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Digital services in the agriculture business

- Customer perspective on digital accounting services

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Preface from the author

This thesis is written primarily for accounting companies in the agriculture and forestry businesses. The attributes that are the result of this thesis can be used in marketing and management work when accounting companies shall implement digital services related to customers' accountings. The attributes I have found can also be used as a basis for further research in the area of customer value.

The thesis is written in collaboration with LRF Konsult in Stockholm. LRF Konsult is a company that works with economy, law and real estate agency. Today LRF Konsult are the largest Swedish accounting and advisory company directed towards agriculture and forestry owners with 1500 employees at 130 locations across Sweden. LRFK sees this as a strength because of the good knowledge of local environments and the close contact with the customers even in smaller towns. The federation of Swedish Farmers (LRF) owns LRF Konsult and all the profit that the company generates goes back there. The money is used by LRF to work with advocacy and member benefits to all the 90.000 small business owners who are members of LRF.

My interest in agriculture started early on our combined dairy and forestry farm in Östergötland, Sweden and the choice to study to agronomist became a matter of course. When the opportunity to devote the last two years of the education in forest industrial economics came up, I immediately decided that it was the track I wanted to go. Before I started study agronomist I ran a firm that worked with clearing and felling in the forestry and drove machines in the agriculture as well as in the forestry business. A broad education in both agriculture and forestry was something that really suited me. After writing several raports and an internship at LRF Konsult I got the opportunity to write this thesis for the company. The thesis is about finding expected attributes that the customers values when it comes to digital systems for the accountings with a qualitative study, wich suits me "like a glove". Writing about customer value and all the designations and dimension of the term has sometimes been difficult but at the same time very instructive and something that I think will be useful in my future career as an economist.

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Summary

The world is moving towards an increasingly digitalized society where computer capacity and storage capabilities are setting new records every day. Even in the agriculture business, there has been a great development of digital systems that control the machines, as well as measuring, weighing and collecting information about the production on the farm. The association of accounting and auditing (FAR) predicts that accounting services will be digitized and automated by the year 2025 and therefore there is a need to focus on developing functional digital systems for this and work more with other tasks like counselling. As the work with accountings are digitized and new companies are entering the market of accounting services, it becomes more and more competition for customers, which enables customers to have more choice and can demand that the accounting companies meet more personal values for the customer. Therefore, accounting firms need to think in a customer perspective when developing the future of accounting and advisory services.

This study aims to identify different attributes that farmers value when implementing digital systems for accounting and business management in the agriculture business. The study is done with qualitative method implemented by semi-structural, personal interviews at the home of nine farmers in Götaland, Sweden. The theoretical model used as a base in this study is built on a conceptualization of value concepts and contains the six dimensions Quality, Efficiency, Social value, Play, Aesthetics and Altruism. The model was chosen because it captures both utilitarian and hedonistic values that customers see in digital systems for accounting and business management.

Findings suggest that farmers value systems that are user-friendly, work properly and fulfill the purpose they are created for. The digital services are expected to have properties that streamline the process of invoice handling and management of the farms operations. The digital systems can help to motivate the farmers and make the daily work more pleasurable by showing the development of different key entities on the farm. During the interviews, some respondents expressed the importance that the information stored in the digital systems is kept protected from copying and theft because both economic and non-economic values can contain business secrets. Several attributes found in the study are associated with the service delivery and concerns the staff of accounting firms. The farmers saw values in competent, friendly and confident consultants, which build loyalty to the accounting firm. Other attributes that are highly valued by farmers was that the staff at the accounting firm was available when the farmer needs help, is understanding and have knowledge in practical agriculture management.

Sammanfattning

Världen går mot ett alltmer digitaliserat samhälle där datorernas kapacitet och lagringsmöjligheter slår nya rekord varje dag. Även i lantbruket har det skett en stor utveckling av digitala system som styr maskiner samt mäter, väger och samlar information om gårdens produktion. Branschorganisationen för redovisning och revision (FAR) spår att bokföringstjänsterna kommer att digitaliseras och automatiseras före år 2025 och därför behöver arbetet fokuseras på att utveckla bra system för detta och styra över arbetet på andra uppgifter som rådgivning. I takt med att redovisningen digitaliseras och nya företag kommer in på marknaden blir det alltmer konkurrens om kunderna, vilket gör att kunderna har fler valmöjligheter och kan ställa krav på att företagen uppfyller personliga värden åt kunden. Därför behöver redovisningsföretagen tänka i ett kundperspektiv vid utveckling av framtidens redovisning och rådgivning.

Denna studie har som mål att identifiera olika attribut som lantbrukare värderar vid en implementering av digitala system för fakturahantering och affärsstyrning i lantbruket. Studien använder sig av kvalitativ metod som genomförs med semistrukturella personintervjuer hemma hos nio stycken lantbrukare i Götaland. Modellen som använts som grund i arbetet är byggd på en konceptualisering av begreppet värde och innehåller de sex dimensionerna Kvalitet, Effektivitet, Socialt värde, Play, Estetik och Altruism. Modellen valdes för att fånga upp både utilitaristiska och hedonistiska värden som kunden ser hos digitala system för redovisning och affärsstyrning.

Resultaten av studien tyder på att lantbrukarna värdesätter system som fungerar och är användarvänliga samt fullföljer syftet de är skapade för. De digitala tjänsterna förväntades ha egenskaper som effektiviserade arbetet med fakturahantering och uppföljning av driften på gården samt bidra med motivation och nöje genom att visa kontinuerlig uppföljning av olika nyckeltal. Under intervjuerna kom det även fram att det är viktigt att informationen som lagras i de olika systemen hålls skyddad från kopiering och stöld eftersom både ekonomiska och icke-ekonomiska värden kan innehålla affärshemligheter. Flera av de attribut som framkom i studien är förknippade med överföringen av tjänsten och berör personalen på redovisningsföretag. Lantbrukarna såg värden i att personalen var kompetenta, trevliga och trygga, vilket bygger lojalitet till redovisningsföretaget. Andra attribut som värderades högt hos lantbrukarna var att personalen på redovisningsföretaget var kontaktbara, förstående och att de har kunskap om praktiskt jordbruk.

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1 Introduction

1.1 Problem background

The world is currently digitalizing. Speed and storage capacity are hitting new records daily, and it is a challenge for companies to keep up with the digital development. The drastic increase of digital technology makes it critical to value creation in the service management (FAR, 2013). The Development is so rapid that the author Richard Norrman (2011) writes in his book “Service Management” that "writers who speak out about the internet and its future importance of services makes a failure" because development is so rapid that it is impossible to speculate on the future of digital services. The development in agriculture industry has not been different. Farmers around the world are experience a paradigm shift where more and more technology is installed to gather information from field equipment, livestock machinery and financial management (Sörensen, *et al*., 2010).

When it comes to business accounting, work has been partly taken over by computers. Consultants that is members of the Swedish union for accounting, consultants and advisors (FAR) believe that the majority of financial statements are performed digitally and automatically by year 2025 (FAR, 2013). For the accounting business to survive in the future, FAR-members believe that focus need to be moved from the traditional accounting work to increasingly focus on efficient digital systems that handles the traditional accounting work and instead put more time to counseling and other new services that emerge around the digital services (FAR, 2013).

In organization theory, the internal and external efficiency is often in focus (Jacobssen, *et al*., 2008). Because of the fact that the industry is changing, accounting companies are forced to invest in the services that the customers will demand in the future. This is known in theory as doing the right things, or to work with the external efficiency (Jacobssen, et al., 2008). According to FAR (2013) the right things in the case of accounting firms is to focus on digital services and use the time saved to, among other things, meet the needs of increased counseling to clients. In order to meet a high internal efficiency it is important to do these things right. The competition between accounting companies increases because of the digitalization of the accountings and new companies in the sector. The fact that new companies have emerged on the market has led to an increased supply of accounting service and thereby an increased eligibility for the customer (personal message, Engström 2015). In markets where the customers have a large eligibility, the customers put higher demands on the services that must fulfill a personal value (Sánchez-Fernández, *et al*., 2008). In order to meet the customer's needs and desires and thereby fulfill an internal efficiency of the company, they need to know what services the customer values (*Ibid*). All employees in service companies need to think in a customer perspective and always put the customer in focus (Jacobssen, *et al*., 2008). This is particularly important in the introduction phase when the new service is very sensitive to the market and when the customer is a company that uses the services on a daily basis (Jacobssen, *et al*., 2008).

The introduction of new technologies in the accounting business can be a way to rationalize cost, improve quality and adapt to the digital trend. However, it can be a very delicate process that can affect many different components in both accounting companies and customers. Examples of this may be that the social and cultural patterns of businesses are threatened and

contact between consultant and client is reduced. According to Norrmann (2011) the key is to have a holistic approach to new digital services when it is implemented.

1.2 Problem

According to FAR (2013), the accounting industry is in a process of changing. In the accounting business, there is today plenty of computer programs that handle everything from invoices to book-keeping and advanced ERP systems digitally and the technical development continue to grow at a rapid rate (FAR, 2013). In the agricultural business, the potential is great to increase efficiency by managing invoices digitally and implement business systems (ERP) that combine financial flows with non-financial flows like crop- and animal stock and working hours to get and overview and finding bottlenecks of the production (LRF Konsult, 2014). To succeed with a new service, it is important that the customer becomes part of the development (Woodruff, 1997). Knowing what the customer values and having a dialogue about it has proven successful for accounting firms (Rosén, 2010).

The knowledge gap, and thus this thesis problem is that the attributes that the Swedish farmers expects and values when it comes to services like Electronic Invoice Management (EIM) and Electronic Resource Planning (ERP) are not sufficiently investigated. Without asking the customer, there is a risk that digital services will be developed in the wrong direction with dissatisfied customers as a result. With information from the customers, accounting companies can strive to provide services that are more custom driven and more competitive on the market of digital services for the accountings (Woodruff, 1997).

1.3 Aim & Research question

This study aims to identifying specific attributes that the farmers participating in this study expect and values when it comes to digital accounting services. The results can be used by accounting companies to evaluate and improve the services when implementing digital accounting systems in the agriculture business.

The aim is to respond this thesis main question:

- What value creating attributes do the farmers expect in digital accounting services?

1.4 Delimitations

This study is based on nine qualitative interviews in Götaland, Sweden. The number of respondents and the limit of geographic area has been chosen because the limit of time and costs which have made it hard to broaden the scale of the study. Thereby there is a risk that the results of the study could be different if farmers in other regions of Sweden would have the possibility to participate.

The farmers participating in the study was men in the year of 40 and above. This is a limitation because answers from women and farmers under the age of 40 are missing. Because of the collaboration with LRF Konsult, all the farmers participating was customers to the company, which means that other farmers did not get a chance to participate. The results

of the study may have been different if farmers from other regions in Sweden or the world could have possibility to participate.

The size of the respondent's farms in this study varies between 150 hectares up to 1200 hectares. There are many farms smaller than 150 hectares in Sweden today, which means that the small farmers did not get a chance to participate in this study. Perhaps the results would look different if smaller farms was participating but time and monetary limit made the restriction of nine interviews and larger farms was assumed to be more in need of resource planning and more efficient invoice management.

The literature in this study is gathered from websites like jstor, researchgate and google scholar. The database from the SLU library including Epsilon, Libris and Primo has also been used in the search for literature and theories. This has made that relevant information from other sources is missing in the study and thereby made a footprint in this thesis.

This thesis has not focused on asking about ranking and monetary values of the different attributes. Because of the fact that an individual have a limited budget, there will be a restriction were the farmer cannot afford the different attributes he or she values. This theory is called *budget constraints* and together with the preference ordering it determines what the customer does and do not purchase (Morey, 2014). This study is focusing on finding the preferences (attributes) which leaves the question of what the farmers would choose if the attributes had different prices.

