential customer group.
4 Empirical Presentations

This chapter presents the empirical materials. It divides into three sections. The first section is the interview presentations conducting with ICA Bankeryd representative. The second section brings the data collection of potential customer’s sample. Finally, the existing customer’s materials are presented.

4.1 Interview

In the first interview, we achieved rich information about a history of Handla24 - ICA Bankeryd, its service and current performance through 20 questions (Appendix 1). The service was started 2009 with zero customers and now they have gained 1,400 regular customers with around 24,000 visits on the website every day. It offers approximately 8,000 to 10,000 products with daily updating price as same as in ICA Bankeryd’s physical store. Bonus checks are also applied for shopping amount above 2500 kr/month. What customers need to do is to write down the codes when paying to get discounts. Buying on Handla24 website is very easy and convenient due to the utility of adding/removing/deleting products as well as a selection preferences which is known as substitute suggestions when the products are unavailable. Customers can also make a regular shopping list. Concerning delivery service, ICA Bankeryd can deliver to the northern half of Jönköping area divided by E4 highway. Next-day delivery is only processed when ordering before 24:00. In case of making mistakes during delivery, ICA Bankeryd will either re-deliver all missing product or refund the money for their customers. During the interview, K. Sannelius also emphasized the importance of customer service. The company receives all inquiries through telephone, website and e-mail; they try to answer within 24 hours. In addition, Handla24 - ICA Bankeryd representative described the characteristics of existing customers. Mostly, their customers are working and they have children in the household.

In the second interview, we got the permission to observe the company’s working system. Within in-house activities, every step is controlled by a computer system that reports the availability of products in the warehouse and whether all order lists are fulfilled. Delivery routines, which are determined by navigation tool Google Earth, vary depending on the customers’ locations on each specific day. All trucks have equipped temperature-controlled storage and foods have their own baskets with special bags and dry-ice packet for frozen foods (K. Sannelius, personal communication, 21 October 2010).

4.2 Existing customers

This section provides the empirical materials related to the factors of Handla24 - ICA Bankeryd which deliver value to the existing customers. We use the support of MS Excel and SPSS to generate pie charts and bar charts.

4.2.1 The factors contribute to the creation of value to Handla24 of ICA Bankeryd’s existing customers.

The following bar charts are created to describe the frequency of customers responding to each question. The bar charts have the X-axis presented the numerical scale from 1 to 7, and the Y-axis presented the number of respondents choosing particular scale option.

Price level

Handla24 – ICA Bankeryd sets 99 kr for each time delivery. The data collection from question 3 in survey shows the response for the reasoning level of delivery fee. Figure 4.1
shows clearly that the major of customers selects scale from 4 to 7. There are 16 customers who find delivery fee very reasonable.

**Product range**

The questions 1 and 2 in the survey examine the satisfaction of customers’ daily needs and the diversity for each certain commodity. Figure 4.2 shows that scale 5 and 6 are major choice by the respondents. There are 31 respondents choosing scale 5 for daily needs, and 31 respondents choosing scale 6 for the diversity.

**Convenient shopping**

The convenient shopping is measured as an easy use (question 4), time saving (question 5), place flexibility (question 6), time flexibility (question 7), and the satisfaction of delivery service (question 8). The scale 6 and 7 are highly chosen by respondents for all factors. There are 54, 39, 32 and 41 responses for scale 7 of the satisfaction of delivery service, time flexibility, place flexibility and time saving respectively.
**Customer service**

For the customer service, the question 9 in the survey aims to assess the customers’ satisfaction of Handla24 – ICA Bankeryd responding to the customer’s inquiries. The figure 4.4 shows a high satisfaction of customers. There is no respondent choosing scale from 1 to 3, while there are 15, 23 and 22 respondents for scale 5, 6, and 7 respectively.

4.2.2 **Existing customers’ willingness to continue using Handla24 –ICA Bankeryd and to recommend it to other people**

The figure 4.5 shows the responses of question 10 and 11. There are 42 and 40 respondents respectively choosing the highest scale to continue using and to recommend Handla24 to other people. In addition, scale 6 is chosen by 17 respondents for continue using and 18 respondents for recommend.
4.3 Potential customers

This section provides the empirical material of the potential customers. We use the support of MS excel and SPSS to generate pie charts and bar charts.

4.3.1 The characteristics of potential customer group contribute to create demand for Handla24 of ICA Bankeryd.

Gender

According to the result of question 18, 52.67% of the respondents are male whilst 47.33% are female respondents. The analysis will use this data to compare the difference between male and female in the perception of value from e-grocery.

The children in household

Based on the result of question 19, among 150 respondents, 21.33% of them have children in their household while 78.67% do not have children in their household. 78.67% respon-
dents could include families that have children not living together with parents. The study will compare the households with children with households without children.

**The customer with a driving license**

The result of question 20 shows 83.33% of the respondents who have a driving license, while 16% of respondents who do not have a driving license. There is 0.67% non-response for the question.

![Figure 4.8: Driving license](image)

![Figure 4.9: Occupation](image)

**Occupation**

According to the result of question 21, there are 50% of respondents who are working, and 44.67% of respondents who are student. There are 3.33% of respondents who are retired and 6% of the respondents who are unemployed. In later analysis, two groups are compared. The first group is working people, and other group includes students, unemployed and retired people.

**Member of a household**

The result of question 22 shows that the percentage of household having less than 3 people is about 68.7%, while the percentage of household having 3, 4, 5 and 6 people respectively is 14%, 9.3%, 6.0% and 1.3%. In later analysis, the group of households having less than 3 people and the group of households having more than or equal to 3 people are compared.
The following graphs are created to describe the frequency of customer responding to each question. The graphs have the X-axis presented the numerical scale from 1 to 7, and the Y-axis presented the number of respondents choosing particular scale option.

The figure 4.11 shows the collecting data regarding the question 2, 4 and 5 to define the demand of customers for e-grocery. The results present the customers responding to the level of having time for housework, the convenience level of queuing at grocery and the enjoyment level of carrying groceries home. The respondents choosing scale from 1 to 3 means that they do not have time for housework, find inconvenient to queue and do not enjoy carry groceries home. As we can see, 65 respondents find very inconvenient to queuing at a cashier in grocery store.
The figure 4.12 shows the responses to the question 1, 3, 6 regarding the hours of surfing Internet per week, the enjoyment of shopping, and the willingness of spending time on grocery shopping respectively. For hours of surfing Internet, scale 5 is chosen by 45 respondents, and there are 21 and 20 respondents choosing scale 6 and 7 respectively. With responses of the enjoyment of shopping, there are 27, 28 and 27 respondents choosing scale 3, 4 and 5 respectively, while scale 1 only attracts 10 respondents. For the responses for spending time on grocery shopping, there are 36 and 38 respondents choosing scale 3 and 4 respectively, while scale 7 only attracts 2 respondents.

4.3.2 The factors of Handla24- ICA Bankeryd contribute to create values for their potential customer group.

Price level

Price is an important factor contributing to deliver customer value. In the question 10, the 99 kr of delivery fee is used to determine the response of customers. There are 40 respondents choosing the neutral level to express the reasoning of fee. The number of respondents choosing scale 1 is 22, while only 8 respondents chose scale 7.
Product range

Product range is also a crucial factor creating value for customers in e-grocery. The question 8 and 9 respectively examine the importance of the same range and larger range of online store’s product range compared to the physical store. For the importance of same range, there are 39 and 43 respondents choosing scale 6 and 7 respectively, while scale 1 and 2 are only chosen by 10 and 8 respondents respectively. For the importance of larger range, scale 4 is mostly chosen by 42 respondents. There are 19 respondents choosing scale 1, and 13 respondents choosing scale 7.

Convenience shopping

Convenience value is a factor influencing the perception of customers about e-grocery. In the study, the convenience is measured as time saving (question 11), easy shopping online (question 12), delivery same day of ordering (question 13) and delivery next day of ordering (question 14). The result of question 11 shows that scale 5 and 6 respectively is chosen by 28 and 26 respondents, and scale 7 attracts 12 respondents. For the question 12, the respondents choosing neutral scale is the highest with 40 respondents. There are 21, 18 and 7 respondents choosing scale 5, 6, and 7 respectively. Furthermore, the result of question 13 presents that scale 5, 6, and 7 are equally chosen by 31 respondents. In addition, for the question 14, there are 29 respondents choosing neutral scale, while scale 6 and 7 are chosen equally by 20 respondents.
Ethics or spirituality typology

According to Holbrook’s typology, the customer perceives value by ethically or spiritually action. Therefore, the question 15 determines the customers’ reaction of delivery trucks using bio-gas fuel as friendly and environmental vehicles. The result shows that respondents are frequently choosing scale 5, 6 and 7. There are 30, 24 and 30 respondents respectively choosing scale 5, 6 and 7. However, scale 1, which represents the not important at all, attracts 15 responses.

The usefulness of the service as Excellence typology

The excellence typology is one of the customer’s value included in the Holbrook’s typology. The excellence of products or services can be expressed by the usefulness of that products or services. The result of question 7 shows that scales from 1 to 3 are chosen higher than scale from 5 to 7. Scale 1 and 2 respectively attract 33 and 38 respondents. There are only 12 respondents choosing each scale 6 and 7.
4.3.3 Potential customers’ willingness to try Handla24 - ICA Bankeryd and to recommend it to other people

The question 16 and 17 respectively regard to the willingness level of trying Handla24 and recommending it to others people. The result shows that the potential customers are willing to both try and recommend Handla24. For question 15, the number of respondents choosing scale from 1 to 3 is slightly higher than the number of respondents choosing scale from 5 to 7. However, for question 17, scale 5, 6 and 7 are highly chosen than scale 1, 2 and 3.
5 Analysis

Based on the theoretical framework with the emphasis of Bill et al.’s (2002) and Holbrook’s (1999) studies, this chapter presents the analysis of survey results about two customer groups, which are the existing customer group and the potential customer group. Two groups are analyzed separately to fulfill the thesis questions and reach the purpose of our thesis.

5.1 Existing customer group

The analysis of the existing customer group will provide an emphasis on the factors that create value for customers and their willingness to continue using Handla24 - ICA Bankeryd and recommend it to other people. This section also answers thesis questions Q1 and Q2.

5.1.1 Q1: Which factors are contributing to the creation of value to the existing customers of Handla24 - ICA Bankeryd?

To analyze the important factors, the empirical materials of the “Survey of shopping experience” are critically assessed based on four ways listed by Bill et al. (2002) (explained in part 2.3.1) namely price level, product range, convenient shopping and customer services.

Price level

Price level is one of the four main factors creating customer value in e-grocery. Normally, when using e-grocery, we think that the price should be lower than in the physical store to increase the competition and attract more customers. However, according to Bill et al. (2002) and Teranto (the owner of Nettimarket.com), the price of products should not be undercut in the electronic markets due to the reasons of pricing policy and transportation cost. For e-shoppers, they are willing to pay a slightly higher price than in the physical store, or to pay the same price plus delivery fee in order to perceive a convenience benefits. Handla24 of ICA Bankeryd offers the same product price as in the physical store. Every delivery has a flat rate of 99kr, which is taken into account to determine whether it is reasonable or not. The one-sample t-test result shows that the mean of reasoning level for delivery fee is significantly higher than mid-point scale (4), (α=0.05) (Appendix 6). It means the existing customers agree with the delivery fee that Handla24 offers.

Product range

“If customers are to give up traditional purchasing method, they must be offered some value-added features in the market-space that are not attainable or available in the market-place” (Bill et al., 2002, p 213). In fact, the value that customers get when using e-grocery is the wider product assortment. According to Alba el al. (1997) and Arnold et al. (1983, 1998), the wider product assortment is an important factor in e-groceries because the more selections of products they offer, the more competitive advantages are gained. Based on this factor, in our study, we want to identify the customers’ satisfaction about the daily food needs and the diversity of each certain commodity offered by Handla24. The result of
the one-sample t-test shows that the mean satisfaction level for daily food needs, and satisfaction level for diversity of each certain commodity are significantly higher than mid-point scale (4) ($\alpha=0.05$) (Appendix 6). In other words, the product range offered by Handla24 has satisfied the daily needs of the customers.

![Mean satisfaction level for daily food needs](image)

**Shopping convenience**

Convenience, according to Bill et al. (2002), is seen as the third factor creating customer value in e-grocery. Time-saving, shopping anywhere, anytime and easy shopping are factors that reflect the e-grocery’s convenience. In addition, delivery service, as a part of e-grocery, contributes significantly to the convenience utility. The one-sample t-test result shows that three characters which are the mean easy using and shopping in Handla24 website, the mean flexibility of shopping anywhere, anytime and the mean level of time-saving are significantly higher than mid-point scale (4) ($\alpha=0.05$). The mean satisfaction level for delivery service is also significantly higher than mid-point scale (4) ($\alpha=0.05$) (Appendix 6). It expresses that customers enjoy all convenient functions that Handla24 of ICA Bankeryd offered.

![Mean of time saving and delivery service](image)

**Customer services**

As we discussed in the theoretical framework (part 2.3.1), tailoring a customer service to satisfy each customer is difficult, especially in EGS (Peppers and Rogers, 1999). Besides the existing customer services in physical store, e-grocers must deal with the inquiries of customers raised during e-grocery shopping such as out of stock, mistakes in delivery, unexpected damage in the quality of products, and others issues. During the interview, the representative of Handla24 explained how they coped with these situations. For example, with items missing, they would be re-delivered or money would be refunded. Selection preferences showing substitute brands for out-of-stock products are available for customers. In addition, customers’ inquiries through e-mail, telephone or the website would be replied within 24 hours. Handla24 has placed a large emphasis on improving their customer services. By analyzing customer satisfaction, customer service office can take a response to the customers, allowing for more effective support for customers. The one-sample t-test result
shows that the mean satisfaction level for customer service towards customers’ inquiries is significantly higher than mid-point scale (4), (α=0.05) (Appendix 6). It means that existing customers are satisfied with the response of Handla24’s customer services to customers’ inquiries.

![Customer Satisfaction Scale](image)

### 5.1.2 Q2: How willing are the existing customers to continue using Handla24 and recommend it to other people, in correlation with the answers from Q1?

Barns (2000) stated that the ultimate purpose of customer value is to build the relationship between business and customer. So, the level of customers’ willingness to continue using the service and recommend it to others reflects whether customer value has been created between Handla24 of ICA Bankeryd and their customers. The one-sample t-test result shows that both the means of willingness to continue using Handla24 and to recommend the service to others are significantly higher than mid-point scale (4), (α=0.05) (Appendix 6). In addition, according to the multiple regression model, R-square value is 0.524, which means that our model explains 52.4 percent of the variance in the willingness (Appendix 6). This shows that the willingness level is reflected by 52.4 % of all factors in Q1.

![Willingness Scale](image)

As a result, it can be argued the existing customers are willing to continue using Handla24 and recommend it to other people. In other words, customers are perceiving values created by Handla24 - ICA Bankery.

### 5.2 Potential customer group

This section assesses characteristics of potential customers and factors that might create customer value. Then the influences of these factors to the customers’ willingness to try Handla24 and recommend it to other people are also presented. The question Q3, Q4 and Q5 are respectively answered.

#### 5.2.1 Q3: Which characteristics of potential customers will create demand for Handla24 of ICA Bankery?

Part 1 of the survey for potential customers differentiates between the customers potentially using e-grocery and the customers preferring traditional shopping. Certain customer characteristics, which are assessed through six main criteria, namely: surfing Internet hours per
week, having time for doing housework, shopping enjoyment, finding queuing at a cashier convenient, enjoying carrying groceries home, and spending time for grocery shopping; are considered to contribute to the willingness to try Handla24 - ICA Bankeryd. Electronic commerce in groceries offers an interface where customers can order groceries, gather product information, and do their shopping in a convenient manner (Anu, 2002). The main concern here is the customers’ ability to use the Internet and its applications. Therefore, we try to identify the potential customers’ habit of using the Internet in question 1 of the survey (Appendix 3). The one-sample t-test result shows that the mean level of hours that customers spend on surfing the Internet per week is higher than mid-point scale (4), (α =0.05), where mid point scale (4) presents from 6 to 9 hours per week (Appendix 7). It means that the potential customer group spends more than the range from 6 to 9 hours per week to surf the Internet.

Youn-Kung (2002) stated that the change in socio-demography is one of the main reasons leading to the noticeable changes in the customers’ living style and demands during shopping. In Youn-Kung’s study (2002), factors such as stress at work, lack of spare time, and higher income are known as pivotal causes leading to the need for efficiency when customers do the shopping. So, we want to focus on how potential customers spend time on housework and on grocery shopping due to the fact that these activities require a significant amount of time. Thus, we may understand their needs of time saving and efficiency on shopping. The answers of questions 2 and 6 in the survey (Appendix 3) are collected and tested by the one-sample t-test. The result shows that the mean level of customer having time for housework is equal to mid-point scale (4) (α= 0.05) (Appendix 7).

The mean willingness level of time spent on grocery shopping is equal to mid-point scale (4), α=0.05 (Appendix 7).

It shows that customers in Jönköping find spending time on housework or grocery shopping neither favorable nor unfavorable.

According to the typology of consumer value (Holbrook, 1999), play refers to the value which customers get enjoyment actively from product or service, and efficiency is acquired through the convenience of actively using product or services. A customer saving time...
when using products or services is an example of efficiency. Both characteristics also affect the convenience and the enjoyment shopping provides customers. Questions 3, 4 and 5 in part 1 of the survey (see Appendix 3) collect customers’ opinions about their enjoyment in shopping.

The one-sample t-test result shows that the mean level of enjoyment shopping is equal to mid-point scale (4) presenting the neutral option ($\alpha=0.05$, Appendix 7), while the mean level of convenience for queuing at grocery store and carrying groceries home are significant lower than mid-point scale (4) ($\alpha=0.05$, Appendix 7). The result implies that the potential customer group responds neutrally on enjoying shopping. On the other hand, queuing at grocery shopping and carrying groceries back home are found not enjoyable or inconvenient.

According to the ICA representative, Handla24 of ICA Bankeryd has gained around 1400 regular customers since 2009. During the first interview, the representative emphasized their regular customers’ characteristics. Handla24 of ICA Bankeryd classified that the percentage of households with children is higher than the percentage of households without children in the regular customer group. They also found that working people are more likely to use the service (K. Sannelius, personal communication, 4 October 2010). Hence, we want to classify customers’ characteristics when targeting the potential customers for Handla24. We categorize the characteristics of potential customer according to five criteria.

The first criterion is gender: male and female. An independent-sample t-test is conducted to compare the willingness level of male and female customers to try and recommend Handla24. The female customers have a higher level of willingness than male customers’ willingness ($\alpha=0.05$, Appendix 7). This tells us that potential customer group might have higher percentage of female than male.

The second criterion is the households with children and without children. An independent-sample t-test is conducted to compare the willingness level of customers’ households with children and customers’ households without children to try and recommend Handla24. The customers’ households with children is significantly higher than customers’ households without children on the level of willingness ($\alpha=0.05$, Appendix 7). It shows that the customer’s household with children is more willing to try and recommend Handla24 than the one without children.

The third criterion includes customers having a driving license and customers not having a driving license. An independent-sample t-test is conducted to compare the willingness level of the two group’s customers: having a driving license and not having a driving license. This will provide insight into the two groups, and whether having a driving license affects on trying Handla24 and recommending it to others. After testing, there is no significant difference in the level of willingness for customers having a driving license and customers...
not having a driving license ($\alpha=0.05, \text{Appendix 7}$). It means that this criterion does not significantly affect on the choice of customers towards e-grocery service of ICA Bankeryd.

The fourth criterion regards customer’s occupation. The occupation is defined as studying, working, unemployed, or retired. An independent-sample t-test is conducted to compare the willingness level of students, unemployed, retired customer group and working customer group to try and recommend Handla24. There is no significant difference in the level of willingness for students, unemployed, retired customer group and working customer group ($\alpha=0.05, \text{Appendix 7}$). As a result, customers are willing to try and recommend Handla24 regardless of occupation. So, ICA Bankeryd does not focus on the occupation of the potential target group.

The final criterion concerns the number of members in a household. An independent-sample t-test is conducted to compare the willingness level of customers with the number of members in household. This is split into two groups being greater than or equal to 3 members and less than 3 to try and recommend Handla24. The test result shows the customers with more than or equal to 3 members in household score significant higher than customers less than 3 within a household, in term of the level of willingness ($\alpha=0.05, \text{Appendix 7}$). It means that the household with more than or equal to 3 members are more willing to try and recommend Handla24 than the household with 1 or 2 members. Thus, in the potential target group, ICA Bankeryd should consider to focus their marketing plan on customers with 3 or more members in a household.

The results of the analysis highlight some outstanding characteristics of potential customers, which allow Handla24-ICA Bankeryd to concentrate their targeting strategy to these provided customers.

5.2.2  Q4: Which factors should Handla24 - ICA Bankeryd emphasize to create value for their potential customers?

Four ways to create customer value by a retailer (Bill et al., 2002) previously used to analyze the satisfaction of existing customers are also helpful in the analysis of potential buyers because they express the factors that can attract and convince customers to try the service. Furthermore, Holbrook (1999) also developed the typology of consumer value which gives greater understanding about the customer value (Figure 2.2). This typology included four categories: excellence or efficiency, status or esteem, ethic or spirituality, and play or aesthetics.

We purposely choose five factors among those mentioned above, which have a significant contribution to customer value in our context, namely price level, product range, shopping convenience, excellence or efficiency typology, and ethics or spirituality typology.

Price level

Price level is explained when analyzing the existing customer group. We can say that the products’ price should not be undercut in the e-grocery market compared to the physical store. Handla24 of ICA Bankeryd offers the same products’ prices as in the physical store, the delivery fee as a price level is a main affect the customers’ willingness to try Handla24. The fee of 99kr is charged for each time of delivering groceries (Appendix 1). One-sample t-test result shows that the mean reasoning level for the delivery fee is significantly lower.
than mid-point scale (4) ($\alpha=0.05$, Appendix 7). It means that the potential customer group strongly disagree with 99kr delivery fee.

\begin{center}
\begin{tikzpicture}
    \node (1) at (0,0) {1};
    \node (2) at (1.5,0) {4};
    \node (3) at (3,0) {7};
    \node (4) at (0,-1) {Not at all};
    \node (5) at (3,-1) {A great deal};
    \node (6) at (1.5,0) {Mean of Fee};
    \draw[->] (1) -- (2);
    \draw[->] (2) -- (3);
    \end{tikzpicture}
\end{center}

\textit{Product range}

Alba et al. (1997) and Arnold et al. (1983, 1998) stated that the wider product assortments will bring more competitive advantage to online stores. This suggests that greater selection of items e-grocery offers, the more customers are willing to move their shopping from the physical store. We assume that Handla24 of ICA Bankeryd will offer the same product range in both e-grocery and physical store, or offer larger product range in e-grocery compared to physical store. So, the customers can respond to the importance of each offering.

One-sample t test result shows that the mean of importance level for same product range between e-store and physical store is significantly higher than mid-point scale (4) ($\alpha=0.05$, Appendix 7). It means that the potential customer group finds it important to have the same range in e-grocery.

\begin{center}
\begin{tikzpicture}
    \node (1) at (0,0) {1};
    \node (2) at (1.5,0) {4};
    \node (3) at (3,0) {7};
    \node (4) at (0,-1) {Not at all};
    \node (5) at (3,-1) {A great deal};
    \node (6) at (1.5,0) {Mean of same product range};
    \draw[->] (1) -- (2);
    \draw[->] (2) -- (3);
    \end{tikzpicture}
\end{center}

Meanwhile, the mean of important level for having a larger range in e-grocery than in the physical store is equal to mid-point scale (4) ($\alpha=0.05$, Appendix 7). It can be argued that the targeted customers have neutral opinion about the larger grocery product range.