Because of the choice to use a method with open interviews without follow-up questions, budget restrictions have not been addressed in this thesis. Budget restrictions would have been a parameter in which the farmers had needed to evaluate the attributes after monetary values. This would lead to difficulties because some values may be difficult to value monetarily, especially the hedonistic dimensions Play, Aesthetic and Altruistic that are usually not valued in economic terms. Theories of budget restrictions would therefore require different methods to measure and rank the attributes after monetary values. This was estimated to take a lot of time in the interviews and was therefore left out to open up for a more broad and transparent method to achieve as exhaustive interviews as possible.

1.5 Overview of the digital services

1.5.1 Electronic Invoice Management (EIM)

Electronic Invoice Management (From now referred to as EIM) is a service that digitizes the processing of invoices and payments from the company´s suppliers. Instead of getting all invoices by post to the mailbox, the customer gets it digital to the company´s computer system. Figure 1 shows a general picture of the processes in EIM. To start using EFH, the business owner gets a personal "box number" which is unique for the company. Then the business owner tells all the suppliers and customers to send the invoices and payments directly to a company that scans the material into digital documents. All the material must contain the specific "box number" to be sent back digitally to the business owner for his attest and payment. When the invoices reach the scanning company, it scans into a digital invoice. The original invoice is stored in a mountain vault if it will be needed in the future. The scanning company also makes the invoice ready for digital handling so book keeping and

payment can be made easy directly on the computer by the customer or its consultant (personal message, Johansson 2015). If the scanning company finds an error, the invoice is stored in an error queue to be reviewed.

When the digital invoice reach the customer, a picture of the invoice in its original form is shown on the screen. This is the "Arrival registration" in figure 1. The customer can attest if everything corresponds with the purchase or send it to someone else in the company for attest or to a deviation inbox for further investigation. The Arrival registration, review and attestation are often done by the same person in small companies. If someone at the company finds an error, the invoice are being sent to a special folder for further investigation and a special inbox is used for reminders. After the attestation, the invoice are being sent into the accounting software and from there the customer can send a payment file for one or more invoices to the customers bank for direct, digital payment. After payment, the invoice can be recorded in the accounting system (personal message, Johansson 2015).

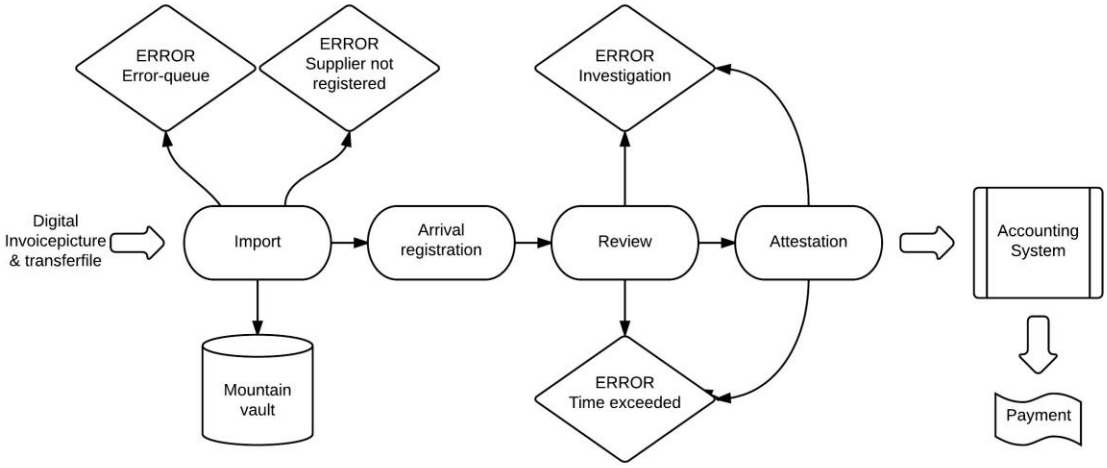

Figure 1: Model of Electronic Invoice System (own version after LRF Konsult, 2015).

1.5.2 Enterprise Resource System (ERP)

An Enterprise Resource Planning System (ERP) is software that broadens the use of economic records. An ERP system is used to obtain ratios that can be used to evaluate the operations in the company and form the basis for future planning. ERP systems can be differently constructed depending on what industry it is used in and what you want to achieve with the system (Tettinen, *et al*., 2013). Poston & Grabski (2000) explains the ERP as a software with different modules. The modules are collecting both financial and non-financial data on the company´s production. The main function of an ERP system is the integration between modules, the accounting system and management and analysis of these data (*ibid*).

In the ERP for agriculture business involved in this thesis, the entrepreneur first register "fixed key entities" like total land area and production units like Crop growing, Milk production, Meat production, forestry and contract work. This allows the farmer to distinguish revenues and costs between the different production areas (Hansson, personal message, march 2015). This is not a new feature in accounting context and in most cases there is already a rough breakdown in the accounts. In the ERP that this thesis rises is that, alongside the economic flow, there is an internal module for different values that are not measured in

monetary terms. Example of such values can be the number of hectares used in crop production, number of animals in the dairy and/or beef production, the number of working hours in the various productions and the volume of feed flowing between stock, animal and out for sale. When these values can be compared with the economic values, the farmer gets a variety of "key figures" that can be used to compare the company with results from prior periods or with other companies in the forest and agriculture business in Sweden (Hansson, personal message, march 2015).

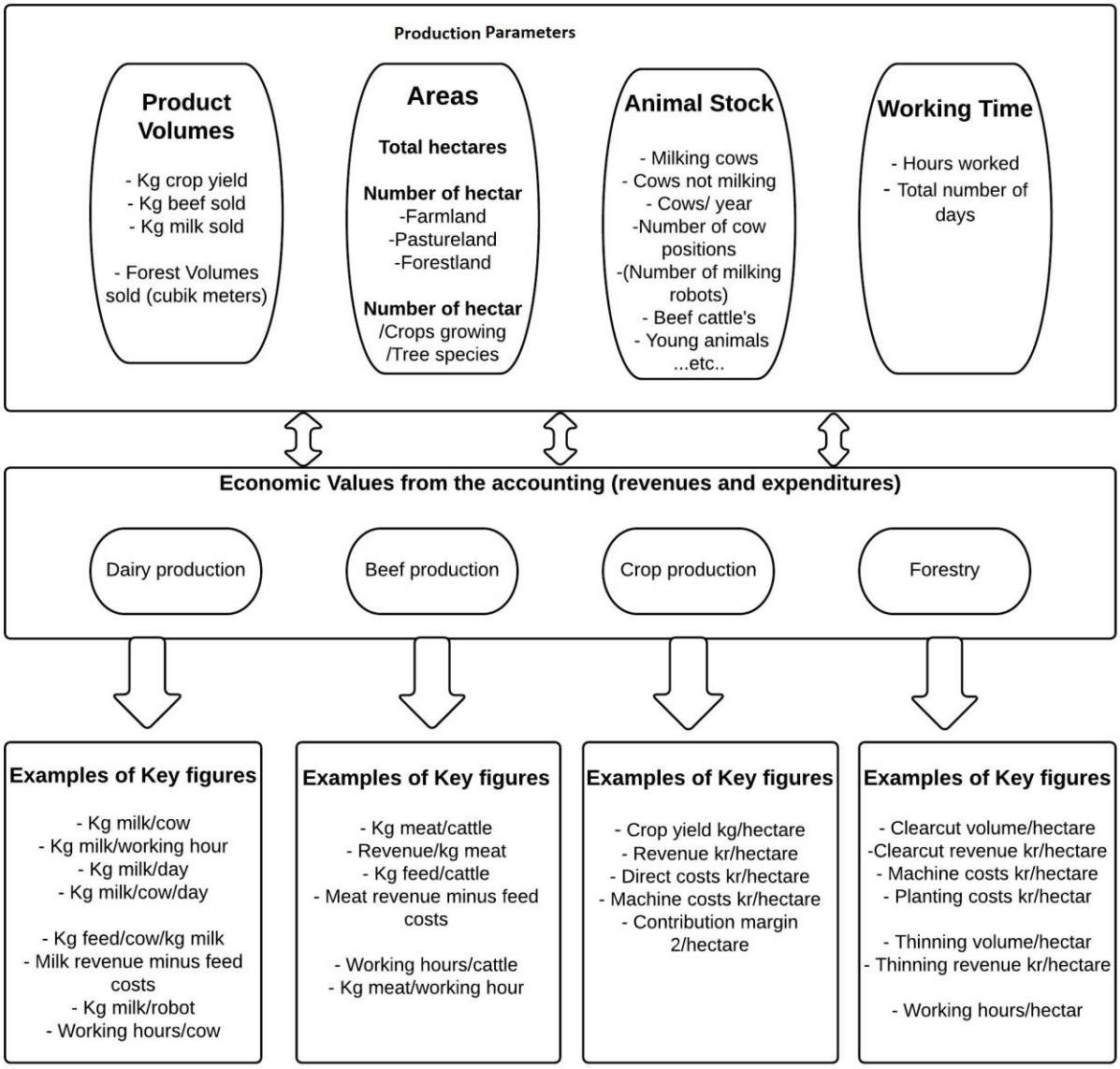

Figure 2: ERP for agriculture (own version).

Figure 2 shows a rough breakdown of a fictitious company in the agriculture and forestry business that using ERP. The farm´s production sectors are milk- and meat production, crop production and forestry (horizontal line). In these different production sites revenues and expenses have been recorded in the company accountings. In this case the division is relatively rough. It is possible to split the accountings into even smaller components during each production sector. Milk and meat production could be branched down to each individual animal and the forest and crop production could be broken down to different fields or forest

sectors. Such detailed breakdown will ultimately lead to a large number of ratios, but it would also mean a lot of work with the accountings and registration of non-financial data. In the vertical line there are this non-financial data which are recorded on the farm. The land area is the size of cropland, pasture and forest land that the farm consists of. The stock of crops are volumes of grain and roughage stored on the farm. Volumes can be measured in tones, kilograms of dry matter, or converted into a monetary value like the market price for the product. Here could also the standing forest inventory be recorded, measured in forest cubic meters or cubic meters under bark. The various products produced on the farm are sold directly on the market or getting stored somewhere on the farm. In the module of animal stock, the number of animals in the various productions are registered. On a dairy farm may for example the number of milking cows, the number of cows not milking and the number of young animals. In the module for time registration, the farmer and the employees can register working hours in the various productions on the farm (Hansson, personal message, march 2015). By making this division of production sites and other non-financial data, the entrepreneur can get a variety of key figures. The key as shown in the table are examples of such. The division of production sites and the other values is farm specific and the possibilities are many. The key figures coming out from the ERP system can then be used to compare the results from the farm´s various production branches with results of previous periods and with other farms of similar production, also named “benchmarking”.

The financial statements of the farm and the key figures can be sent digitally to the farmer’s computer continuously in form standard reports or visual graphs and diagrams that shows the development of the farm.

2 Theoretical framework

The theoretical framework is to give the reader a review to help understanding the reasoning on the subject of customer value, previous studies on the subject and the models used in the qualitative interviews. To find these theories and previous studies, searches were made in the SLU Library database LUKAS and other search engines such as Google, Google Scholar, Uppsatser.se, Libris, Epsilon, JSTOR and Researchgate.com. Words used when searching were: customer value, consumer value, perceived value, digital services, service management etcetera. Searches were also made in books dealing with the topics of service management, customer value and accounting.

2.1 Attributes and Values

The customer demands and the competition between companies about the customers are continuously increasing. Efforts to increase the competiveness of a selling company have previously been aimed at improving the quality and efficiency of their goods and services without any significant contact with the customer in the process. In the business it is increasingly important to find new solutions to increase competitiveness and one of the biggest trends is to let the customer be a part of the development (Woodruff, 1997). The special thing that successful companies have today is that there is a clear customer focus inside the company – from the employees who meet the customers daily to the product developers and managers (Kotler, *et al*., 2011). Everything to meet customer needs and desires, which are foundation of a successful business strategy (*Ibid*).