\textit{Shopping convenience}

As discussed in the analysis of the existing customer part, shopping convenience is an important factor for e-grocery. E-grocery’s conveniences measure’s like time saving, ease in shopping, shopping anywhere, and anytime. In addition, delivery functions including same-day or next-day delivery time may also create conveniences for customers.

\textit{a, Time-saving}

On the one-sample t test, the mean of time-saving level for potential customers using Handla24 is equal to mid-point scale (4) ($\alpha=0.05$, Appendix 7). The result presents a neutral opinion over time-saving utility of e-grocery. The potential customers have not tried Handla24 yet, so they will wonder about its feasibility such as saving time when buying groceries online.

\begin{center}
\begin{tikzpicture}
    \node (1) at (0,0) {1};
    \node (2) at (1.5,0) {4};
    \node (3) at (3,0) {7};
    \node (4) at (0,-1) {Not at all};
    \node (5) at (3,-1) {A great deal};
    \node (6) at (1.5,0) {Mean of time Saving};
    \draw[->] (1) -- (2);
    \draw[->] (2) -- (3);
    \end{tikzpicture}
\end{center}
b. Easy

The result of one-sample t test shows the mean ease level of the Internet site for shopping grocery is equals to mid-point scale (4) (α=0.05, Appendix 7). Neutral opinion of customers shows that the Internet shopping has not been recognized as an easier way than regular shopping. Customers hesitate about the ease of shopping online due to their doubt about the process of ordering online.

c. Delivery day: same-day vs. next-day

The one-sample t test shows the mean of importance level for e-grocery shopping with the same day delivery is significantly higher than mid-point scale (4) (α=0.05, Appendix 7), while the mean of accepting level for e-grocery shopping to be delivered the day after the order is equal to mid-point scale (4) (α=0.05, Appendix 7). It means that customers find it important for groceries to be delivered on the same day of ordering. Delivering groceries on the next day, on the other hand, receives a neutral response from customers.

Excellence typology

Excellence, as a consumer value, is acquired through the perceived quality of product or service. According to Oliver (1996), the quality could be expressed as the usefulness. Therefore, we want to determine whether potential customers find the service useful for their individual needs.

![Mean of Usefullness](image)

The mean of usefulness level for Handla24 with potential customers is significantly lower than mid-point scale (4) (α=0.05, Appendix 7). It shows that with the potential customer group, Handla24 of ICA Bankeryd seems to be new and unuseful. Once again, the challenge of convincing customers to change their regular shopping habits (Canedy, 1999) explains the survey result.

Ethics typology

Ethics in value is expressed by Holbrook (1999) when consumers purchase an ecological or environmentally product or service. In our case, Handla24 of ICA Bankeryd offers the same ecological products as in the physical store. They also emphasize on friendly-to-environment delivery service by using biogas fuels in their delivery trucks. So, we want to determine whether customers perceive ethics typology as a value.

![Mean of Biogas](image)
The mean of importance level for Handla24 using biogas fuels in their delivery trucks is higher than mid-point scale (4) ($\alpha = 0.05$, Appendix 7). The potential customer group shows a strong approval over the fact that Handla24 of ICA Bankeryd uses biogas fuels in their delivery trucks.

5.2.3 **Q5: How willing are the potential customers to try Handla24 and recommend it to other people, in correlation with the answers from Q3 and Q4?**

*Factors of customers*

In this section, we want to shape the highly effective factors contributing to the demand for Handla24. Based on the Pearson correlation test, there is a positive correlation between each factor: Internet hours, enjoying and willingness variables ($r_{\text{Internet}} = 0.274$, $r_{\text{Enjoy}} = 0.261$, $n = 150$, $p<0.05$, Appendix 7). It can be argued that the more hours per week customers spend on surfing the Internet, the higher level they are willing to try and recommend Handla24 to other people. The more enjoyable they shop, the higher level they are also willing to try and recommend Handla24. Moreover, there is a negative correlation between carrying and willingness (to try and recommend Handla24 service) variables ($r_{\text{Carrying}} = -0.253$, $n = 150$, $p<0.05$, Appendix 7), which implies the more inconvenient customers find carrying groceries home, the higher level they are willing to try and recommend Handla24.

When taking all factors into account, we generated a prediction-equation to help ICA Bankeryd achieve the best prediction about the customers’ willingness to try and recommend Handla24 to other people. Here is the prediction-equation:

\[
\text{Willingness} = 7.201 + 0.336 \times \text{Internet Hours} + (-0.027) \times \text{Housework} + (-0.355) \times \text{Spend time} + 0.366 \times \text{Enjoy} + 0.076 \times \text{Queuing} + (-0.335) \times \text{Carrying}
\]

According to the multiple regression model, R-square value is 0.168, which means that our model explains 16.8 percent of the variance in the willingness. Besides, the Internet hours (sig. = 0.024), enjoying (sig. 0.020) and carrying (sig. = 0.048) variables are making the significant unique contribution to the prediction of the willingness variable (Appendix 7).

*Factors of Handla24 - ICA Bankeryd*

Dealing with various factors of Handla24 - ICA Bankeryd, our aim is to define the effective factors which deliver values to customers. Based on the Pearson correlation test, there is a positive correlation between each factor: fee, same range, time saving, easy, same day, next day, useful, biogas and willingness variables ($r_{\text{Fee}} = 0.367$, $r_{\text{Same range}} = 0.296$, $r_{\text{Time saving}} = 0.546$, $r_{\text{Easy}} = 0.498$, $r_{\text{Same Day}} = 0.293$, $r_{\text{Next day}} = 0.315$, $r_{\text{Useful}} = 0.208$, $r_{\text{Total}} = 0.584$, $n = 150$, $p<0.05$, Appendix 7).

It means the customers find that the more reasonable the delivery fee is, the higher level of willingness to try Handla24 and recommend it to other people. In addition, the more importance of the same range products in e-grocery and physical store leads to the higher level in willingness to try Handla24 and recommend it. The more time-saving when using e-grocery, the more useful of Handla24, the more important when using bio-gas for delivery trucks as well as easier to shopping e-grocery using Internet site individually leads to the higher level of willingness to try Handla24 and recommend it. Furthermore, the more ac-
ceptance the customers agree with delivering same day and next day of ordering, the higher level of willingness to try Handla24 and recommend it to other people.

When taking all factors into account, the following prediction-equation for the customers’ willingness to try and recommend Handla24 to other people is:

\[
\text{Willingness} = -0.035 + 0.339 \times \text{Fee} - 1.118 \times \text{Same range} + 0.197 \times \text{Larger range} + 0.116 \times \text{Time saving} + 0.470 \times \text{Easy} + 0.463 \times \text{Same day} + 0.165 \times \text{Next day} + 0.753 \times \text{Useful} + 0.120 \times \text{Biogas}
\]

According to the multiple regression model, R-square value is 0.541. It means our model explains 54.1 percent of the variances in the willingness. In addition, the fee (sig. = 0.006), easy (sig. 0.002), same day (sig. = 0.000), and useful (Sig. = 0.000) variables are making the significant unique contribution to the prediction of the willingness variable.

To sum up, the relationship between each factor and the willingness helps Handla24-ICA Bankeryd evaluate the effective factors, which create better service, allowing customer value to increase. According to the correlation and the prediction-equation, Handla24-ICA Bankeryd can also predict the best potential customer group when implementing all factors together.
6 Conclusions and Recommendations

This chapter concludes the analysis and emphasizes the accomplishment of thesis purpose through the thesis questions’ answers. In addition, recommendations for Handla24 of ICA Bankeryd and suggestions for the possible further studies are also stated.

6.1 Conclusions and recommendations

We have reached the thesis’s purpose by answering all thesis questions. Using the theoretical framework and the example of Handla24 of ICA Bankeryd, we analyze intensively how e-grocery creates values to their customers. The existing customers of Handla24 have a positive attitude and significantly high satisfaction level towards the service; especially, the convenience in e-grocery (see part 5.1.2). Although the potential customers still have a skeptical attitude towards the e-grocery concept, they show the potential to try and recommend the service to others. The characteristics of targeted customers are also identified. We are also able to measure the potential customers’ opinions and their individual interests on the service of Handla24 of ICA Bankeryd. Finally, we conclude that e-grocery does create customer value; and e-grocers have the possibility to attract and convince the potential customers to try their service once they approach the potential customers. In addition, five thesis questions will be clearly answered in the following parts.

The analysis part of existing customers shows a strong level of willingness to continue using Handla24 of ICA Bankeryd and to recommend it to other people; which answer the thesis question Q2. It proves that e-grocery does create customer value. As we measure the creation of customer value through four main factors, the thesis question Q1 is answered accordingly as price level, product range, convenience and customer service of Handla24 of ICA Bankeryd. The first factor is price level. The existing customers are willing to pay 99kr for delivery fee. They find the price reasonable to exchange for the benefit of convenience they gain from e-grocery. Secondly, the product range of Handla24 of ICA bankeryd offers a highly diversified product range and actually meets the customers’ daily needs for groceries. The third factor, the convenient shopping level, has showed a high satisfaction level from existing customers. The convenient shopping can be found in time-saving, ease of shopping, and flexibility to shop anywhere and anytime. Eventually, it is customer service that shows the relationship between business and customers. Handla24 of ICA Bankeryd does satisfy the customers’ inquiries due to its fast reply and high responsibility to the inquiries. Obviously, the four factors have a significant positive contribution to the customer’s willingness to continue using Handla24 and recommend it to other people. We emphasize these factors as the ones that are creating value to customers and Handla24 of ICA Bankeryd should pay attentions on them in the future.

In attempts to target customers and answer thesis question Q3, we analyse the characteristics of the potential customer group that will create demand for Handla24 of ICA Bankeryd. Time spending on house-work and enjoyment in shopping do not affect the decision to try e-grocery of customers living in Jönköping city. Similarly, the occupations and driving license have no impact on the choice of shopping groceries online within this potential customer group. On the other hand, the potential customers in Jönköping have some distinguished characteristics that create demand for e-grocery. First of all, the potential customers spend a large amount of time on surfing the Internet, which allow them a high capability to do e-grocery shopping. They also find highly inconvenient to queue at a cashier to pay for groceries and to carry them back home; therefore they have the potential to try e-grocery service. Furthermore, we observe that female customers are more willing to try
and recommend the e-grocery service than male customers. The households with children are more likely to become Handla24’s regular customers than households without children. Moreover, the customer household which have more than or equal to three members have higher a demand for Handla24 than the customer households which have less than three members. To conclude, if Handla24 of ICA Bankeryd wants to expand their market within Jönköpings city, they should target customers who spend a large amount of time on surfing the Internet, dislike queuing at the cashier and carrying groceries home, as well as customers who are female, have more than or equal to 3 members in their households or have children in their families. These targeted recommendations could be applied in the marketing plan or service improving process.