Attribute
According to the Swedish national encyclopedia's glossary, attribute means "a property that a thing or an individual need to have to remain that specific thing or individual" (Prawitz, 2013). This study examines digital services which in this case can be referred to as "things". The fact that different farmers could explain the services with different attributes based on a variety of thoughts, feelings, experiences, etcetera, were assumed. Because of the fact that an individual can change opinion on various "things" means that the attributes that the farmers explain the digital services with may change over time.

Value
In this study, Holbrook's (1994) approach of the concept of value was chosen. Holbrook (1994) argues that value is a type of preference incurrent by the customer when he or she as a subject comes in contact with an object. A customer to a service that sees a value in an object entails "a general appreciation, a positive attitude or an assessment that the object is good (Holbrook, 1994). In this study, the focus is on services that the respondents do not have an experience of, which means that the values presented in the thesis consist mainly of attributes that the respondents expects and values when it comes to digital services for the accountings in the agriculture business.

Customer Value is something that is perceived by the customer and not by the selling company, which means that the only way to find out about it is to ask the customers (Woodruff, 1997). A customer value must be measured on the customers and be a part of the whole lifecycle of the services. At the same time, there must be continuous work internally with the culture, structure and management to satisfy the customer (Woodruff, 1997). This

study is built up on value creating attributes that the farmers participating in the study expects from the EIM and ERP systems and can differ from perceived values of the products. Thereby it is of great importance that studies of customer value can be made at different points of the products lifecycle in order to develop the product and the supplying company. Because of different approaches of studies and the fact that customer values are connected to a specific customer, theories of customer value are highly fragmented (Woodruff, 1997). Much of the theories related to customer value are referred in the marketing theory. A simple definition of marketing is: "Marketing is managing profitable customer relationship" (Kotler, et al., 2011). Although in theories of strategy and service management, customer value plays a central role (Norrman, 2011). This has led to problems because of the concept of customer value have been named with different names such as "judgment value", "perceived value", and "shopping value" which has led to confusion among authors and readers since there has not been a unified concept or measurement of customer value (Sánchez-Fernández, et al., 2008).
In short, attributes in this study means different properties that the farmers bring up during the discussion of the EIM and ERP systems. Some of the attributes are brought up by several respondents and some of the attributes are from only one respondent. The similarity is that one or more respondents see values in the attributes that is the result of this study. The attributes are sorted into a multidimensional value model explained in chapter 2.6.

2.2 Earlier studies in Customer Value

A review of the literature shows that there are numbers of studies on the subject "customer value". In a thorough review of various studies on the subject customer values of digital products and services procured an insight into how customers think and reasoning. During the interviews and the writing of this thesis, similarities could easily be captured, but also differences in values between this study and earlier studies on the topic. In this chapter, studies that somehow are similar to the study in this thesis are explained to give the reader an insight into previous research. The studies are then used in the discussion chapter to be compared with the results from this study´s results in order to draw conclusions and parallels to other digital products and services for agriculture and other businesses.

2.2.1 Grönroos service attributes

Grönroos (2008) has compiled seven overall attributes from previous research on the topic customer value in services (see table 3). These can be used to find experienced and expected attributes that the customer personally values in services. It can also be used to compare with results from other research in the topic customer value (Grönroos, 2008). Some services are relatively simple and predictable in their shape, such as ticketing or check-in to public transport, while others may be complex and require a lot of personal service (Grönroos, 2008). When it comes to digital services for the accountings for the agriculture, the personal contact with the staff from the accounting company is a large part of the service. After implementation, it is also important that the customer can get help if the customer has any questions or if the customer has any problems with the software. From the ERP system, many different indicators can be used to evaluate and compare the company (see ERP). Grönroos (2008) argues that there is considerable room for individual adaptation of many services because each customer/supplier meeting is unique and therefore it is important to find attributes that the customer in each specific industry or the individual client sees as important. Grönroos (2008) attributes contained in Table 1 can be used to compare the results from the qualitative interviews in this thesis because digital services for accountings contains much personal contact with the accounting company.

Table 1: Overall attributes for good service (own version after Grönroos 2008 s.98)

Overall Attributes for good service	**Different value aspects**
1. Professionalism and skills	The service company is professional and uses their physical resources and their operating systems properly.
2. Attitudes and behavior	The service company is experienced as dedicated and willing to solve customer problems in a friendly and courteous manner.
3. Availability and flexibility.	The servicer has good opening hours, is active in the immediate area and has services that are available when the customer has time to consume. The staff is flexible and can adapt to the customer.
4. Accuracy and reliability.	The customer feels that the service company is reliable, does the best for the customer and keeps their promises.
5. Service recovery	If something goes wrong, the service company is there to maintain control and to find solutions to the problem.
6. Service-landscape	The customer feels that the environment and other ethical aspects contribute to a positive experience.
7. Reputation and credibility	The service company shares the customer´s basic values and can be confident that they perform and provide value for the money spent on their services.

2.2.2 Customer Information Satisfaction

Wang, et al. (2001) studied the value that the customer experience when consuming information from websites that markets digital products and services. The researchers saw a need to measure customer value of these services in a larger perspective, since previous studies mostly focuses on specific companies in various industries (Wang, et al., 2001). The study culminates in an instrument to measure what the researchers call "Customer Information Satisfaction" (CIS). The model was developed by collecting 36 attributes from previous studies on the topic and then compare these with in-depth interviews with management consultants, IT professionals, collage teachers and eight PhD students who worked with marketing. That study resulted in 41 attributes which was tested in a quantitative study where users of 13 categories of digital sites selling products and services were asked how they valued these attributes on a scale from one to ten. The answers were summarized in seven different overarching attributes that, according to the researchers, can be used to make industry-specific studies in the subject customer value of digital services (Wang, et al., 2001). Below follows the seven overarching attributes that Wang, et al found in their study in 2001:

Customer Support – Is about the personal service and feedback that the customer experience from the service provider that builds loyalty.
Security – The importance that the user of the digital services can be private and that the personal information can be kept away from outsiders and not be abused by other companies.
Ease of Use – The digital services are easy to use and work properly.
Digital Products/Services – The design of the website and the package of varied offers show are appealing to the customer.
Transaction and Payment – The payment on the website is well structured and works properly.

Innovation – How the customer experience that the company delivers timely information and innovative services.

In this thesis, Wang *et., al´s* (2001) model for measuring customer value can largely be used to compare the results with digital services for the agriculture business. The similarities of digital services used for accounting and the services that Wang *et., al* (2001) studies are comparable because both are searching for attributes that the customer values when using digital services available only at computers, phones or tablets. The attribute "transaction and payment" are specific to those internet sites that sells different products or services and thereby not comparable in this study.

2.2.3 Digital information flows on arable farms

In a study ordered by JTI (the Swedish Agricultural Technical Institute) information flows from digital products on Swedish arable farms where analyzed. The information source was technology of the type used in crop production, such as GPS devices, other machine control technologies and various mapping applications. The study used qualitative method and the respondents consisted of five farmers and their personal adviser from an accounting company (Rydberg, et al., 2008). Farmers in the study had been working with GPS devices for a number of years and where seen as those farmers who were most familiar with precision farming techniques in Sweden by the time the study was conducted (Rydberg, et al., 2008).
The farmers had started to use the technology to increase efficiency on the farm and thereby earn more money when the technology made the machines more precisely on the fields and made the work more automated. Some of the respondents felt that they received economic benefits from the technologies but several of them considered that the management work with the information from the technology was complicated and that it was hard to learn to understand the systems. The farmers that were positive to the systems thought it was fun to be in the technological development and liked the "moment of surprise" that appeared when they saw the accuracy of control that the systems entailed in Rydberg *et., al*, 2008.

Below is a list of the attributes that the farmers saw as valuable developments of the digital systems:

- *Easier management* with the information from the technologies.
- That all the programs had a *standard* and could be *paired together* in an easy way.
- That the technology was more *user-friendly and simple*
- That the *3G coverage* is being expanded so it can handle all the information flow of the future digital services.
- That the system works *automatically*, since there is lack of time during the labor-intensive parts of the year.
- That the field maps, satellite maps, yield maps and soil maps could easily *be compared in a transparent manner*.
- *That the equipment works*, because there is not enough time for reparations, especially during the spring and autumn period.

2.2.4 Farming management study

In another study of Sörensen, *et., al*, (2010) four farmers where asked to give their opinions about their situations to find factors that they experienced as problems and challenges in their work. The study found that farmers considered themselves often be engulfed in routine work in the farm and had difficulties with keeping up with strategic planning and evaluation of the farm operations. When it came to data and information from digital systems, the farmers thought it was an "information overload", and a lack of interconnection between the digital systems. Therefore the farmers saw a great value if information management was handled automatically and was summarized in a simple way. Farmers also requested user-friendly software for the farm operation and simple, accessible systems to measure everything from time recording to field data (Sörensen, et al., 2010).

The two studies of information flows and farming management are interesting because they have several things in common with the study in this thesis. The studies by Rydberg, et al., 2008 and Sörensen, et al., 2010 are made with qualitative interviews with farmers using different types of technology to make their companies more effective. The technologies are often handled in computers phones or tablets just like the EIM and ERP system and they are built to work in connection to other programs.

2.3 Sanchez model for customer value

After reading theories of the concept of value, Holbrooks conceptualization of value where found. The basis of the model are the eight different dimensions of efficiency, quality, status, esteem, play, aesthetics, ethics and spirituality, which are written in bold in Table 2. The first four dimensions; efficiency, quality, status and esteem are, according to Holbrook (1999), extrinsic dimensions which focuses on the functional ability of the service or product while the intrinsic dimension focuses on values that people experience by the ego when he or she consumes it. The difference between "self-oriented" and "other-oriented" is that the "self-oriented" have an impact of the person itself while the other oriented affects the social world that the individuals live in. The differences between active is that active values are needed to be consumed to be perceived while reactive values can occur in respond to revelation.

Table 2: Holbrook´s conceptualization of customer value

		Extrinsic		Intrinsic	
Self-oriented	Active	Economic Value	**Efficiency**	Hedonic Value	**Play**
	Reactive		**Quality**		**Aesthetics**
Other-oriented	Active	Social Value	**Status**	Altruistic Value	**Ethics**
	Reactive		**Esteem**		**Spirituality**

The conceptualization was needed to be developed because Holbrook's previous model considered to be too complex in its structure which, according to Sánchez et, al. (2008) made it difficult to use in investigations. An example of the difficulties was to find the differences between status and esteem as well as between ethics and spirituality. Therefore, the researchers chose to merge them and to simplify the model to make the model more user-friendly (Sánchez-Fernández, et al., 2008). The development of Holbrook´s conceptualization of values from 1999 led to a model consisting of six dimensions, namely quality, efficiency, social value, play, aesthetic value and Altruistic value (see Figure 4). These dimensions are, according to the Sánchez-Fernández, *et., al* (2008) suitable to find attributes of products or services that are valuable for different customers or customer segments.

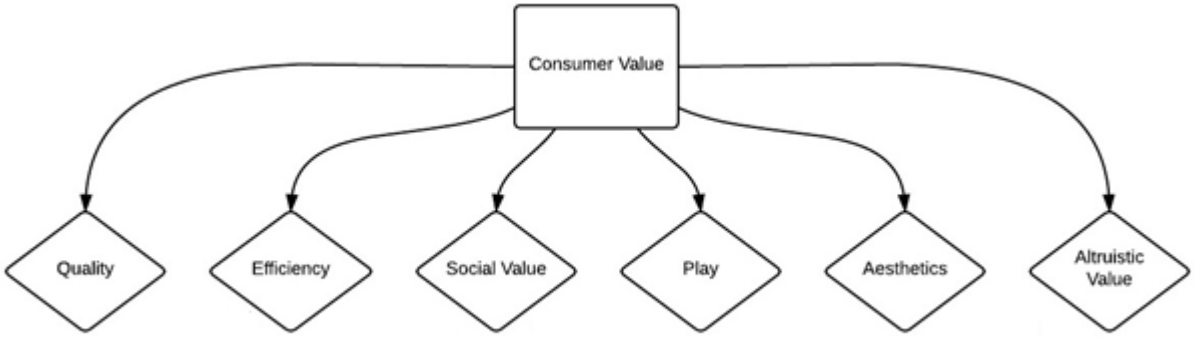

Figure 4: Conceptualization of customer value (own version after Sanchez-Fernandez et., al, 2008, p.97)

The dimensions to the left; Quality, Efficiency and Social Value represents the service´s utilitarian values while the right; Play, Aesthetics and Altruistic Values reflects the hedonistic values (Sánchez-Fernández, et al., 2008). According to Reynolds and Beatty, (1999), Play, aesthetic an altruistic value are dimensions that are difficult to measure in relations to sacrifices such price, time and effort because it is often hard to value instinctive, hedonistic values that a person feels when he or she consumes a service. Much of these feelings are in the relationship with the staff from the selling company and therefore it is important to also look at those aspects.

Quality

Quality is the perceived ability of the service that helps the customer to reach a goal. According to Zeithaml (1988), quality focuses on the ultimate properties, or the excellence, of the service has or may have. Bolton & Drew (1991) results after a large empirical study shows that quality have a more general and responsive characteristics of what the customer receives in form of service quality (Bolton & Drew, 1991; Zeithaml 1988). Some previous research has shown that customer value can be accessed only by experience a high service quality. Later research have, on the other hand, shown that the loyalty of the customer cannot always be created using a high quality of service, which made that the later research has shown more interest in a wider perspective of customer value (Monroe, 1990).

Examples of quality attributes are how good the customer thinks the services are, that the standard of service maintain its high class and that the staff have the characteristics and the relationship with them is what is desired from the customer.

Efficiency
Efficiency compares what the customer pays in terms of price, time and effort in relation to what the customer receives in form of service, but also the status and relationship with the supplier. Recently, the efficiency also included convenience of having access to the service. Shortly, efficiency comprises monetary costs, time and effort related to the service experience (Sánchez-Fernández, et al., 2008).

Examples values that can occur in the efficiency dimension is if time that the service have taken up have been reasonable and that the customer do not have to wait disproportionately long for the necessary service (Sánchez-Fernández, et al., 2008).

Social Value
The social value reflects the status of the customer that the customer feels when the service is provided and the confidence-building value the use of the service provides. Status is about the value that the customer is experience or expect in form of impressions from other people when the service is consumed. Confidence value is linked to the reactive sensation of consuming the service (Sánchez-Fernández, et al., 2008).

Examples of social values is that the people and environment around the services are compatible with its social level and status, that the customer feel close to people and the environment around these services and customer experience of the service in general is important for his or her social relationship, self-esteem and status (Sánchez-Fernández, et al., 2008).

Play
Play is a category that contains the customer´s perceived pleasure with the service. Fun can come from the service characteristics or the relationship created with staff from the selling company or the group membership the customer feels when the service is consumed (Sánchez-Fernández, et al., 2008).

Examples of values in Play is that the environment around digital services makes the customer enjoy the use of them and that the customer feels that the service has been fun to use and that he or she has felt a desire to use the services. Another value may be that the staff from the supplier made the service fun and entertaining (Sánchez-Fernández, et al., 2008).

Aesthetic value
The aesthetic value describes the customer´s perceived value of the service´s physical appearance, beauty and the more atmospheric as light, fragrance and color. Aesthetics can enrich the customer personally and contribute to pleasure. Aesthetics is considered as an important value of a product or service because the customer is in contact with different aesthetic elements each day and being affected in one or another way (Sánchez-Fernández, et al., 2008).

Examples of aesthetic values that the customer can experience is that they like the layout and design of the digital services and appearance of the staff or the service company´s office that is suitable for the services they provide (Sánchez-Fernández, et al., 2008).

Altruistic Value

The altruistic value is the value the customer sees in in the service because it reflects the customer´s values in issues such as environmental and social impact as well as the customer's personal situation (Sánchez-Fernández, et al., 2008). The altruistic value includes ethical issues where moral norms such as attitudes, deeds and principles of the society and the individual (Helfert, 1966).

An example of altruistic values that the customer can experience is that the service companies understands the customer´s situation and are consistent with the customer´s ethical and moral values.

2.4 Choosing model

Every product or service has different values for a customer depending on what function they have (Reynolds, 1999). For example, a holiday trip and a movie, which is often associated with an experience, often fulfills different values compared to a vacuum cleaner or a grass cutter that is more associated with the function of the product. Grönroos (2008) mean that all products and services may include a customer experience that can be valuable to consider in the development and marketing of the product or service. Every customer is unique; which means that there is a large number of attributes that a customer can value (Woodruff, 1997). In research about customer value, it is therefore important to find these customer-specific values from a number of respondents for the specific product or service (Grönroos, 2008). Value is also a dynamic construct and it is hard to measure in terms of grades and ranking without first investigate what attributes of value there is for a number of respondents.

Therefore it was of great importance to find a model that made it possible to capture the broad phenomenon called value. Holbrook's conceptualization fits this criteria and the upgraded conceptualization by Sanchez-Fernandez, *et., al* (2008) was chosen because of the simplicity and "ease of use" in this qualitative study. Under each of the dimensions, different attributes that occurs during the qualitative interviews can be sorted. This provides an opportunity to capture both attributes with values associated with the utilitarian theories and at the same time cover the hedonistic theories like play, pleasure and wellbeing.

2.5 Previous studies using the model

One study that uses Sanchez-Fernandez, *et., al´s* (2008) model is done by Razmdoost, et al., (2015) that investigating the user´s superstition and doubt to the ecommerce site amazon.com and the presentation technology company prezi.com. The study was done in two steps. First by qualitative interviews to find out different statements which had led to superstition or doubt about the sites. The statements were sorted by Sanchez-Fernandez *et al.,* (2008) model of different dimensions of values. In the next step, the researchers used a quantitative questionnaire to measure the dignity of the statements connected to the different value dimensions. The results showed that doubt of the websites had a negative impact on the value of efficiency, quality and aesthetics as well as superstition had negatively effects on the value of play. The researcher in the study therefore believes that service providers should try to reduce the level of superstition and doubt of services and products to increase value for the customer (Razmdoost, et al., 2015). The first step in the study is much like this study about digital accounting services for the agriculture business. To measure the dignity of different values, the researcher first must find statements or attributes that customers to that specific product or service values. Those results can then be used to measure the dignity and make generalizations of different values through a quantitative study.

In another study, patients´ perceived value of healthcare in complementary and alternative medicine (CAM) were examined. The study was conducted by twelve qualitative interviews with patients in a CAM hospital and the value dimensions where taken from Sanchez-Fernandez *et., al´*s model. The study showed that patients valued the quality that is linked to the talented staff and the effectiveness of the treatments and the fact that the medical services were customized. The study also caught the hedonistic values that play (the pleasure of being on the clinic, make progress and meet the staff), Aesthetic (premises and the staff´s appearance and beauty) and altruistic (belief in holistic care and tradition of CAM-healthcare in the family), the customers experienced (Dodds, et al., 2014). The study done by Dodds, et al., 2014 do not use quantitative analysis of the different values that occur in the qualitative interviews. The purpose is to highlight the different values that the customers to CAM-healthcare have by using Sanchez et. al´s (2008) different value dimensions.

There is some research based on Holbrook's ideas and his conceptualization from 1999 which is the basis of Sanchez *et al.,* model from 2008. In a study done by Leroi *et., al*. (2014) where researchers compared Holbrook´s theories with three other models to measure customer value, the result showed that a multidimensional method is needed to capture the complexity of customers perception of value and that Holbrook´s model is well suited for that. The study by Leroi *et., al*. (2014) also showed that Holbrooks model fits well in qualitative studies with qualitative interviews because there is a lack of scales to measure the different dimensions. A quantitative questionnaire linked to a multidimensional model would become were long with many questions to answer. Thereby there is in most cases necessary to do a qualitative study before a quantitative questionnaire to find different values in the specific industry that's being studied.

Qualitative interviews was the best alternative in this study because there was no previous studies investigating which attributes that farmers values when it comes to digital services. To find this attributes and clarify what values the farmers see qualitative, personal interviews fits perfectly for the task, which is supported by Leroi *et., al* (2014) which says that a research using a multidimensional model should use a qualitative method to find attributes of value. In Dodds, *et., al* study from 2014 there is made with qualitative interviews and in Razmdoost, *et., al´s* study from 2015, the researchers' starts with qualitative interviews to find different statements that could be used in a quantitative study which supports the use of a qualitative method for this study.

3 Method

This chapter describes how the scientific study was conducted. The method chapter is intended to show the path that the author went through the study and the methodological choices that have been used to reach the conclusions of the study. This study is based on qualitative, personal interviews with farmers and forest owners from the north of Götaland in Sweden.

3.1 Approach

In order to understand farmers needs and wishes of digital services that can be very personal, the qualitative research method was chosen (Esiasson, et al., 2010). This because of not let a questionnaire steer the respondents into predetermined answers without the opportunity for further explanation and development of their opinions and feelings about the subject. With qualitative method there is ability to capture a broader spectrum of information and a deeper understanding of what farmers expects and values of the digital services raised in this study.

This study contains of nine open, face to face interviews at the home of the farmers which has given the farmers an opportunity to come up with attributes that they see personal values in. This qualitative method has been well suited to reach the aim of this thesis and it is supported by Jacobsen (2002) who argue that open qualitative interviews are well suited in studies when the researcher investigate individual values and opinions of a certain phenomenon.

The interview in this thesis has been open with Sanchez, *et., al´s* model from 2008 as a basis (see chapter 3.2.4). There have been no previous studies investigating what attributes Swedish farmers expects and values from digital services for the accountings. Thereby it is important to use a model that opens for both hedonic and utilitarian values. A broad understanding of what attributes of values there is, can lead to a better understanding of the values that exists for farmers in Götaland. According to Leroi *et al.,* (2014), Holbrook's conceptualization fits to this task because it catches the complexity of customer value. Leroi, *et al.,* (2014) also mean that qualitative interviews are good to use to find the attributes that customers in a specific industry or segment values. Without the multidimensional model, it would be a risk of missing values in some of the dimensions. Asking the farmers to think of the different value dimensions was a way to steer the conversation into the different value-dimensions in. without bringing up the different value dimension it could be hard to capture values from all the dimensions.

Holbrook was one of the researchers who developed the model together with Sanchez, *et al.,* (2008) into the model used in this thesis, which makes it even more credible. Leroi, *et al.,* studies from 2014 and the studies explained in chapter 2.7 shows the width of Sanchez-Fernandez *et al.,* (2008) multidimensional, attribute based model because it can be used in both qualitative and quantitative research and in any industry or segment the researcher want to study.

The collected empirical data is the basis for the conclusions, which in turn results in theories of knowledge and possible further research on the topic of customer value. The results have been compared to previously studies of the same nature (see chapter 2) which is, according to Esiasson, et al. (2010), a good way to draw conclusions, reject and confirm the results.

3.2 Course of action

3.2.1 Selection of respondents

The quality of a qualitative study can be measured by studying the range of respondents (Denscombe, 2001). The research distinguishes often of strategic or random selection. The selection of respondents in this study has been strategic which means that the researcher selects respondents because of practical reasons. Practical reason can, for example, be that the researcher is part of a network where respondents can be chosen or validity reasons where the researcher select respondents because of the properties the persons or their firms have (Esiasson, et al., 2010). The overall sampling frame of this study has been customers from LRF Konsult because the digital systems explained in this study are linked to the company. The respondents have been selected with help of LRF Konsult´s offices in Götaland. The reason for this is that I am related to the area and therefore it can be seen as a practical reason.