To identify factors that will create value for the potential customers, we answer thesis question Q4 based on the analysis of the potential customers. We list the factors that have insignificant or negative contribution to the creation of customer value for the potential customers, namely: the price, larger product range, shopping convenience, easy use, next day delivery and the usefulness. The potential customers find 99 kr delivery fee expensive; thus it does not contribute to the creation value to the potential customers. The potential customers also have neutral opinion about the importance of the larger e-grocery product range compared to physical store. In regard to the shopping convenience, they are not sure whether buying groceries online saves time or not. Customers still hesitate about the ease of online shopping due to their concerns on the process of ordering groceries online. Furthermore, Handla24 of ICA Bankeryd is seen as a new concept for the potential group so they are doubtful about the service’s usefulness. On the other hand, an important factor to the service is offering a product range in e-grocery which is the same as in physical store. The analysis also shows that potential customers have a strong preference on same day delivery, while respond neutrally for delivering groceries on next day of ordering. Ultimately, the potential customer group has a strong approval toward Handla24 of ICA Bankeryd using bio-gas fuels in delivery trucks. In short, Handla24 of ICA Bankeryd should focus on the factors that appear to be important to the potential customers. For instance, they can create value to the potential customers by offering the same product range as in physical store and supplying the delivery of the products on the same day; as well as using bio-gas fuels in delivery trucks. In addition, they may re-consider the price of delivery service or develop an attractive pricing policy to convince potential customers.

On reflecting the answers from thesis questions Q3 and Q4, we identify important factors that have a strong impact on the potential customer’s willingness to try and recommend Handla24 of ICA Bankeryd, allowing to answer Q5. From thesis question Q3, targeted customers’ characteristics show a positive correlation between Internet hours and shopping enjoyment with the willingness variables. It means that the more hours per week customers spend on surfing Internet as well as the more enjoyment gained while they shop, the higher level of willingness to try Handla24 and recommend it to other people. As we have created the prediction-equation of the customers’ willingness to try and recommend Handla24 to other people in part, we conclude that the Internet hours, enjoy and carry variables have a significantly unique contribution to the willingness variable.

From thesis question Q4, we observe a positive correlation among fee, same range, time saving, easy shopping, same day, next day, useful, Biogas and willingness variables. Indeed, fee, easy shopping, same day, and useful variables contribute significantly to the prediction of the willingness variable. Therefore, besides evaluating all factors, Handla24 of ICA Bankeryd should emphasize the highly influential factors to attract the potential customers.
With the provision of this information, they can effectively implement these suggestions without wasting resources such as time and capital.

6.2 Suggestions for further study

We have identified the factors which create customer value in e-grocery based on the theoretical framework with the emphasis of Bill et al.’s (2002) and Holbrook’s (1999) studies. These factors can be applied for e-grocery in general. However, others should adjust flexibly in different geography and the companies’ operation.

In addition, we focus on the customers’ side because we do not have an ability to investigate the inside operation of the company. So, we also suggest that the further studies focus on the company’s side such as e-grocery business model, supply and logistic model. This will help the companies not only develop their operation, but also improve customer value.
References


## Appendix 1 - Interview

<table>
<thead>
<tr>
<th>Question</th>
<th>Handla24 – ICA Bankeryd</th>
</tr>
</thead>
<tbody>
<tr>
<td>1  What is the size of the range?</td>
<td>8,000 to 10,000 products</td>
</tr>
<tr>
<td>2  How and when do you pay? How safe is it?</td>
<td>All types of ICA card, Visa and Master card and Monthly bills. Information is confidential.</td>
</tr>
<tr>
<td>3  Are prices the same as in physical stores?</td>
<td>Yes. They are updated every day.</td>
</tr>
<tr>
<td>4  Are there delivery costs?</td>
<td>99kr/time</td>
</tr>
<tr>
<td>5  Speed and ease of use</td>
<td>Easy to surf and quick to order</td>
</tr>
<tr>
<td>6  Can you make selection preferences?</td>
<td>Yes. Selection preferences are applied to all kinds of products except meat. In case of meat, Handla24 used to call and suggest for substitute products.</td>
</tr>
<tr>
<td>7  Is the online basket information easy to access and alter?</td>
<td>Yes: easy to add, remove and delete.</td>
</tr>
<tr>
<td>8  Can you alter or update your order?</td>
<td>Yes before 24.00 if customers want products to be delivered the next day.</td>
</tr>
<tr>
<td>9  Can you get product information or labeling details?</td>
<td>Labelling but no product information</td>
</tr>
<tr>
<td>10 Are recipe details and ingredients available?</td>
<td>Not with grocery shopping, only with Middagkassen service.</td>
</tr>
<tr>
<td>11 Are there products other than groceries on offer?</td>
<td>Toilet papers, cigarettes, beer but not flowers because they are changed every day.</td>
</tr>
<tr>
<td>12 How are the products categorized?</td>
<td>Products are categorized by same characters.</td>
</tr>
<tr>
<td>13 Can you use loyalty cards and coupons?</td>
<td>Yes, apply for bonus check for shopping amount from 2500 kr/ month. Customers write down the codes when paying.</td>
</tr>
<tr>
<td>14 Can you create a regular shopping list?</td>
<td>Yes</td>
</tr>
<tr>
<td>15 Is the availability of offers the same as in physical stores?</td>
<td>Yes</td>
</tr>
<tr>
<td>16 What is the availability of the service?</td>
<td>Depends on postcode details. Handla24-ICA Bankeryd provide services for northern half of Jönköping according to E4 highway.</td>
</tr>
<tr>
<td>17 Delivery details and times.</td>
<td>Order before 24:00, delivery next day on the morning and evening. Monday to Friday. Not Saturday, Sunday or holidays.</td>
</tr>
<tr>
<td>18 What happens if there is a delivery mistake?</td>
<td>Customers use e-mail function to report delivery mistakes. Then Handla24-ICA Bankeryd pay money back or deliver the missing products.</td>
</tr>
<tr>
<td>19 Are there any help mechanisms or ways of contacting the store for guidance?</td>
<td>Yes: telephone, e-mail, website. With e-mail, Handla24-ICA Bankeryd tries to answer within 24 hours.</td>
</tr>
<tr>
<td>20 Comments on the site or special services offered.</td>
<td>Yes: e-mail, during ordering. With e-mail, Handla24-ICA Bankeryd tries to answer within 24 hours.</td>
</tr>
</tbody>
</table>
Appendix 2 - Survey questionnaires for existing customers

Survey of grocery shopping experiences

*This is a survey conducted by students at Jonkoping University. There are no right or wrong answers. Your responses will be kept confidential and anonymous.*

**Part I. Questions regarding Handla24**

<table>
<thead>
<tr>
<th>Question</th>
<th>Not At All</th>
<th>A Great Deal</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) To what extent do the products offered satisfy your daily food needs?</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>(2) To what extent are you satisfied with the diversity that Handla24 offers for each certain commodity?</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>(3) To what extent do you think the delivery fee for grocery shopping is reasonable?</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>(4) To what extent is Handla24 website easy to use?</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>(5) To what extent do you save time of shopping grocery when using Handla24?</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>(6) To what extent does Handla24 give you flexibility to shop anywhere?</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>(7) To what extent does Handla24 give you flexibility to shop anytime?</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>(8) To what extent are you satisfied with the delivery service?</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>(9) To what extent are you satisfied with the response of customer service in Handla24 to your inquiries?</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>(10) How willing are you to continue using Handla24?</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>(11) How willing are you to recommend Handla24 for other people?</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
</tbody>
</table>

*Do you have any other suggestions or comments regarding Handla24?*

________________________________________________________________________________________________________________________________________________________

**Part II. – About Yourself**

<table>
<thead>
<tr>
<th>Question</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>(12) Gender:</td>
<td>Male / Female</td>
</tr>
<tr>
<td>(13) Do you have any children in your family?</td>
<td>Yes / No</td>
</tr>
<tr>
<td>(14) Do you have driving license?</td>
<td>Yes / No</td>
</tr>
<tr>
<td>(15) Are you studying / working / unemployment / retired</td>
<td></td>
</tr>
<tr>
<td>(16) How many people in your family?</td>
<td>_______ people</td>
</tr>
</tbody>
</table>

Thank you!
Appendix 3 – Survey questionnaires for potential customers

Survey of shopping experiences

This is a survey conducted by students at Jönköping University. There are no right or wrong answers. Your responses will be kept confidential and anonymous. If you have completed this survey for someone else earlier, please return this paper to the person who gave it to you.

Part I.

(1) How many hours per week do you spend surfing the internet? Approximate ________ hours

(2) To what extent do you have time for doing housework? Not at all 1 2 3 4 5 6 7 Very much

(3) How much do you enjoy shopping? Not at all 1 2 3 4 5 6 7 Very much

(4) To what extent do you find the system of queuing at grocery stores convenient? Very inconvenient 1 2 3 4 5 6 7 Very convenient

(5) To what extent do you enjoy carrying your grocery shopping home? Not at all 1 2 3 4 5 6 7 Very much

(6) To what extent are you willing to spend time on grocery shopping? Not very willing 1 2 3 4 5 6 7 Very willing

Part II. Before proceeding further, please read new service concept:

Handla24 is a grocery shopping online cooperating with ICA Bankeryd: same price as in store, guaranteed quality (fresh food, frozen foods with free dry-ice-bag), time-saving and convenience shopping. The customers can place the order online and receive groceries at home the day after (Monday to Friday) by delivery service with a fee of 99 kr for all residents in Jönköping län.

Did you use this service before? Yes / No (If yes, please move to Part III)

(7) To what extent is this new service concept useful for you? Not very useful 1 2 3 4 5 6 7 Very useful

(8) How important is it that Handla24 offers the same product range compared to physical store? Not very important 1 2 3 4 5 6 7 Very important

(9) To what extent should Handla24 offer a larger product range compared to physical store? Strongly disagree 1 2 3 4 5 6 7 Strongly agree

(10) To what extent is 99 kr delivery service fee a reasonable price Strongly disagree 1 2 3 4 5 6 7 Strongly agree

(11) To what extent is time saved when using this service? Not at all 1 2 3 4 5 6 7 Very much

(12) To what extent does the internet site make grocery shopping easier? Not at all 1 2 3 4 5 6 7 Very easy

(13) To what extent should grocery shopping have same day deliverer when ordering? Strongly disagree 1 2 3 4 5 6 7 Strongly agree

(14) To what extent do you agree that it is acceptable for grocery shopping to be delivered the day after the order? Strongly disagree 1 2 3 4 5 6 7 Strongly agree

(15) To what extent is it important that Handla24 use biogas fuels in its delivery trucks? Not at all 1 2 3 4 5 6 7 Very important

(16) How willing are you to try this service? Not very willing 1 2 3 4 5 6 7 Very willing

(17) How willing are you to recommend this service to other people? Not very willing 1 2 3 4 5 6 7 Very willing

Do you have any other suggestions or comments regarding Handla24? .................................................................

Part III. – About Yourself

(18) Gender: Male / Female

(19) Do you have any children in your family? Yes / No

(20) Do you have driving license? Yes / No

(21) Are you studying working unemployment retired

(22) How many people in your family? __________

Thank you!
Appendix 4 – Translations of survey questionnaires

Undersökningsenkät av matinköp via internet

_Denna enkät är framtagen av studenter på JÖNKÖPING HÖGSKOLA. Det finns inga rätt eller felaktiga svar. Svarsenkäten är helt anonym._

_Del 1. Om Handla24._ Skalan är från 1 till 7 där 1 innebär _inte alls_ och 7 innebär _väldigt mycket_.

| (1)  | Är du nöjd med det utbud som erbjuds för dina vardagliga matinköp? | 1 2 3 4 5 6 7 |
| (2)  | Till vilken grad anser du att Handla24 erbjuder flera valmöjligheter av märken/tillverkare på produkterna? | 1 2 3 4 5 6 7 |
| (3)  | Till vilken grad anser du att utkörningskostnaden är rimlig? | 1 2 3 4 5 6 7 |
| (4)  | Till vilken grad anser du att hemsidan Handla24 är lätt att använda sig av? | 1 2 3 4 5 6 7 |
| (5)  | Är du nöjd med tidssparandet av att använda Handla24? | 1 2 3 4 5 6 7 |
| (6)  | Till vilken grad ger Handla24 dig möjligheten att göra dina inköp oavsett var du befinner dig? | 1 2 3 4 5 6 7 |
| (7)  | Till vilken grad ger Handla24 dig möjligheten att göra dina inköp oavsett tidpunkt? | 1 2 3 4 5 6 7 |
| (8)  | Till vilken grad är du nöjd med servicen vid leveranserna? | 1 2 3 4 5 6 7 |
| (9)  | Till vilken grad är du nöjd med kundtjänsten Handla24 erbjuder gällande frågor och problem? | 1 2 3 4 5 6 7 |
| (10) | Hur villig är du att fortsätta vara kund hos Handla24? | 1 2 3 4 5 6 7 |
| (11) | Hur villig är du att rekommendera Handla24 för personer omkring dig? | 1 2 3 4 5 6 7 |

Saknar du något i vårt sortiment, har andra förslag eller synpunkter på Handla24? .................................................................