3.2.2 Unit of analysis

This study is based on nine qualitative interviews with farmers in Götaland. All respondents are men of varying age over 40 years. The farms in focus are all animal producers to various degrees. Four of the farms visited have dairy production as main employment. The size of the dairy farms varies from 80 to 150 milking cows. Three of the farms have pig production and one of those had whole-integrated system with sows. All pig farms have a large proportion of cereal production and in one case, the cereals contributed a larger share of sales than the pig production. The last two farms where beef producers in relatively large scale and one of them sells meat in their own farm shop. The forest holdings that the respondents have vary from a few up to 600 hectares. Some of the respondents are active in forestry, mostly during the winter period. In all cases, the large-scale felling is handled by forest companies, which Södra skogsägarna and Sydved are the main actors on the respondents' farms.

When it comes to managing the company´s economy the interest and participation in the accounting process varies. Three of the respondents prefer to pay the bills and let the accounting company manage the accounting and financial statements. Two of the respondents do the accountings manually in a so-called diary after which the accounting company puts it in the digital accounting system. The other four respondents manage the book keeping directly with the personal computer. Three of these have their own accounting software and one have an employee that works on the farm with the accountings. By managing the book-keeping in a diary or an accounting software, the farmer feels that he have control over the company´s economy.

One of the respondents have recently started with the ERP by record flows of grass and cereals and time worked in the dairy production and he is now looking forward to get the first results that can clarify the company´s efficiency and be used for benchmarking with other dairy producers (see chapter 1.4.2). Some of the respondents do calculations along with the personal contact at the accounting company in conjunction with the financial statements in the end of the year. Two of the respondents have made a more comprehensive business analysis of the company.

3.2.3 Qualitative interviews

In a qualitative, personal interview there are opportunities to gain a broader understanding of how the respondent thinks about various issues and therefore the method is not suitable for statistical calculations in percentage. A qualitative, personal interview can be kept as an open conversation with only a few overarching issues or themes where the researcher tries to understand the respondents' experiences of the given subject. This study is based on nine personal interviews at the home of the respondents. Each interview lasted one to two hours over a cup of coffee and the conversations have been open with few interruptions. The interview began with an explanation of the purpose and aim of the study. Then it was made clear that all personal information about the farm and the farmer himself should be kept away from third parties and that no one except me as author will know who the farmers participating is. After that the digital services that the study is based on was introduced for the farmer (see chapter 1.4.1 and 1.4.2).

In qualitative interviews, the interviewer may use an interview guide where the main topics are included along with eventual "follow up questions" (Esiasson, et al., 2010). The "follow up questions" do not have to be asked if the conversation itself provides the answers. However, they can be good to have so the interviewer can steer the conversation into these issues to get the whole picture. A qualitative interview opens opportunities to investigate deep thoughts and feelings of a certain phenomenon. The method can offer unexpected answers and the interview can ask follow-up questions to get a good understanding of the respondents thoughts and values (Esiasson, et al., 2010). In this study Sanchez *et al.*, (2008) model of customer value was used (see chapter 2.6). The study falls into the framework of semi-structured interview. A semi-structured interview does not have to follow the interview guide. The key is to interview the respondent in a way that the answers are open and personal (Bryman & Bell, 2003). Semi structured interviews was chosen because it allows using follow up questions and reconnect to the respondents answer.

3.2.4 Interview guide

Qualitative, personal interviews can be more or less structured and in this study it is set as a discussion with different themes. Sanchez (2008) model of customer value is used as a general interview guide for this study together with information about the digital services explained in the background chapter. The digital services that this study brings up are services that the respondents do not currently use. Therefore, the study focuses on the expected value of the services that the respondents perceive with the information they received through consultation with the accounting company and the overall information about the ERP and EIM services provided during the interview. The model was chosen because it addresses customer values from a multidimensional level, and therefore it is possibility to collect both utilitarian and hedonistic values during the interview (Sánchez-Fernández, et al., 2008). The model is well suited to the topic digital services for accountings, because it covers both values linked to the software and the service around it. The different themes; Quality, Efficiency, Social Value, Play, Aesthetic Value and Altruistic Value, that the model Is formed by is the basis of this thesis interview guide.

3.2.5 Quality of the interview

For the interview to be of high class, it is important that the environment where the interview is held is relaxing and undisturbed (Bryman & Bell, 2003). The interviews in this study were conducted in the respondents' homes, which is preferred because there is a greater probability that the respondent feels safe to express themselves personally (Ibid). Kvale (1997) has compiled ten requirements of a good interviewer that were considered during the interviews:

1. Have knowledge of the subject and are focused on the purpose of the study
2. Is structured and starts and finish the interview in a good way
3. Asks simple and clear questions
4. Showing respect, tolerance and not interrupt the respondent when he or she talks.
5. Listens attentively and shows empathy
6. Is open, flexible and show interest in what the respondent think is important
7. Knows what is important information and steer the conversation into the right areas
8. Is critical and questioning inconsistencies in answers
9. Recalls and relate information throughout the interview
10. Clarifies and seeks developments of the meaning of the answers

Before the interview, a lot of time was spent to read and understand the digital services in order to pass a clear picture of how the digital systems are structured, what opportunities that is available for the user and what is required by the customer for the systems to work in the company. For the researcher to participate in a good way, a phone was used to record the interview. This made that the researcher did not have to make notes during the interview and could instead focus on the conversation. During the conversation, the researcher gave the respondent opportunity to speak freely and interrupted only if he felt that the discussion was moving away from the substance or if there arose questions on what the respondent stated. An important aspect was that all the respondents had the opportunity to express their own opinions and draw conclusions based on their own thoughts and reflections on the topic.

3.2.6 Ethical aspects

Bryman (2003) has divided the ethical principles in four different categories. These can be discussed in different ways and comes in various guises. These principles are, according to Bryman, important for the author to know and strive to never make offenses of these principles (Ibid)

- *Damage to the participants part* – That the respondents are in a risk of being damage physically, prevented of personal development, gets a poorer self-esteem, are stressed or forced to perform acts against his or hers will
- *Lack of consent* – That the participants are not informed that they are part of a study or that they participate involuntary
- *Intruding on the privacy* – That the researcher does not respect individual values or publishes parts of the respondents private life
- If there is fraud, false pretenses or the concealment of information

Before each interview with the respondents in this study, confidentiality was promised. This mean Trost (2010) is a must when the author uses personal interviews. During the interviews, economic issues and personal values have been discussed and it is therefore very important that the material that can override the respondent´s dignity and integrity is kept secret. Secret information could pose a problem when a researcher will summarize the interview material in the results. Material that might disclose the identity must always be approved for use by the respondent (Trost, 2010). All material in this thesis has been approved for use under the conditions that no personal name, farm name or name of the area is provided. To make sure that the information in the results cannot be linked to a particular individual, each respondent had a specific number during the compilation of the interviews. This numbers could be used as a code system to avoid using personal names in the work with the results. Questions that can directly reveal the identity of a respondent, and questions whose answers can be experienced sensitive to respondents have been excluded from this study.

3.2.7 The interview step by step

Before the interviews, farmers were called up and asked if they were interested to participate in an interview. The farmers who accepted were sent an email that shortly described the aim of the thesis and what day and time the interview should take place. Most of the farmers sent back a confirmation and a welcome. Those who did not sent any acknowledgment where called up one week prior the interview for a confirmation. The interviews took part at the respondents' farm. The reason for that was to take up as little time as possible from the farmer and the importance that the farmer felt comfortable in the situation. This was considered to be easier to achieve by doing the interviews at the home of the farmer rather than a public place like a café or at one of LRF Konsult´s offices.

In most cases the farmer met up in the yard after which the interview took place in the farmer´s kitchen or at the farms office. After an explanation of how the interview would be performed and that all the sensitive information about the farm would be kept secret from outsiders and that the information that would be published should not be traceable back to a specific farm, farmer or region of the farm. This was realized by not using any farm- or personal name in the thesis and by mixing the answers from the different farmers under the heading of each value dimension. Then the question was asked if it was ok to record the entire interview, which no farmer had something against. The rest of the interview was recorded with the record function on a mobile phone. The reason for this was to avoid taking notes during the interview and instead be more focused and participating in the conversation (see chapter 3.2.6).

First, the farmer was asked to tell about his production and about the overall structure of the company. In this stage, important information of the land areas, what animals that were being held on the farm and how the ownership looked like (see chapter 3.2.2). This was considered to be essential to getting a broad picture of the farms business and to get a soft start of the conversation before the interview regarding the value dimensions. All the farmers served coffee which made the interviews felt relaxed and friendly. The aim of the interview was that it should be as relaxed as possible in order to not affect in any way or squeeze the farmer on any information. When the farmer was ready with telling about the farm, the EIM and ERP was shown with the figures and explanations from chapter 1.5. This was made very accurate in order to clarify all the steps and factors in the two systems and how they interact with each other and with the company´s finances. The images were then put on the table in front of the farmer if questions would arise in the later part of the interview.

Then the conceptualization of value by Sanchez et. al (2008) was presented with explanations of how it is built up and why it looks the way it does. During the interview, each value-dimension was discussed separately, starting with an accurate description after which the conversation was kept within that dimension. This meant that the farmers were able to think and speak about which attributes he valued in each dimension. The model also led to that most of the attributes ended up in the right dimension in the recording and made it easier to sort them into the value-dimensions when it was time to summarize the interviews in the thesis. No preprinted follow-up question under each dimension was brought to the interviews to keep the interview as open as possible. Great attention was paid to not keep on to the next value dimension before the first considered being sufficiently exhausted and not to ask leading questions or give examples that could make influence on the farmers. Sometimes there were many questions when the farmers asked for clarification, wanted explanations of the different dimensions or get more information about the digital systems which was answered in the best way possible. The first dimensions "Quality" and "efficiency" was relatively easy for the farmers to talk about. It was more difficult with the aesthetic and altruistic values that most of the farmers had not previously thought about. When all the value dimensions were discussed, the recording was shut down and the visit on the farms ended in the most cases with a tour on the farm. That was a good way to finish and it gave a better insight and a deeper understanding of the thoughts and feelings that came up during the interviews.

A qualitative interview at the home of the farmers was a good way to find attributes that farmers value of the ERP and EIM services. This because of the conversation was open and relaxed.

3.2.8 Analysis of qualitative data

After the interviews was conducted, large amounts of information was provided that was needed to be analyzed. In qualitative analysis, it is important to catch the big picture of the text. The counterpart is the quantitative analysis which studies the answers in detail (Esiasson, et al., 2010). During the interviews, the conversations was recorded, yielding a large amount of data corresponding to nine interviews which lasted for one to two hours each. Gradually as the interviews progressed, the data were alternately analyzed after each interview in order to prevent getting an excessive amount of material to analyze after the interviews were completed, which also is recommended by Bryman & Bell (2003). The analysis began with each respondent was given a code so the analysis could distinguish between different respondents´ statements while keeping personal names absent from the text (Trost, 2010). During the analysis of the material, all recorded interviews were reviewed and everything that could be important to the thesis results were written down with help of the codes that each respondent has been given. Ideas on how the material could be used and which dimension of customer value it could be put in arose under this listening. The analysis began with that each respondent was given a code to make it easy to distinguish different respondent´s statements and at the same time keeping personal names from the thesis (Trost, 2010). During the analysis of the material all the collected interview material were reviewed and everything that could be important for the results of the study was written down. The statements was tagged with the code that the respondent had been given. At the same time, ideas of how the material could be used and in which dimension of customer value the statement should be in, arose

(Trost, 2010). When all statements had been written down, another review of the material was made and the statements were sorted into Sanchez *et al.,* (2008) model that is used as the basis model for this thesis. Since the model was used as a interview-guide during the interviews, the work became easier because the statements came in a succession that followed the different dimensions of the model that consists of Quality, Efficiency, Social Value, Play, Aesthetic Value and Altruistic Value. Since each of the respondents had received a code, it was easy to distinguish between different statements and find similarities that could be found from the material. According to Trost (2010), creativity when coding qualitative interviews are very important because the meaning is to find conclusions from a large amount of material. Once all the data had been sorted into the model, the statements was written in a descriptive text with quotes from respondents to make the text more lively and interesting for the reader.

In the discussion chapter the results are compared with previous research and theories in the subject of customer value.

4 Results

In the results, the material from the nine qualitative interviews are presented. The material is sorted into Sanchez-Fernandez et al., (2008) attribute based model of customer value (see figure 4). For the reader to understand how the author has chosen to interpret the various statements from the interviews and why he used the different dimensions, a definition of value used in this study is first presented. Under the heading of each dimension is also an explanation of the dimension taken from chapter 2.6.

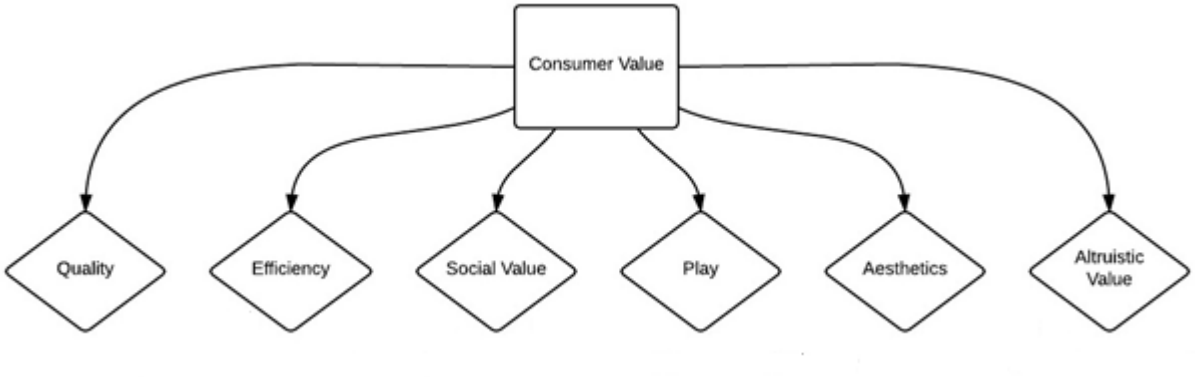

Figure 4: Conceptualization of customer value (own version after Sanchez-Fernandez et al., 2008, p.97)

4.1 Attributes linked to Quality

Quality is the perceived ability of the service that allows the customer to reach a goal. According to Zeithaml (1988), quality focuses on the ultimate properties or the "excellence" that the service has or may have. Bolton and Drew (1991) notes after a large empirical study that quality has a general and responsive nature of what the customer receives in the form of, for example, product quality, service quality and service quality (Bolton & Drew, 1991; Zeithaml 1988). Quality is something that all potential customers may experience or expect of a product. A high quality value does not mean that a person buys the service because the quality value does not take into account the sacrifices in terms of time, effort and money (ibid).

Functional and user-friendly

One of the most recurrent expected attributes that was found was that the farmers think that the quality of these digital services is that they work properly and are user friendly. All respondents mentioned that they value systems that works properly and is tested before use on real farms. Two of nine respondents had mobile 3G connection on the computer and they values systems that works in rural areas that do not have access to high-speed network. Several respondents point out that simple systems that are easy to learn and to use means that the introduction should not take so long time, which makes it more interesting to start use digital services for the accountings. One respondent expresses "simplicity and ease of use is a key for starting to use these services". Another respondent expresses similar and says that "the benefit is in a stable and functioning system".

The attribute "functional and user friendly" is sorted in the quality dimension because it is essential that the systems are working and that the customer can use them to enable as a tool to increase efficiency and to meet economic goals in their companies.

Fulfills its purpose

The farmers who saw a value in the ERP system (see chapter 1.4.2) meant that comparison or benchmarking, was the most important quality attribute. Partly because that the results from the farm can be compared with previous periods, but also with other farms with similar conditions. This value increases the more comparative items that are available and how reliable the data is behind the information. To get an ERP usable for benchmarking, several farmers think it is important that clear guidelines are set up that looks the same for everyone and that these are followed by everyone using the ERP for benchmarking between different farms. Several respondents requested therefore clear templates of what "non-economic values" that should be recorded and how it should be done so the results for benchmarking are reliable.

The attribute "fulfills its purpose" is sorted into quality dimension because it is a characteristic that is expected to increase the efficiency of the customer and meet financial goals. Benchmarking is a feature that is built into the specific ERP discussed chapter 1, and the value of this was considered as a major factor for the "excellence" of the services.

Competent staff

Several of the respondents values that the staff from the accounting company are competent and qualified for the task. Properties that came up during the interviews was that the staff who work with the digital systems can have both economical skills and can manage the digital software. Other anticipated features that are considered valuable are clear, straight and driven consultants, which should be familiar with agriculture. One respondent expressed "they must have knowledge in numbers and these digital programs. Knowledge in farming is a good property". Because of the fact that the digital services explained in this thesis is relatively new in the agriculture and the fact that there is little experience, the respondents values talented consultants to teach them the systems and be available when questions arises. Several respondents also expressed that the cooperation between the consultants and the accounting companies offices over the country is important. This was primarily for the ERP system where it is important that all the consultants work with the same templates and instructions so the results on the farms can be used for benchmarking (see chapter 1.4.2).

The attribute "competent staff" fit in the quality dimension because it is a condition that the consultants are competent in the service they provides. All respondents took help from the accounting company to make the financial statements and in some cases economic analysis. Therefore it is essential that accounting company are qualified for the task so the services can be used as an instrument in an effective way.

Friendly Consultants

A recurring attribute that came up under the interviews was the value of courteous, friendly consultants who were committed to the task. A courteous and friendly consultant is easier to have a working relationship with, which is considered valuable by most of the respondents. Another value is consultants who are easy to have a dialogue with and shows a willingness to help with all the questions that may pop up.

Confident Consultants

Confident was something that all the respondents felt that the accounting company lived up to with the services they currently used. All respondents expected that this security and confidence should be there if they start up the digital systems at the farm. The respondents who was interested in the digital systems valued personal contact with a consultant during the startup of the digital systems so everything gets right from the start. Confident in this case means that the consultant don't leave the customer with questions and that the consultant is easy to reach when the farmer needs help. Some respondents had experience of consultants change employers and therefore it is important that other consultants at the accounting company can step in and take over the tasks if that happen.

Friendly and confident are sorted in the quality dimension because it is qualities that most of the respondents sees as a matter of course and therefore it can be explained as an "excellence" or a "quality" of the services.

4.2 Attributes linked to Efficiency

Efficiency compares what the customer pays in terms of price, time and effort in relation to what the customer receives in form of service, but also status and relationship with the selling company. Shortly, *efficiency comprises monetary costs, time and effort related to the service experience.*

Several of the respondents thinks the accounting services they use today costs a lot of money. A valuable expectation is that the cost of electronic invoice system (EIS) does not exceed the costs that are related to the invoice processing today. Instead, several respondents think that EIS can lower the total costs by saving time, effort and personnel. The respondents that is interested in the ERP system thinks it will be an increased cost at the startup and then a running cost for the consultants extra work. The biggest cost is considered to be the time and energy that is spent on registration of volumes and working time that the farmer and the employees must do. Therefore the respondents who show interest in the ERP systems values simple and user-friendly systems for reporting that is linked to other digital tools used for measuring at the farm. Can the systems help the farms to better efficiency so that these efficiency gains are larger than the monetary, energy and time costs, it would be of great value for some of the respondents. One respondent expresses that "the costs should reflect the workload between me and the finance company".

Connected
Respondents who currently worked with business analysis once a year or more seldom sees the ERP as an opportunity to save time and energy because the farmer handles the non-economic values continuously over the year and at the same time as the reporting of the economic values to the accounting company. By getting a routine, the farmer and his employees are able to save time and effort that otherwise went to time consuming follow ups.
Some farmers had wishes that the digital systems should be able to interconnect with different digital programs used on the farm to avoid double registration of, for example, working time and volumes in warehouse in different systems. The respondents that was interested in this saw a great value because of the time saving of avoiding to register the non-economic value flows. "We double registering much of the non-economic values on the farm today and it would be great if everything could be baked together".

Those of the respondents who had employees saw a value in the fact that the digital system makes it possible to operate on different platforms such as the PC, mobile phone or tablet. That could open possibilities to work with the invoices and accounting regardless of where they were. One respondent traveled a lot and says "*huge advantage because I am mobile in my work*". A value that was discussed is that family members and employees can follow invoice flows and do the accountings, which makes everyone feel involved. One respondent expresses that *"it would be interesting to be able to follow everything in my phone and that everyone in the company can do this and help out if someone gets sick"*.

The attribute "connected" is sorted into the dimension "efficiency because a high degree of interconnection between digital systems and possibilities to use different digital platforms contributes to time and monetary savings for the farmers. This is more an "efficiency" attribute than "quality" because the system works even without linking them together, but less effective. Additionally, the systems can be connected in several different ways and therefore the attribute "connected" consists of more personal values than for example "functional and user friendly" that is sorted into the quality dimension.

Getting of paper
Farmers express the time that can be saved has a great value. By managing the invoices in a digital system are valuable because the farmer can avoid paperwork and thereby save time. One respondent expresses "*everything are going faster and faster and gets more digital. If you can manage the digital systems you win time and effort*"

The attribute "getting of paper" is an efficiency attribute because it's a value that exceeds the expected costs for some respondents and becomes valuable for those respondents who is interested in the EIS.

Effective startup
To learn the digital systems, the farmer need to sacrifice time and energy to learn the systems and make it work on their specific farm. The interested respondents see value in a system that is not too much time consuming at the startup. By getting the right help and that the systems are easy to understand would minimize this time and effort required. Those respondents who were interested in the systems values a startup during the time of the year when the workload at the farm is minimal. For most respondents is late autumn and during the winter de best period. The most intense period for all respondents was the spring and autumn because of the work on the fields are intensive at that time. The summer was also intensive, especially for those respondents who had grass harvest and grazing animals during that time.

"Effective startup" is sorted into efficiency because it contains several aspects that respondents consider as valuable to reduce time, energy and monetary costs when starting up digital systems at their farms.

Available consultants
One of the respondents had experienced that the personal consultant on the accounting company had time constraints which took a lot of energy and time from the respondent. One of the most common values that the respondents brings up is that the consultant must be available to answer questions. The respondents understands that it sometimes can be difficult for the consultant to be available on the phone or for a personal meeting. Then, the respondents think it is good to have possibilities to have e-mail contact were the respondents can write questions and concerns during all hours, or as one respondent expresses: "*many*

small business owners and farmers do their bookkeeping in the evenings or on the weekends. Then they need help especially until the systems work properly on the farm".

To avoid high time-, energy- and monetary costs at the startup of the systems, respondents values staff that can educate them and be available if there is any problems or questions. Some of the respondents saw values in getting additional information in form of open evening meetings or brochures while others prefer more information personally with his private consultant. Some of the respondents wanted to let the consultant do the work with the accountings of the invoices in the beginning of using the EIS. After a while when everything works they value a system where it is possible to gradually take over the work and do everything from attesting the invoices digitally, do the payment and the accountings by themselves with the EIS and an accounting software (see chapter 1.4.1).

The value of available consultants are sorted into the dimension "efficiency" since it is an attribute which helps to reduce costs in terms of time, effort and monetary for the respondents. This attribute could also be sorted into the quality dimension. The quality attributes "nice consultants" and "confident consultants" are likely the attribute "available consultants" but in a more comprehensive and generalizable way.

4.3 Attributes linked to Social value

The social value reflects the status and the confidence that the customer feels when the service is provided from the service company. Status is about the value that the customer is experiencing or expecting in the form of impressions from other people when the service is consumed. Self-esteem value is linked to the reactive sensation of consuming the service (Sánchez-Fernández, et al., 2008).