_Tack för din medverkan!_

_Del 2. Kund info_  
(12) Kön: Man/Kvinna  
(13) Har du barn i din familj? Ja/Nej  
(14) Har du körkort? Ja/Nej  
(15) Sysselsättning: Student - Arbetande - Arbetssökande - Pensionär  
(16) Personer i hushållet: ___________
Undersöknings enkät av svenskars shopping


**Del 1. Skalan är från 1 till 7 där 1 innebär inte alls och 7 innebär extremt mycket.**

| (1) Hur många timmar i veckan lägger du på internet surfning? Cirka .......... timmar |
|---|---|---|---|---|---|---|---|
| inte alls | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| extremt mycket | |

(2) Till vilken grad har du tid över till hushålls arbete?

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>inte alls</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>extremt mycket</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(3) Hur tillfredsställ blir ni av att få shoppa?

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>inte alls</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>extremt mycket</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(4) Hur mycket tycker du om att stå i kö för att betala i kassan?

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>inte alls</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>extremt mycket</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(5) Hur smidigt anser du det är att bära hem matvarorna?

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>inte alls</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>extremt mycket</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(6) Hur villig är du till att lägga tid på att handla matvarorna?

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>inte alls</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>extremt mycket</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Del 2. Innan du går vidare, vänligen läs igenom det nya handelskoncept:**

Handla24.se är en web-baserad butik som samarbetar med ICA Bankeryd: samma pris som i affären, kvalitetsgaranti (färsk matvaror, torr-is för frysvaror är kostnadsfri), att sparar tid och smidig shopping. Kunderna kan göra sina beställningar och få varorna hemkörda dagen efter genomförda beställning (Mån-Fre) mot en avgift av 99kr oavsett var i Jönköpings län man bor.

| Har ni använt er av denna tjänsten från Handla24 förut? Ja/Nej (Om Ja, hoppa till Del 3.) |
|---|---|---|---|---|---|---|---|
| inte alls | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| extremt mycket | |

(7) Till vilken grad tror du det nya handelskoncept är användbar för dig?

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>inte alls</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>extremt mycket</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(8) Hur viktigt är det att Handla24 erbjuder samma utbud på varor än en vanlig matbutik?

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>inte alls</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>extremt mycket</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(9) Hur viktigt är det att Handla24 erbjuder större utbud på varor än en vanlig matbutik?

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>inte alls</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>extremt mycket</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(10) Till vilken grad är 99kr som hemkörningsavgift rimligt?

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>inte alls</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>extremt mycket</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(11) Till vilken grad tror du att du kommer att spara tid på att handla via Handla24?

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>inte alls</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>extremt mycket</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(12) Hur pass mycket lättare tror du det är att köpa varor via internet?

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>inte alls</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>extremt mycket</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(13) Hur viktigt anser du det är att varorna levereras samma dag som beställningen är utförd?

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>inte alls</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>extremt mycket</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(14) Hur acceptabelt är det att varorna kommer dagen efter genomförda beställning?

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>inte alls</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>extremt mycket</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(15) Hur viktigt är det att budbilen går på förnyelsebar bränsle? ex. biogas

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>inte alls</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>extremt mycket</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(16) Hur villig är du att prova denna tjänsten?

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>inte alls</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>extremt mycket</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(17) Hur villig är du att rekommendera denna servicen till andra människor?

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>inte alls</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>extremt mycket</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Har ni några andra förslag eller synpunkter till Handla24?** ……………………………………………………………………………………………………………………………………………………………………………………………

**Del 3. Kund info**

| (18) Kön: | Man/Kvinna |
| (19) Har ni barn i din familj? | Ja/Nej |
| (20) Har ni körkort? | Ja/Nej |
| (21) Sysselsättning: | Student - Arbetande - Arbetssökande - Pensionär |
| (22) Personer i hushållet: | __________ |

Tack för din medverkan!
### Appendix 5 - Coding table for analysis

<table>
<thead>
<tr>
<th>Question in survey for existing customer</th>
<th>Code</th>
<th>Question in survey for potential customer</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q1</td>
<td>Daily needs</td>
<td>Q1</td>
<td>Internet hours</td>
</tr>
<tr>
<td>Q2</td>
<td>Diversity</td>
<td>Q2</td>
<td>Housework</td>
</tr>
<tr>
<td>Q3</td>
<td>Fee</td>
<td>Q3</td>
<td>Enjoy</td>
</tr>
<tr>
<td>Q4</td>
<td>Easy</td>
<td>Q4</td>
<td>Queuing</td>
</tr>
<tr>
<td>Q5</td>
<td>Time Saving</td>
<td>Q5</td>
<td>Carrying</td>
</tr>
<tr>
<td>Q6</td>
<td>Anywhere</td>
<td>Q6</td>
<td>Spend time</td>
</tr>
<tr>
<td>Q7</td>
<td>Anytime</td>
<td>Q7</td>
<td>Useful</td>
</tr>
<tr>
<td>Q8</td>
<td>Delivery service</td>
<td>Q8</td>
<td>Same range</td>
</tr>
<tr>
<td>Q9</td>
<td>Customer service</td>
<td>Q9</td>
<td>Larger range</td>
</tr>
<tr>
<td>Q10</td>
<td>Continue using</td>
<td>Q10</td>
<td>Fee</td>
</tr>
<tr>
<td>Q11</td>
<td>Recommend</td>
<td>Q11</td>
<td>Time-Saving</td>
</tr>
<tr>
<td>Q12</td>
<td></td>
<td>Q12</td>
<td>Easy</td>
</tr>
<tr>
<td>Q13</td>
<td></td>
<td>Q13</td>
<td>Same day</td>
</tr>
<tr>
<td>Q14</td>
<td></td>
<td>Q14</td>
<td>Next day</td>
</tr>
<tr>
<td>Q15</td>
<td></td>
<td>Q15</td>
<td>Biogas</td>
</tr>
<tr>
<td>Q16</td>
<td></td>
<td>Q16</td>
<td>Try</td>
</tr>
<tr>
<td>Q17</td>
<td></td>
<td>Q17</td>
<td>Recommend</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Internet Hours</strong></td>
</tr>
<tr>
<td>&lt;1=1, 1 to 2 =2, 3 to 5=3, 6 to 9=4, 10 to 15=5, 16 to 20=6, &gt;20 =7</td>
</tr>
<tr>
<td><strong>Gender</strong></td>
</tr>
<tr>
<td>Male=1, Female=0</td>
</tr>
<tr>
<td><strong>Children</strong></td>
</tr>
<tr>
<td>Yes=1, No=0</td>
</tr>
<tr>
<td><strong>Driving license</strong></td>
</tr>
<tr>
<td>Yes=1, No=0</td>
</tr>
<tr>
<td><strong>Occupation</strong></td>
</tr>
<tr>
<td>Student =1, Working =2, Unemployment=3, Retired=4</td>
</tr>
</tbody>
</table>
Appendix 6 - Analysis and interpretation for existing customers

General information for statistical testing.

Hypothesis testing: (Aczel, 2009, p.257)

The null hypothesis ($H_0$) is an assertion about the value of a population parameter. It is an assertion that we hold as true unless we have sufficient statistical evidence to conclude otherwise.

The alternative hypothesis ($H_1$) is the negation of the null hypothesis.

We use One-Sample t-test because the population is normal and $\sigma$ is unknown, but the sample standard deviation $S$ is known.

Calculating: $t=\frac{\bar{X}-\mu}{S/\sqrt{n}}$ We use SPSS to calculate t value.

1. Two-tailed test: $\alpha=0.05$

$H_0$: $\mu = 4$

$H_1$: $\mu \neq 4$

2. Left-tailed test: $\alpha=0.05$

$H_0$: $\mu \geq 4$

$H_1$: $\mu < 4$

3. Right-tailed test: $\alpha=0.05$

$H_0$: $\mu \leq 4$

$H_1$: $\mu > 4$
We use Independent-sample t-test because both population are normally distributed, \( \sigma_1 \) and \( \sigma_2 \) are unknown, but the sample standard deviation \( S_1 \) and \( S_2 \) are known.

The equation test statistic: (Assume \( \sigma_1 \) and \( \sigma_2 \) are equal), but we use SPSS results

\[
t = \frac{(\bar{X}_1 - \bar{X}_2) - (\mu_1 - \mu_2)}{\sqrt{S^2 \left( \frac{1}{n_1} + \frac{1}{n_2} \right)}}
\]

1. **Two-tailed test: \( \alpha=0.05 \)**

\( H_0: \mu_1 = \mu_2 \)

\( H_1: \mu_1 \neq \mu_2 \)

2. **Left-tailed test: \( \alpha=0.05 \)**

\( H_0: \mu_1 \geq \mu_2 \)

\( H_1: \mu_1 < \mu_2 \)

3. **Right-tailed test: \( \alpha=0.05 \)**

\( H_0: \mu_1 \leq \mu_2 \)

\( H_1: \mu_1 > \mu_2 \)

**Note:** We do the two-tailed test. If we reject \( H_0 \), then we do one-tailed test, which depends on the purpose to conduct left-tailed or right-tailed. All the following tests are based on the general information provided.
a.
The factors of Handla24 - ICA Bankeryd which deliver value to their existing customers
Test Hypothesis: $\alpha=0.05$

**Daily needs**

$H_0: \mu = 4$

$H_1: \mu \neq 4$

$t$ test $=15.560 =>$ Reject $H_0$

$H_0: \mu < 4$

$H_1: \mu > 4$

$t$ test $=15.560 =>$ Reject $H_0$

The mean of satisfaction level for daily needs is greater than mid-point scale

**Diversity**

$H_0: \mu = 4$

$H_1: \mu \neq 4$

$t$ test $=10.156 =>$ Reject $H_0$

$H_0: \mu < 4$

$H_1: \mu > 4$

$t$ test $=10.156 =>$ Reject $H_0$

The mean of satisfaction level for diversity of each certain commodity is greater than mid-point scale

**Fee**

$H_0: \mu = 4$

$H_1: \mu \neq 4$

$t$ test $=6.462 =>$ Reject $H_0$

$H_0: \mu < 4$

$H_1: \mu > 4$

$t$ test $=6.462 =>$ Reject $H_0$

The mean of reasoning level for delivery fee is greater than mid-point scale

**Easy use**

$H_0: \mu = 4$

$H_1: \mu \neq 4$

$t$ test $=11.956 =>$ Reject $H_0$

$H_0: \mu < 4$

$H_1: \mu > 4$

$t$ test $=11.956 =>$ Reject $H_0$

The mean of easyness level for Handla24 website to shop is greater than mid-point scale

**Time Saving**

$H_0: \mu = 4$

$H_1: \mu \neq 4$

$t$ test $=37.879 =>$ Reject $H_0$

$H_0: \mu < 4$

$H_1: \mu > 4$

$t$ test $=37.879 =>$ Reject $H_0$

The mean of time-saving level is greater than mid-point scale

**Anywhere**

$H_0: \mu = 4$

$H_1: \mu \neq 4$

$t$ test $=20.515 =>$ Reject $H_0$

$H_0: \mu < 4$

$H_1: \mu > 4$

$t$ test $=20.515 =>$ Reject $H_0$

The mean of flexibility level for shopping anywhere with Handla24 is greater than mid-point scale.