None of the respondents admit that an implementation of an EIS or ERP system would contribute to a higher self-esteem or status. According to some respondents, digital systems for the accountings and financial management is not seen as a service that brings these social values. The systems is seen more as a tool to effectively reach various goals in the production of the farm or as one respondent expresses: *"No status building in these systems, but it would feel good to get more effective. But nothing to brag about"*

Pride
However, it turns out during the interviews that functioning digital systems could contribute to the well-being and pride because of the ability to keep track of the farm in an easy way. Two of the respondents see great value in the ability to show up and be able to have dialogues about the economy and the development of the farm. "Pride" can be seen as a value of self-esteem and therefore it is sorted into the dimension of social value.

Motivation
The ERP system would, according to some respondents, be valuable because of the possibilities to show the differences the actions for development in the production turns out in economic terms. Another respondent sees value in a clearer breakdown of different parts in the production and the ability to follow the different productions on the farm which helps to find motivation to keep up the development. "Motivation" is sorted into the dimension of social value because it is linked to confidence building and strengthens the self-esteem.

Role model

Most respondents saw a great value in having a personal consultant that is knowledgeable, engaged and socially gifted. Several respondents had personal favorite consultants who they believe have these properties. This can be seen as a social value because a consultant that meets and exceeds the customer´s requirements produce meaningful behavior and reinforces the confidence and status of the customer. When one of the respondent were asked if he wanted to join a testing-round for the digital systems, he said no, but then he expressed that it would be possible if a particular consultant is involved in the startup of the systems. *"Is X involved in the startup of the system – then I can join from the beginning*".

4.4 Attributes linked to Play

Play is a category that contains the customer´s perceived pleasure with the service. Play can come from the characteristics of the product, the relationship with the staff from the provider or the group membership the customer feels when the service is consumed.

Three of the respondents expect that an investment in digital systems will be fun and exciting. One of the respondents have started to register non-economic values and looked forward to see the different key ratios from the ERP in the end of the month. Several respondents are curious and interested in the digital systems and expect that it would create value and be fun to use. One respondent says that *"New technologies that inspires always give a positive feeling. I think this is fun!"*

Visually
By registering the non-economic values, the farmer can get access to new key ratios. These along with traditional financial ratios can be presented in form of graphs with comparisons from previous periods and other farms in Sweden. This properties sees of some of the respondents as a great value because "visual graphs is usually more fun to watch than numbers"

Availability
Three of the respondents expect a pleasure to have possibilities to show the company´s development for employees and other stakeholders as banks and production consults. Several respondents express that visual reports in form of graphs is more fun than just numbers. One respondent believes that the numbers might not automatically be more fun, but more interesting. Another respondent expects that it can be fun to sit in in the tractor and at the same time manage the invoices digitally and see the development of the company in visual graphs on the mobile phone or in the tablet.

Alternative
One of the respondents gave a different view of the play dimension where digital services are expected to save time that would otherwise be used for paperwork and time consuming business analyzes. The time saved the respondent expected to use for more fun tasks like working with the animals, be in the forest or work on the fields in the tractor. *"I want to work with the animals and the crop production, but need to spent much time in the office"* "Alternative" is sorted into the Play dimension because it contributes to an enjoyable day for the respondents who want to work on the farm instead of in the office.

Socializing

One value that is important for the respondents is accommodating and helpful. Several respondents point out that the atmosphere in the offices is good and that the customer is well taken care of. A value that many respondents raised is that it is always nice to go down to the office to talk economics with the personal consultant and drink a cup of coffee. Some respondents point out that they have contact with nice consultants that has contributed to make the everyday life more fun.

4.5 Attributes linked to the Aesthetic dimension

The aesthetic values describes the customer´s expected value of the service´s physical appearance, beauty and the more atmospheric as candles, fragrance and color. Aesthetics can enrich the customer personally and contribute to pleasure. Aesthetics is considered as an important value of a product or service because the customer is in contact with different aesthetic elements each day and are affected in one or another way.

Visual

Most of the respondents sees the aesthetic value as something secondary. The fact that most of the respondents sees a value in seeing the invoices exactly as it looks like in paper form on the computer and have opportunity to print it out if they want can be seen as an aesthetic value. Visual graphs in the ERP system are also an attribute that the respondents values that can be sorted into the aesthetic dimension. Two of the respondents made further outlays of visual values. Both think it is good with graphs and this could be interesting to develop and make different forms of graphs that are optionally for the farmer. Visual is sorted into the aesthetic dimension because it is a value that have to do with the service´s physical appearance. The value of having digital services that shows the economics in a pleasant way is considered to be one of the aesthetic values.

Consultant's clothes

Two respondents pointed out the value of the fact that the consultant who comes out on the farm are dressed for farm visit and therefore do not need to be "dressed up", which could make a negative impression of the consultant. This because they often want to show something in the production and discuss the use of digital services inside the stables. The respondents do also value a consultant that is open and interested to look around on the farm and then if the consultant choose cloths for walking around in the stables or on the fields. Consultants clothes are classified under aesthetic values because it is something that some respondents consider to be a value. It could also been seen as a practical reason to wear clothes for farm visit.

4.6 Attributes linked to Altruistic values

Altruism is the value that the customer see in the services that reflects the customer´s values on issues that reflects his or her own personal situation, environmental impact or social impact. In altruism generosity, self-sacrifice, helping people in need and to voluntarily help someone in need (Sánchez-Fernández, et al., 2008).

Integrity

One of the respondents questions the integrity of the digital services. He sees great value if the information remains anonymous and that accessibility to the company-specific information remain protected from unauthorized access when stored in cloud services on the internet. Another respondent questioned the anonymity of the privately contracted prices such as the secret prices the farmer have negotiated with the meat industry.

Integrity is sorted into the altruism dimension because integrity is about fear of trading letting secrets to the wrong hands. In other words, the respondents see a high value that the supplier of digital services respects privacy issues.

Understanding

Some of the respondents see values that the accounting company understand the agriculture business and realize that the work sometimes is very labor intensive. Therefore, an implementation of digital services is for the majority of the respondents difficult during the spring, summer and autumn which the accounting company must understand. Some respondents expect that it may be difficult to find time to record non-economic values during the most labor intensive days of the year and it's therefore important that the accounting company understand and help the farmer to plan for it. The attribute understanding is sorted into altruism, because it is about understanding between the farmer and the accounting company.

Attitude

The accounting company and the farmer need to have similar values and opinions. One respondent discussed the importance of having the accounting company and the bank on the same side when it comes to big decisions concerning the company´s development and economy status because the margins in the industry can be small and it is good to have realistic and positive partners. A part of this is that the respondents see a big value in having a consultant who have knowledge about agriculture and economics. Positive attitude to the agriculture business is an attribute linked to altruism because it is about understanding someone else´s world and situation.

Table 3: Results from the nine interviews with farmers in Götaland (own version, 2015)

Dimension	Attribute
Quality	**Functional and user-friendly** - The value of properly structured services that are simple and user-friendly to use for the farmer.
	Fulfills its purpose - That the ERP system are well structured and fulfills its purpose to be a benchmarking tool for comparing previous periods and with other farms in Sweden.
	Competent Cunsultants - The value of competent and qualified consultants who collaborate, are familiar with the agriculture business and have knowledge in economics and the digital accounting systems.
	Friendly Consultants - The value of pleasant and accommodating consultants that shows dedication.
	Confident Consultats - The value of consultants who are confident and trustable and that they help the respondent if there is any problem with the digital systems. The respondents values a consultant who are honest and do not promise to much.
Efficiency	**Connected -** The ability to manage invoices digitally and connect different digital systems in the production with the accountings to avoid double registration of the non-economic values.
	Getting of paper - The value of avoiding time and energy consuming paperwork and follow up calculations.
	Effective start-up - The value of an effective startup of the digital services on the farm and that it is not implemented during the most labor intensive period.
	Available Consultants - The respondents valued that the accounting company is contactable and that there is always help to get personally by phone, email or through a support.
Social Value	**Pride -** The value of well-being, pride and the opportunity for employee participation in the overall control that comes with the digital services.
	Motivation - The values of being able to clearly see the differences after different actions for development and be able to follow the overall farm development in the ERP system.
	Role model - The value of a confidence building consultant who is motivating and reinforces the farmers confidence.
Play	**Visually** - The values of more interesting and entertaining way to see visual graphs instead of numbers.
	Avilability - The pleasure of being able to involve the employees and have access to the services on different digital platforms that makes the day more fun.
	Alternative - The pleasure of being able to use the time saved by the digital system to do more enjoyable tasks.
	Socializing - The pleasure of having a good relationship with the personal consultant and be well treated at the office.
Aesthetics	**Visual -** The value of seeing the original invoice on the screen and be able to follow the development on the farm in a comprehensive manner.
	Consultants clothes - The value of a consultant who is dressed for the task and do not dress up when visiting the farm.
Altruism	**Integrity -** The values of keeping the information that flows through the systems protected from independent insight.
	Understanding Consultants - The value of having understandable consultants and the accounting company helps during the time when the workload is high.
	Attitude - The values in having an accounting company that understands the complexity of the agriculture business and supports and welcomes developments.

5 Discussion

In the discussion chapter, the author evaluates the results of each dimension and compare with the chosen theories and earlier studies on the topic. The discussion chapter also includes interpretations and conclusions that the author made of the results.

5.1 Result discussion

5.1.1 Quality dimension

Generally, for those farmers were interviewed was that they all see a great value in systems that **works properly**. Once the customer starts with digital systems, they want it to be tested and work without problems. Furthermore, the respondents demand **user-friendly** software that he and the employees can learn and use daily. This value is supported by previous research by Rydberg, *et al.,* (2008) where farmers valued digital systems that works and are easy to use. The attribute user-friendly is also supported as an important attribute in Sörenssen, *et al.,* (2010) study of how farmers felt that the information from digital systems that was handled on the farm was too complicated. The same study also raised the value of a sufficiently developed mobile network that can handle the digital devices on the farm, which also two of the respondents in this study expresses. The digital systems used in this study have similarities to the digital system used for precision farming because they are aimed to streamline efficiency on the farms. Ease of use is one of the attributes that Wang *et al.,* (2001) highlighted as one of the most important overall attribute in their study on customer information satisfaction.

During the interviews in this study there was respondents that saw a large value if the enterprise resource system could be **connected** to digital systems in the production, similar to those examined in Rydberg, *et al.,* (2008) study in which the farmers express similar. A greater degree of interconnection of digital financial services and digital technology in the production would improve efficiency and reduce the work with registration of non-economic values in the farm and make it easier to gather information to the key entities in the ERP system. An automatic registration of different volumes between could lead to secure data for use in benchmarking purpose because it is made without double registration by the farmer and the employees between the production technologies and the ERP system. To link different digital systems is one of the attributes that are highlighted as important in the study made by Sörensen, *et al.,* (2010) in which farmers believe there is "a lack of interconnection of the information from digital systems".

Respondents in this study also see values in consultants who provide the digital services are **competent, qualified and knowledge about agriculture production**. All respondents see values in having a personal consultant who are helpful, especially when starting up the digital systems at the farm. A collaboration between various consultants and offices sees some of the respondents as valuable because there should always be someone to turn to if they have questions and concerns. In Grönroos (2008) compilation of service attributes, "professionalism and skills" are an overall attribute that stands for professional staff that can use the physical resources in a good way, which can be compared with this study´s quality attribute "competence". The respondents also valued **nice and confident** consultants, which Grönroos (2008) also listed as an important attribute named "Attitudes and behavior" which stands for the value aspects of the service company´s willingness to solve customer problems

in a friendly and polite way. **Security** for the respondents was that the consultant don't leave the customer with questions and ensures that the digital systems are implemented in the right way from the beginning. **Security** also means that the consulting firm is reachable if the client has issues and needs help. The attribute security is evidenced by Grönroos (2008), showing that previous studies raises "accuracy and reliability" as one of seven overall attributes customers values from service companies.