**Anytime**

$H_0: \mu = 4$

$H_1: \mu \neq 4$

$t$ test $=37.111 =>$ Reject $H_0$

$H_0: \mu < 4$

$H_1: \mu > 4$

$t$ test $=37.111 =>$ Reject $H_0$

The mean of flexibility level for shopping anytime with Handla24 equal to mid-point scale.

**Delivery service**

$H_0: \mu = 4$

$H_1: \mu \neq 4$
t test = 35.343 => Reject $H_0$

$H_0$: µ < 4  
$H_1$: µ > 4

t test = 35.343 => Reject $H_0$

The mean of satisfaction level for delivery service is greater than mid-point scale

Customer service

$H_0$: µ = 4
$H_1$: µ ≠ 4

t test = 16.712 => Reject $H_0$

The mean of satisfaction level for customer service answering customers’ inquiries is greater than mid-point scale

### One-Sample Statistics

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daily needs</td>
<td>65</td>
<td>5.72</td>
<td>.893</td>
<td>.111</td>
</tr>
<tr>
<td>Diversity</td>
<td>65</td>
<td>5.17</td>
<td>.928</td>
<td>.115</td>
</tr>
<tr>
<td>Fee</td>
<td>65</td>
<td>5.26</td>
<td>1.574</td>
<td>.195</td>
</tr>
<tr>
<td>Easy use</td>
<td>65</td>
<td>5.65</td>
<td>1.110</td>
<td>.138</td>
</tr>
<tr>
<td>Time saving</td>
<td>65</td>
<td>6.60</td>
<td>.553</td>
<td>.069</td>
</tr>
<tr>
<td>Anywhere</td>
<td>65</td>
<td>6.26</td>
<td>.889</td>
<td>.110</td>
</tr>
<tr>
<td>Anytime</td>
<td>65</td>
<td>6.57</td>
<td>.558</td>
<td>.069</td>
</tr>
<tr>
<td>Delivery service</td>
<td>65</td>
<td>6.77</td>
<td>.632</td>
<td>.078</td>
</tr>
<tr>
<td>Customer Service</td>
<td>65</td>
<td>5.95</td>
<td>.943</td>
<td>.117</td>
</tr>
</tbody>
</table>

### One-Sample Test

<table>
<thead>
<tr>
<th></th>
<th>t</th>
<th>df</th>
<th>Sig. (2-tailed)</th>
<th>Mean Difference</th>
<th>Lower</th>
<th>Upper</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daily needs</td>
<td>15.56</td>
<td>64</td>
<td>.000</td>
<td>1.723</td>
<td>1.50</td>
<td>1.94</td>
</tr>
<tr>
<td>Diversity</td>
<td>10.156</td>
<td>64</td>
<td>.000</td>
<td>1.169</td>
<td>.94</td>
<td>1.40</td>
</tr>
<tr>
<td>Fee</td>
<td>6.462</td>
<td>64</td>
<td>.000</td>
<td>1.262</td>
<td>.87</td>
<td>1.65</td>
</tr>
<tr>
<td>Easy use</td>
<td>11.956</td>
<td>64</td>
<td>.000</td>
<td>1.646</td>
<td>1.37</td>
<td>1.92</td>
</tr>
<tr>
<td>Time saving</td>
<td>37.878</td>
<td>64</td>
<td>.000</td>
<td>2.600</td>
<td>2.46</td>
<td>2.74</td>
</tr>
<tr>
<td>Anywhere</td>
<td>20.515</td>
<td>64</td>
<td>.000</td>
<td>2.262</td>
<td>2.04</td>
<td>2.48</td>
</tr>
<tr>
<td>Anytime</td>
<td>37.111</td>
<td>64</td>
<td>.000</td>
<td>2.569</td>
<td>2.43</td>
<td>2.71</td>
</tr>
<tr>
<td>Delivery service</td>
<td>35.343</td>
<td>64</td>
<td>.000</td>
<td>2.769</td>
<td>2.61</td>
<td>2.93</td>
</tr>
<tr>
<td>Customer Service</td>
<td>16.712</td>
<td>64</td>
<td>.000</td>
<td>1.954</td>
<td>1.72</td>
<td>2.19</td>
</tr>
</tbody>
</table>
b. The responses of customers to the willingness of continue using and recommending Handla24 - ICA Bankeryd.

**Continue using**

\[ H_0: \mu = 4 \]
\[ H_1: \mu \neq 4 \]

\[ t \text{ test} = 28.874 \Rightarrow \text{Reject } H_0 \]

\[ H_0: \mu < 4 \]
\[ H_1: \mu > 4 \]

\[ t \text{ test} = 28.874 \Rightarrow \text{Reject } H_0 \]

The mean of willingness level to continue using Handla24 is greater than mid-point scale

**One-Sample Statistics**

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Continue Using</td>
<td>65</td>
<td>6.54</td>
<td>.709</td>
<td>.088</td>
</tr>
<tr>
<td>Recommend</td>
<td>65</td>
<td>6.45</td>
<td>.867</td>
<td>.107</td>
</tr>
</tbody>
</table>

**One-Sample Test**

<table>
<thead>
<tr>
<th></th>
<th>t</th>
<th>df</th>
<th>Sig. (2-tailed)</th>
<th>Mean Difference</th>
<th>Lower</th>
<th>Upper</th>
</tr>
</thead>
<tbody>
<tr>
<td>Continue Using</td>
<td>28.874</td>
<td>64</td>
<td>.000</td>
<td>2.538</td>
<td>2.39</td>
<td>2.69</td>
</tr>
<tr>
<td>Recommend</td>
<td>22.758</td>
<td>64</td>
<td>.000</td>
<td>2.446</td>
<td>2.27</td>
<td>2.63</td>
</tr>
</tbody>
</table>

**Regression**

**Model Summary**

<table>
<thead>
<tr>
<th>Model</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>R</td>
<td>R Square</td>
</tr>
<tr>
<td>1</td>
<td>.724^*</td>
</tr>
</tbody>
</table>

\[^*\text{a. Predictors: (Constant), Customer Service, Delivery service, Anywhere, Daily needs, Easy use, Anytime, Diversity, Time saving, Fee}\]

**ANOVA**

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Regression</td>
<td>73,903</td>
<td>9</td>
<td>8,211</td>
<td>6,732 ,000^*</td>
</tr>
<tr>
<td></td>
<td>Residual</td>
<td>67,082</td>
<td>55</td>
<td>1,220</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>140,985</td>
<td>64</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\[^*\text{a. Predictors: (Constant), Customer Service, Delivery service, Anywhere, Daily needs, Easy use, Anytime, Diversity, Time saving, Fee}\]

\[^*\text{b. Dependent Variable: Willingness}\]

59
Appendix 7 - Analysis and interpretation for potential customers

Statistical hypothesis test with $\alpha=0.05$. See Appendix 6

a. Which characteristics of targeted customer group created demand for Handla24 – ICA Bankeryd

**Internet hours**

$H_0: \mu = 4$

$H_1: \mu \neq 4$

$t\text{ test}= 2.813 => Reject H_0$

$t\text{ test}= -14.442 => Reject H_0$

$H_0: \mu > 4$

$H_1: \mu < 4$

The mean of number of hours per week customers spend surfing the internet is higher than mid-point scale (4), where mid point scale (4) presents from 6 to 9 hours per week.

**Housework**

$H_0: \mu = 4$

$H_1: \mu \neq 4$

$t(149)= -1.085 => Accept H_0$

The mean of customers having time for housework is equal to mid-point scale (4).

**Enjoy**

$H_0: \mu = 4$

$H_1: \mu \neq 4$

$t(149)= 1.039 => Accept H_0$

The mean of customers enjoying shopping equal to mid-point scale

**Queuing**

$H_0: \mu = 4$

$H_1: \mu \neq 4$

$t(149)= -14.442 => Reject H_0$

The mean of customers find queuing at grocery store convenient is lower mid-point scale

**Carrying**

$H_0: \mu = 4$

$H_1: \mu \neq 4$

$t\text{ test}= -6.730 => Reject H_0$

The mean of customers enjoying carrying groceries home is lower than mid-point scale

**Spend time**

$H_0: \mu = 4$

$H_1: \mu \neq 4$

$t(149)= -1.381 => Accept H_0$

The mean of customers enjoying spending time shopping grocery equal to mid-point scale
One-Sample Statistics

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internet hours</td>
<td>150</td>
<td>4.41</td>
<td>1.771</td>
<td>.145</td>
</tr>
<tr>
<td>Housework</td>
<td>150</td>
<td>3.87</td>
<td>1.430</td>
<td>.117</td>
</tr>
<tr>
<td>Enjoy</td>
<td>150</td>
<td>4.19</td>
<td>1.758</td>
<td>.144</td>
</tr>
<tr>
<td>Queuing</td>
<td>150</td>
<td>2.23</td>
<td>1.499</td>
<td>.122</td>
</tr>
<tr>
<td>Carrying</td>
<td>150</td>
<td>3.17</td>
<td>1.512</td>
<td>.123</td>
</tr>
<tr>
<td>Spend time</td>
<td>150</td>
<td>3.84</td>
<td>1.419</td>
<td>.116</td>
</tr>
</tbody>
</table>

One-Sample Test

<table>
<thead>
<tr>
<th></th>
<th>t</th>
<th>Df</th>
<th>Sig. (2-tailed)</th>
<th>Mean Difference</th>
<th>Lower</th>
<th>Upper</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internet hours</td>
<td>2.813</td>
<td>149</td>
<td>.006</td>
<td>.407</td>
<td>.12</td>
<td>.69</td>
</tr>
<tr>
<td>Housework</td>
<td>-1.085</td>
<td>149</td>
<td>.280</td>
<td>-.127</td>
<td>-.36</td>
<td>.10</td>
</tr>
<tr>
<td>Enjoy</td>
<td>1.309</td>
<td>149</td>
<td>.193</td>
<td>.188</td>
<td>-.10</td>
<td>.47</td>
</tr>
<tr>
<td>Queuing</td>
<td>-14.422</td>
<td>149</td>
<td>.000</td>
<td>-.1785</td>
<td>-2.01</td>
<td>-1.52</td>
</tr>
<tr>
<td>Carrying</td>
<td>-6.730</td>
<td>149</td>
<td>.000</td>
<td>-.831</td>
<td>-1.08</td>
<td>-.59</td>
</tr>
<tr>
<td>Spend time</td>
<td>-1.381</td>
<td>149</td>
<td>.169</td>
<td>-.160</td>
<td>-.39</td>
<td>.07</td>
</tr>
</tbody>
</table>

Male and female

\[ H_0: \mu_{\text{Male}} = \mu_{\text{Female}} \]
\[ H_1: \mu_{\text{Male}} \neq \mu_{\text{Female}} \]

t test= -2.225 => Reject \( H_0 \)

\[ H_0: \mu_{\text{Male}} > \mu_{\text{Female}} \]
\[ H_1: \mu_{\text{Male}} < \mu_{\text{Female}} \]

t test= -2.225 => Reject \( H_0 \)

An independent-sample t-test was conducted to compare the willingness level of male and female customers to try and recommend Handla24. The female customers (\( M=8.45, \) \( SD=3.225 \)) score higher than male customers (\( M=7.31, SD=3.006 \)) on the level of willingness; \( t (148) = -2.225, \alpha = 0.05. \)
### Group Statistics

<table>
<thead>
<tr>
<th>Gender</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Willing Male</td>
<td>79</td>
<td>7.31</td>
<td>3.006</td>
<td>.338</td>
</tr>
<tr>
<td>Female</td>
<td>71</td>
<td>8.45</td>
<td>3.225</td>
<td>.383</td>
</tr>
</tbody>
</table>

### Independent Samples Test

<table>
<thead>
<tr>
<th></th>
<th>F</th>
<th>Sig.</th>
<th>df</th>
<th>t</th>
<th>Sig. (2-tailed)</th>
<th>Mean Difference</th>
<th>Std. Error Difference</th>
<th>95% Confidence Interval of the Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Willing</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equal variances assumed</td>
<td>.010</td>
<td>.919</td>
<td>148</td>
<td>.028</td>
<td>-1.132</td>
<td>.509</td>
<td>-2.137</td>
<td>-1.126</td>
</tr>
<tr>
<td>Equal variances not assumed</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2.216</td>
<td></td>
<td></td>
<td>143.493</td>
<td>.028</td>
<td>-1.132</td>
<td>.511</td>
<td>-2.141</td>
</tr>
</tbody>
</table>

### Children

H₀: µYes = µNo
H₁: µYes ≠ µNo

\[ t = 4.539, \Rightarrow \text{Reject } H₀ \]

H₀: µYes < µNo
H₁: µYes > µNo

\[ t = 4.539, \Rightarrow \text{Reject } H₀ \]

An independent-sample t-test was conducted to compare the willingness level of customers’ household with children and customers’ household without children to try and recommend Handla24. The customers’ household with children (M=9.96, SD=3.060) score significant higher than customers’ household without children (M=7.28, SD=2.937) on the level of willingness; \( t (148) = 4.539, p < 0.05 \).
### Independent Samples Test

#### Levene's Test for Equality of Variances

<table>
<thead>
<tr>
<th>F</th>
<th>Sig.</th>
<th>t</th>
<th>df</th>
<th>Sig. (2-tailed)</th>
<th>Mean Difference</th>
<th>Std. Error Difference</th>
<th>95% Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Willing</td>
<td>Equal variances assumed</td>
<td>.008</td>
<td>.929</td>
<td>4,539</td>
<td>148</td>
<td>.000</td>
<td>2.681</td>
</tr>
<tr>
<td></td>
<td>Equal variances not assumed</td>
<td>4,434</td>
<td>47,647</td>
<td>.000</td>
<td>2.681</td>
<td>.605</td>
<td>1.465</td>
</tr>
</tbody>
</table>

#### Driving License

**H_0**: \( \mu_{\text{Yes}} = \mu_{\text{No}} \)

**H_1**: \( \mu_{\text{Yes}} \neq \mu_{\text{No}} \)

t test= -1.197, p (two-tailed) =0.233 > 0.05 => Accept H_0

An independent-sample t-test was conducted to compare the willingness level of customers having driving license and customers not having driving license to try and recommend Handy24. There is no significant difference in the level of willingness for customers having driving license (M=7.70, SD=3.175) and customers not having driving license (M=8.54, SD=3.036); t (147) = -1.197, \( \alpha=0.05 \).

#### Group Statistics

<table>
<thead>
<tr>
<th>License</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Willing Yes</td>
<td>125</td>
<td>7.70</td>
<td>3.175</td>
<td>.284</td>
</tr>
<tr>
<td>No</td>
<td>24</td>
<td>8.54</td>
<td>3.036</td>
<td>.620</td>
</tr>
</tbody>
</table>

#### Independent Samples Test

#### Levene's Test for Equality of Variances

<table>
<thead>
<tr>
<th>F</th>
<th>Sig.</th>
<th>t</th>
<th>df</th>
<th>Sig. (2-tailed)</th>
<th>Mean Difference</th>
<th>Std. Error Difference</th>
<th>95% Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Willing</td>
<td>Equal variances assumed</td>
<td>.294</td>
<td>.588</td>
<td>147</td>
<td>.233</td>
<td>-.841</td>
<td>.703</td>
</tr>
<tr>
<td></td>
<td>Equal variances not assumed</td>
<td>33,401</td>
<td>.226</td>
<td>-.841</td>
<td>.682</td>
<td>-2.227</td>
<td>.545</td>
</tr>
</tbody>
</table>

63
Occupation

\( H_0: \mu_{\text{Student, Unemployed, Retired}} = \mu_{\text{Working}} \)
\( H_1: \mu_{\text{Student, Unemployed, Retired}} \neq \mu_{\text{Working}} \)

\( t \) test = 0.944, \( p \) (two-tailed) = 0.347 > 0.05 \( \Rightarrow \) Accept \( H_0 \)

An independent-sample \( t \)-test was conducted to compare the willingness level of students, unemployed, retired customer group and working customer group to try and recommend Handla24. There is no significant difference in the level of willingness for students, unemployed, retired customer group (\( M=8.09, SD=3.045 \)) and working customer group (\( M=7.61, SD=3.258 \)); \( t \) (148) = 0.944, \( \alpha = 0.05 \).

<table>
<thead>
<tr>
<th>Occ</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Willing Student, Unemployed and Retired</td>
<td>75</td>
<td>8.09</td>
<td>3.045</td>
<td>0.352</td>
</tr>
<tr>
<td>Working</td>
<td>75</td>
<td>7.61</td>
<td>3.258</td>
<td>0.376</td>
</tr>
</tbody>
</table>

Independent Samples Test

<table>
<thead>
<tr>
<th>Levene’s Test for Equality of Variances</th>
<th>( t )-test for Equality of Means</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>( F )</td>
</tr>
<tr>
<td>Willing Equal variances assumed</td>
<td>.311</td>
</tr>
<tr>
<td>Equal variances not assumed</td>
<td>.944</td>
</tr>
</tbody>
</table>

Member in Household

\( H_0: \mu_{\geq 3} = \mu_{<3} \)
\( H_1: \mu_{\geq 3} \neq \mu_{<3} \)

\( t \) test = 4.665 \( \Rightarrow \) Reject \( H_0 \)

\( H_0: \mu_{\geq 3} < \mu_{<3} \)
\( H_1: \mu_{\geq 3} > \mu_{<3} \)

\( t \) test = 4.665 \( \Rightarrow \) Reject \( H_0 \)

An independent-sample \( t \)-test was conducted to compare the willingness level of customers with number in household \( \geq 3 \) and \(<3 \) to try and recommend Handla24. The customers with number in household \( \geq 3 \) (\( M=9.56, SD=2.968 \)) score significant higher than customers with number in household \(<3 \) (\( M=7.21, SD=2.948 \)) in the level of willingness; \( t \) (147) = 4.665, \( \alpha = 0.05 \).
### Group Statistics

<table>
<thead>
<tr>
<th></th>
<th>MemAJ</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Willing</td>
<td>&gt;= 3</td>
<td>46</td>
<td>9.56</td>
<td>2.968</td>
<td>.438</td>
</tr>
<tr>
<td></td>
<td>&lt; 3</td>
<td>103</td>
<td>7.12</td>
<td>2.948</td>
<td>.290</td>
</tr>
</tbody>
</table>

### Independent Samples Test

<table>
<thead>
<tr>
<th></th>
<th>Levene's Test for Equality of Variances</th>
<th>t-test for Equality of Means</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>Sig.</td>
</tr>
<tr>
<td>Willing equal variances assumed</td>
<td>.015</td>
<td>.902</td>
</tr>
<tr>
<td>Willing equal variances not assumed</td>
<td>4.653</td>
<td>86.031</td>
</tr>
</tbody>
</table>

b. Which factors of Handla24 – ICA Bankeryd created value for the targeted group.

#### Useful

- $H_0: \mu = 4$
- $H_1: \mu \neq 4$

$t test = -7.181 \Rightarrow$ Reject $H_0$

- $H_0: \mu > 4$
- $H_1: \mu < 4$

$t test = -7.181 \Rightarrow$ Reject $H_0$

The mean importance level of larger range is equal to mid-point scale (4)?

#### Fee

- $H_0: \mu = 4$
- $H_1: \mu \neq 4$

$t test = -2.256 \Rightarrow$ Reject $H_0$

- $H_0: \mu > 4$
- $H_1: \mu < 4$

$t test = -2.256 \Rightarrow$ Reject $H_0$

The mean reasoning of fee is lower than mid-point scale

#### Same Range

- $H_0: \mu = 4$
- $H_1: \mu \neq 4$

$t test = 7.576 \Rightarrow$ Reject $H_0$

- $H_0: \mu < 4$
- $H_1: \mu > 4$

$t test = 7.576 \Rightarrow$ Reject $H_0$

The mean importance of same range is higher than mid-point scale

#### Larger Range

- $H_0: \mu = 4$
- $H_1: \mu \neq 4$

$t test = -1.597, p$ (two-tailed) $=0.112 > 0.05 \Rightarrow$ Accept $H_0$

The mean reasoning of fee is lower than mid-point scale.

#### Time Saving

- $H_0: \mu = 4$
- $H_1: \mu \neq 4$

$t test = 0.664, p$ (two-tailed) $=0.508 > 0.05 \Rightarrow$ Accept $H_0$

The mean of time saving is equal to mid-point scale

#### Easy

- $H_0: \mu = 4$
- $H_1: \mu \neq 4$
t test= -1.719, p (two-tailed) =0.088 > 0.05 => Accept H₀

The mean easyness level of internet side making grocery is equal to mid-point scale

**Same day**

H₀: µ = 4  
H₁: µ ≠ 4  
**t test**= 5.516  => Reject H₀

H₀: µ < 4  
H₁: µ > 4  
**t test**= 5.516  => Reject H₀

The mean importance of same day delivery is higher than mid-point scale

**Next day**

H₀: µ = 4  
H₁: µ ≠ 4  
**t test**= 1.165, p (two-tailed) =0.246 > 0.05 => Accept H₀

The mean importance of next day delivery is equal to mid-point scale

H₀: µ < 4  
H₁: µ > 4  
**t test**= 3.531  => Reject H₀

Biogas

H₀: µ = 4  
H₁: µ ≠ 4  
**t test**= 3.531  => Reject H₀

H₀: µ < 4  
H₁: µ > 4  
**t test**= 3.531  => Reject H₀

the mean importance of Biogas delivery trucks is higher than mid-point scale
c. The relationship between these factors and customer valued created through Handla24 – ICA Bankeryd.

Customer factors

The correlation between two random variables X and Y is a measure of the degree of linear association between the two variables (Aczel, 2009, p.429)

<table>
<thead>
<tr>
<th>Correlations</th>
<th>Willing</th>
<th>Internet hours</th>
<th>Housework</th>
<th>Enjoy</th>
<th>Queuing</th>
<th>Carrying</th>
<th>Spend time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Willing</td>
<td>Pearson Correlation</td>
<td>1</td>
<td>-0.060</td>
<td>0.261**</td>
<td>-0.089</td>
<td>-0.253***</td>
<td>-0.114</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.001</td>
<td>.469</td>
<td>.001</td>
<td>.281</td>
<td>.002</td>
<td>.165</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>150</td>
<td>150</td>
<td>150</td>
<td>150</td>
<td>150</td>
<td>150</td>
</tr>
<tr>
<td>Internet hours</td>
<td>Pearson Correlation</td>
<td>0.274**</td>
<td>1</td>
<td>-0.154</td>
<td>0.321**</td>
<td>0.205</td>
<td>-0.135</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.001</td>
<td>.059</td>
<td>.000</td>
<td>.012</td>
<td>.100</td>
<td>.421</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>150</td>
<td>150</td>
<td>150</td>
<td>150</td>
<td>150</td>
<td>150</td>
</tr>
<tr>
<td>Housework</td>
<td>Pearson Correlation</td>
<td>-0.060</td>
<td>-0.154</td>
<td>1</td>
<td>0.030</td>
<td>0.034</td>
<td>0.087</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.469</td>
<td>.059</td>
<td>.712</td>
<td>.677</td>
<td>.292</td>
<td>.377</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>150</td>
<td>150</td>
<td>150</td>
<td>150</td>
<td>150</td>
<td>150</td>
</tr>
<tr>
<td>Enjoy</td>
<td>Pearson Correlation</td>
<td>0.261**</td>
<td>0.321**</td>
<td>0.030</td>
<td>1</td>
<td>0.253***</td>
<td>-0.191</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.001</td>
<td>.000</td>
<td>.712</td>
<td>.002</td>
<td>.019</td>
<td>.001</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>150</td>
<td>150</td>
<td>150</td>
<td>150</td>
<td>150</td>
<td>150</td>
</tr>
<tr>
<td>Queuing</td>
<td>Pearson Correlation</td>
<td>0.089</td>
<td>0.205</td>
<td>0.034</td>
<td>0.253***</td>
<td>1</td>
<td>0.020</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.281</td>
<td>.012</td>
<td>.677</td>
<td>.002</td>
<td>.804</td>
<td>.009</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>150</td>
<td>150</td>
<td>150</td>
<td>150</td>
<td>150</td>
<td>150</td>
</tr>
<tr>
<td>Carrying</td>
<td>Pearson Correlation</td>
<td>-0.253***</td>
<td>-0.135</td>
<td>0.087</td>
<td>-0.191</td>
<td>0.020</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.002</td>
<td>.100</td>
<td>.292</td>
<td>.019</td>
<td>.804</td>
<td>.034</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>150</td>
<td>150</td>
<td>150</td>
<td>150</td>
<td>150</td>
<td>150</td>
</tr>
<tr>
<td>Spend time</td>
<td>Pearson Correlation</td>
<td>-0.114</td>
<td>0.066</td>
<td>0.073</td>
<td>0.268**</td>
<td>0.211**</td>
<td>0.173**</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.165</td>
<td>.421</td>
<td>.377</td>
<td>.001</td>
<td>.009</td>
<td>.034</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>150</td>
<td>150</td>
<td>150</td>
<td>150</td>
<td>150</td>
<td>150</td>
</tr>
</tbody>
</table>