5.1.2 Efficiency dimension

An expected attribute that the farmers valued was that the ERP system would be paired as much as possible with other digital applications in the farm production to avoid double registration of the non-economic values. "connected" includes the value of the opportunity to manage invoices and see the company´s development digitally on various digital platforms such as mobile phone, tablet and computer. In Rydberg *et al.,* (2008) studies on digital systems for precision farming, farmers valued systems that can be paired together for easier management with information coming from the various machines and tools on the farm. This confirms the value of having interconnected systems that manage registration of non-economic values (see chapter 1.4.2) automatically. To avoid paper invoices with the EIS system was seen as a great value for those respondents who were interested in that system. To digitalize the paper management streamlines the process of the invoice processing and saves time and effort for the farmers. In the study of Rydberg *et al.,* (2008) farmers had started with digital systems for precision farming because they wanted to gain greater efficiency in the production and thereby better economy in the firm. The same applies to the value of avoiding paper handling of the respondents in this study. Farmers who valued the EIS system wants to streamline management and be able to spend more time in the farm production. In Sörensen, *et al.,* (2010) study, farmers considers that they are often busy with routine work at the farm and have difficulties of keeping up with office jobs, which can be linked to this study because farmers in both studies needs to spend much time in the farm production. Farmers in this study values that the implementation of the ERP and EIS system takes place under the least labor-intensive period during the late autumn and winter.

An effective start-up is also about how the consultants at the accounting company acts. Several respondents in this study evaluates consultants that are available for education in the systems and be available if questions arises when using the systems. This is highly valued because it reduces costs in term of time, money and effort of having to wait to get answer to questions or get help with the systems if needed. In Grönroos (2008) summary of previous studies about customer value in services there is an overall attribute which he calls "availability and behavior" which takes up the value of consultants who are available when the customer has time and opportunity to consume the services. In Wang *et al.,* (2001) study on customer information satisfaction there is an attribute called "support" that raises the value of personal service that builds customer loyalty to the supplier. Deficiencies in customer service around the digital accounting services can lead to unhappy customers and loss of loyalty to the accounting company.

5.1.3 Social value dimension

None of the previous studies mentioned in this study have taken up social value as an attribute of value. Some respondents in this study expresses value in the ability to get an overview of

the farm economics and be able to show results in form of digits and graphs of the farm development for employees and other stakeholders. This ability contribute to prosperous and pride to some of the respondents. It could also contribute to gain motivation to continuing development of the farm.

Several respondents had personal favorite consultants at the accounting company that can be seen as role models. These consultant was described as very competent in economics and where friendly and trustful. This attributes are described earlier in both the quality and efficiency dimension. Grönroos (2008) also brings up friendly and trustful attributes in his summary of attributes that stands for good service. Values like "role models" are also suitable for social value creation because these consultants contributed to an increase of confidence and status of some respondents.

5.1.4 Play dimension

Attributes that falls below the play dimension is fewer than in the utilitarian dimensions of quality and efficiency. This can be because the digital services for accounting are seen as tools to streamline the farm operations and create profitability on the farm. Therefore, the products are not primarily related to the experience values as Play, Aesthetics and Altruism among farmers. These values may, however, contribute to loyalty and willingness to use the digital services. This is evidenced by Grönroos (2008) who argue that all types of products and services may have an experiential value that is something beyond the ordinary. According to Reynolds and Beatty (1999) is Play, Aesthetics and Altruism often associated with the relationship to the supplier of services, when it comes to digital services for the accountings, attributes that could be associated with both the digital systems and the relationship with the accounting company were found. Several respondents where curious about the digital services and thought it would be fun and exciting to start up with something new. The fact that figures from the ERP systems can come into visual graphs was seen as more fun and exciting than rows of numbers. Three respondents talked about the pleasure of having the office accessible for employees and at locations outside the office. When it comes to the consultants at the accounting company, several respondents experienced them to sometimes make the everyday life more fun. Another aspect was that the time that was saved using the digital systems could be used for other, more enjoyable work on the farm.

5.1.5 Esthetic dimension

The respondents that showed interest in the EIS system saw a great value in the fact that the invoices could be seen in its entirety on the computer. This can be compared to a physical contact with a paper invoice, which can have a positive experienced value as the customer recognizes the invoice appearance and can relate to the postal invoices before the digitalization. The ERP system can present the figures in visual graphs instead of rows of numbers, which were seen as more appealing for some of the respondents. Two of the respondents developed other visual possibilities and ideas for alternative graphs and visual presentations, which can indicate a value of different aesthetic options for presentation of the accountings. The value of visual presentation has been raised in several dimensions in this study. The reason is that a more appealing visual presentation can help with several different customer values which mainly consists of the hedonistic values Play and Aesthetics, but it could also contribute to motivation and increase efficiency in the agriculture. The value of visual graphs and charts are also taken up by Wang, *et al.*, (2001), where the value of

appearance of the website under the overall attribute “digital products/services”, which was one of the key attributes of that study.

5.1.6 Altruistic dimension

For the some respondents, altruism is about the value of keeping integrity of the information that flows through the digital systems. The fact that information is sent digitally from the scanning of the invoices to the customers computers and into the ERP system where information is now stored on the accounting companies computers, it is important to secure that no secret information about the farm can leak out to wrong hands. In the study made by Wang, *et al.*, (2001), this is taken up under the attribute ”security” which is summarized as the importance that the user of digital websites can surf on the website and buy goods and services online without being afraid of getting robbed on money or information about themselves. Some respondents expresses the value of having an accounting company that understand that agriculture can be a labor-intensive industry and therefore be able to help during these periods. Furthermore, the respondents values consultants that have a positive attitude to the agriculture business and the production on their farm. These aspects is evidenced by Grönroos (2008) that shows that previous studies takes up “reputation and credibility” that stands for the importance of the supplier to stand out for the customers fundamental values and that the customer can rely on the service company and their digital systems.

5.2 Method discussion

If I would do another study in the topic of customer value, the interview-guide would probably contain of more follow-up questions to really delve into how farmers thoughts and feelings. I thinks is very important to capture values from all dimensions in Sanchez, *et al.*, model and by using another technique with more follow-up questions would possibly more attributes of value be captured. Many other studies in the topic customer value uses different interview-methods. Examples of such can be the laddering technique that goes to the bottom of each attribute that the respondent pronounce and sorts out why he or she evaluates an explicit attribute. In short, laddering technique starts with the respondent answer a question like “What attribute/attributes do you think would fit in the efficiency dimension?” The answer is one or more attributes of value for the respondent. Then the interviewer ask the respondent “why” these attributes are important efficiency attributes. The answer gives consequences and values that the respondent feels. The question “why” is repeated until the respondent and the interviewer believes that the attribute is fully investigated and the session has reached a so-called end value (Reynolds & Gutman, 1988). Another technique that I saw as interesting is the Zaltman metaphor-elicitation technique (ZMET) where images are used by the respondent to express thoughts and feelings. Research shows that it is easier for a respondent to express inner feelings and values with the help of images and thereby becomes ZMET a useful tool together with the laddering technique in a qualitative interview (Zaltman & Coulter, 1995).

In every product or service a consumer choose to buy, there is a budget constraints were the price is one of the strongest factors to the choice to buy or not to buy. One other factor is the preferences the customer have to the specific product or service. This thesis have been focused on finding the different preferences (attributes) and thereby the budget constraints has been left out. The consequences of not using budget restrictions in this thesis is that all the attributes of value may be perceived to have the same monetary value and be just as valuable

for all of the farmers participating in this study**.** That is of course not the case since all values whether they are hedonistic or utilitaristic is personal. Because the study did not value the attributes of value monetarily, the thesis therefore leaves questions about where, on a scale of values, the attributes can be found in monetary terms.

The reason why this thesis does not concern budget constraints is that the quality, efficiency and social values are values that today´s economy do values monetarily after the efficiency and monetary gains that the consumer gets from the product or service. However, the hedonistic values such as play, aesthetics and altruism are difficult to measure after these criteria's. The thesis would require a different type of method to do this type of valuation. A more extensive literature study would be necessarily to find a method that safely obtains monetarily in utilitaristic and hedonistic values according to the theories of budget constraints.

That method would probably also require longer interviews to capture the wide variety of value attributes, which I considered to be difficult to implement within the time frame of the thesis. Therefore, I have chosen to focus on find the attributes through open, qualitative interviews to gain a broad understanding of what farmers value when it comes to digital services for the accountings.

In this thesis there can be a risk of seeing the attributes of value as a wish list from the farmers. A wish list is also is a list of things that is valued by a person and it is close to "attributes of value" The difference is that the attributes of value connected to the digital service doesn't need to be a "wish" for every specific farmer that expresses an attribute of value. Value is a broader term that I personally think fits better into this study because it is more spot on and explaining the aim more precisely.

Because of the qualitative method and the delimitations that excluding farmers except Swedish farmers in the age above 40 years and with a farm size over 150 hectares, the results of this study cannot be generalized. The aim was to find attributes that farmers valued, which have been fulfilled. This can give a broad picture of what farmer could see as valuable in the services but it would be necessarily to do a larger study to make the study generalizable.

5.3 Future studies

My opinion is that it would be very interesting to find out the monetary value of all the attributes, both the utilitaristic and hedonistic values. A thesis that contains a large number of interviews and rank them after monetary values according to the theories of budget constraints would be very valuable. This because the accounting business would gain great benefits from such a study in order to price and marketing the digital services. However, that thesis would require extensive work to find appropriate methods that measure the monetary value of the hedonistic "soft" values such as play, aesthetics and altruism.

Another possibility would be to divide the study into two casts, where one focuses on the best way to produce the soft, hedonistic values of attributes and values for these according to budget constraints. That study would probably require more qualitative interviews and other methods to value these attributes monetarily. The second part could focus on finding which monetary values farmers put on the utilitarian values. In that case, quantitative method would be applicable as these values are easier to evaluate for the monetary gains and the time and efficiency gains achieved in the consumptions of the services.

Methods commonly used in qualitative methods that could be useful in the development of the hedonistic values are the laddering technique that opens with a question and then sets up follow up questions that begins with "why" until the original question is perceived as thoroughly answered and that the session reached a so-called end value. Another technique that I saw as interesting is the Zaltman metaphor-elicitation technique (ZMET) where images are used by the respondent to express thoughts and feelings. Research shows that it is easier for a respondent to express inner feelings and values with the help of images and thereby becomes ZMET a useful tool together with the laddering technique in a qualitative interview (Zaltman & Coulter, 1995).

When I traveled around to the different offices to meet consultants, many different views and aspects on the digital services came up. Therefore, it would be interesting to do a further study that focuses in the consultants attitudes to the digital systems and highlight the attributes they value when implementing the digital system. That study could be linked to this study to facilitate the development and implementation of digital services for farmers. This study would also be interesting to do again after a few years when the digital services are more widely used among farmers in Sweden. Then the perceived value of the services can be captured, which could helpful when developing the services in the future. Furthermore, a literature study that evaluates how an implementation of digital systems such as EIS and the ERP is made in the best way. These three studies could contribute to a very important tool when accounting companies are moving towards an increasingly digitized future.

6 Conclusions

This study aims to identify specific attributes that farmers expect and values when it comes to digital accounting services. The results can be used by accounting companies to evaluate and improve the services when implementing digital accounting systems in the agriculture business.

According to this study, farmers value systems that are user-friendly, work properly and fulfill the purpose they are created for. The digital services are expected to have properties that streamline the process of invoice handling and management of the farms operations. The digital systems can help to motivate the farmers and make the daily work more pleasurable by showing the development of different key entities on the farm. During the interviews, some respondents expressed the importance that the information stored in the digital systems is kept protected from copying and theft because both economic and non-economic values can contain business secrets. Several attributes found in the study are associated with the service delivery and concerns the staff of accounting firms. The farmers saw values in competent, friendly and confident consultants, which build loyalty to the accounting firm. Other attributes that are highly valued by farmers was that the staff at the accounting firm was available when the farmer needs help, is understanding and have knowledge in practical agriculture management.

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