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

* Correlation is significant at the 0.05 level (2-tailed).
The population regression model of a dependent variable Y on a set of k independent variables X_1, X_2, X_3, ..., X_k is given by

\[ Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \ldots + \beta_k X_k + \epsilon \]

Where \( \beta_0 \) is the Y intercept of the regression surface and each \( \beta_i \), \( i = 1, \ldots, k \), is the slope of the regression surface.

We use multiple Regression Model to generate the prediction-equation. To evaluate if there is a linear regression relationship between the dependent variables Y and any of the explanatory, independent variable, we use F test. Then evaluate the R-square.
### Handla24 – ICA Bankeyd factors

#### Correlations

<table>
<thead>
<tr>
<th></th>
<th>Willing</th>
<th>Useful</th>
<th>Same range</th>
<th>Larger range</th>
<th>Time saving</th>
<th>Easy</th>
<th>Same day</th>
<th>Next day</th>
<th>Biogas</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Willing</strong></td>
<td>Pearson Correlation</td>
<td>1</td>
<td>.584**</td>
<td>.296**</td>
<td>.138</td>
<td>.367**</td>
<td>.546**</td>
<td>.498**</td>
<td>.293**</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.000</td>
<td>.000</td>
<td>.091</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.005</td>
</tr>
<tr>
<td><strong>N</strong></td>
<td>150</td>
<td>150</td>
<td>150</td>
<td>150</td>
<td>150</td>
<td>150</td>
<td>150</td>
<td>150</td>
<td>150</td>
</tr>
<tr>
<td><strong>Useful</strong></td>
<td>Pearson Correlation</td>
<td>.584**</td>
<td>1</td>
<td>.398**</td>
<td>.223**</td>
<td>.270**</td>
<td>.525**</td>
<td>.352**</td>
<td>.086</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.000</td>
<td>.000</td>
<td>.006</td>
<td>.001</td>
<td>.000</td>
<td>.000</td>
<td>.296</td>
<td>.000</td>
<td>.005</td>
</tr>
<tr>
<td><strong>N</strong></td>
<td>150</td>
<td>150</td>
<td>150</td>
<td>150</td>
<td>150</td>
<td>150</td>
<td>150</td>
<td>150</td>
<td>150</td>
</tr>
<tr>
<td><strong>Same range</strong></td>
<td>Pearson Correlation</td>
<td>.296**</td>
<td>.398**</td>
<td>1</td>
<td>.332**</td>
<td>.284**</td>
<td>.454**</td>
<td>.216**</td>
<td>.268**</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.008</td>
<td>.001</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td><strong>N</strong></td>
<td>150</td>
<td>150</td>
<td>150</td>
<td>150</td>
<td>150</td>
<td>150</td>
<td>150</td>
<td>150</td>
<td>150</td>
</tr>
<tr>
<td><strong>Larger range</strong></td>
<td>Pearson Correlation</td>
<td>.138</td>
<td>.223**</td>
<td>.332**</td>
<td>1</td>
<td>.099</td>
<td>.307**</td>
<td>.258**</td>
<td>.294**</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.091</td>
<td>.006</td>
<td>.000</td>
<td>.227</td>
<td>.000</td>
<td>.001</td>
<td>.000</td>
<td>.810</td>
<td>.346</td>
</tr>
<tr>
<td><strong>N</strong></td>
<td>150</td>
<td>150</td>
<td>150</td>
<td>150</td>
<td>150</td>
<td>150</td>
<td>150</td>
<td>150</td>
<td>150</td>
</tr>
<tr>
<td><strong>Fee</strong></td>
<td>Pearson Correlation</td>
<td>.367**</td>
<td>.270**</td>
<td>.284**</td>
<td>.099</td>
<td>1</td>
<td>.390**</td>
<td>.227**</td>
<td>.002</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.000</td>
<td>.001</td>
<td>.000</td>
<td>.227</td>
<td>.000</td>
<td>.005</td>
<td>.984</td>
<td>.000</td>
<td>.779</td>
</tr>
<tr>
<td><strong>N</strong></td>
<td>150</td>
<td>150</td>
<td>150</td>
<td>150</td>
<td>150</td>
<td>150</td>
<td>150</td>
<td>150</td>
<td>150</td>
</tr>
<tr>
<td><strong>Time saving</strong></td>
<td>Pearson Correlation</td>
<td>.546**</td>
<td>.525**</td>
<td>.454</td>
<td>.307**</td>
<td>.390**</td>
<td>1</td>
<td>.611**</td>
<td>.274**</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.001</td>
<td>.000</td>
<td>.001</td>
<td>.000</td>
</tr>
<tr>
<td><strong>N</strong></td>
<td>150</td>
<td>150</td>
<td>150</td>
<td>150</td>
<td>150</td>
<td>150</td>
<td>150</td>
<td>150</td>
<td>150</td>
</tr>
<tr>
<td><strong>Easy</strong></td>
<td>Pearson Correlation</td>
<td>.496**</td>
<td>.352**</td>
<td>.216**</td>
<td>.258**</td>
<td>.227**</td>
<td>.611**</td>
<td>1</td>
<td>.173**</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.000</td>
<td>.000</td>
<td>.008</td>
<td>.001</td>
<td>.005</td>
<td>.000</td>
<td>.034</td>
<td>.001</td>
<td>.113</td>
</tr>
<tr>
<td><strong>N</strong></td>
<td>150</td>
<td>150</td>
<td>150</td>
<td>150</td>
<td>150</td>
<td>150</td>
<td>150</td>
<td>150</td>
<td>150</td>
</tr>
<tr>
<td><strong>Same day</strong></td>
<td>Pearson Correlation</td>
<td>.293**</td>
<td>.086</td>
<td>.268**</td>
<td>.294**</td>
<td>.002</td>
<td>.274**</td>
<td>.173**</td>
<td>1</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.000</td>
<td>.296</td>
<td>.001</td>
<td>.984</td>
<td>.001</td>
<td>.034</td>
<td>.133</td>
<td>.793</td>
<td>.066</td>
</tr>
<tr>
<td><strong>N</strong></td>
<td>150</td>
<td>150</td>
<td>150</td>
<td>150</td>
<td>150</td>
<td>150</td>
<td>150</td>
<td>150</td>
<td>150</td>
</tr>
<tr>
<td><strong>Next day</strong></td>
<td>Pearson Correlation</td>
<td>.315**</td>
<td>.291**</td>
<td>.326**</td>
<td>.020</td>
<td>.314**</td>
<td>.356**</td>
<td>.279**</td>
<td>-.123</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.810</td>
<td>.000</td>
<td>.001</td>
<td>.133</td>
<td>.793</td>
<td>.066</td>
</tr>
<tr>
<td><strong>N</strong></td>
<td>150</td>
<td>150</td>
<td>150</td>
<td>150</td>
<td>150</td>
<td>150</td>
<td>150</td>
<td>150</td>
<td>150</td>
</tr>
<tr>
<td><strong>Biogas</strong></td>
<td>Pearson Correlation</td>
<td>.208**</td>
<td>.229**</td>
<td>.111</td>
<td>.077</td>
<td>-.023</td>
<td>.197**</td>
<td>.130</td>
<td>.022</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.010</td>
<td>.005</td>
<td>.175</td>
<td>.346</td>
<td>.779</td>
<td>.016</td>
<td>.113</td>
<td>.793</td>
<td>.066</td>
</tr>
<tr>
<td><strong>N</strong></td>
<td>150</td>
<td>150</td>
<td>150</td>
<td>150</td>
<td>150</td>
<td>150</td>
<td>150</td>
<td>150</td>
<td>150</td>
</tr>
</tbody>
</table>

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

*. Correlation is significant at the 0.05 level (2-tailed).
### Model Summary

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.736a</td>
<td>.541</td>
<td>.512</td>
<td>2.202</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), Biogas, Same day, Fee, Easy, Larger range, Next day, Useful, Same range, Time saving

b. Dependent Variable: Willing

### ANOVA

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Regression</td>
<td>801,627</td>
<td>9</td>
<td>89,070</td>
<td>18,363</td>
<td>.000*</td>
</tr>
<tr>
<td>Residual</td>
<td>679,080</td>
<td>140</td>
<td>4,851</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>1480,707</td>
<td>149</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), Biogas, Same day, Fee, Easy, Larger range, Next day, Useful, Same range, Time saving

b. Dependent Variable: Willing

### Coefficients

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>95.0% Confidence Interval for B</th>
<th>Correlations</th>
<th>Collinearity Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td>t</td>
<td>Sig.</td>
</tr>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>-0.035</td>
<td>0.885</td>
<td>-0.039</td>
<td>0.969</td>
</tr>
<tr>
<td></td>
<td>Fee</td>
<td>0.339</td>
<td>0.122</td>
<td>0.180</td>
<td>2.782</td>
</tr>
<tr>
<td></td>
<td>Same range</td>
<td>-0.118</td>
<td>0.122</td>
<td>-0.069</td>
<td>-0.965</td>
</tr>
<tr>
<td></td>
<td>Larger range</td>
<td>-0.197</td>
<td>0.112</td>
<td>-0.112</td>
<td>-1.754</td>
</tr>
<tr>
<td></td>
<td>Time saving</td>
<td>0.116</td>
<td>0.158</td>
<td>0.065</td>
<td>0.735</td>
</tr>
<tr>
<td></td>
<td>Easy</td>
<td>0.470</td>
<td>0.146</td>
<td>0.238</td>
<td>3.222</td>
</tr>
<tr>
<td></td>
<td>Same day</td>
<td>0.463</td>
<td>0.114</td>
<td>0.262</td>
<td>4.054</td>
</tr>
<tr>
<td></td>
<td>Next day</td>
<td>0.165</td>
<td>0.114</td>
<td>0.098</td>
<td>1.451</td>
</tr>
<tr>
<td></td>
<td>Useful</td>
<td>0.753</td>
<td>0.132</td>
<td>0.402</td>
<td>5.711</td>
</tr>
<tr>
<td></td>
<td>Biogas</td>
<td>0.120</td>
<td>0.099</td>
<td>0.073</td>
<td>1.216</td>
</tr>
</tbody>
</table>

a. Dependent Variable: Willing