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Adaptation of digital invoicing.

A research within the field of recurring household costs.

School of technology and innovations
Master's thesis in Information Systems Science
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UNIVERSITY OF VAASA**School of technology and innovations**

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Title of thesis:	Adaptation of digital invoicing.: A research within the field of recurring household costs.		
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ABSTRACT:

Recurring household costs, such as electricity, internet, water and insurances are costs that most people in Finland pay on a monthly basis. The specifications and details in these invoices does not change that much from month to month and therefore it is quite interesting that a substantial percentage of people still seems to be subscribing to a service of physical invoicing. The objective of this study is to find key factors that optimises the rate at which people chooses digital choices within invoicing. This study focuses on these specific areas of cost: electricity, insurances, internet/mobile and water costs. These specific areas of costs, and how they are invoiced and why, are studied in order to find some kind of framework of key-elements needed in order to optimate the adaptation of digital invoices. In this study a qualitative research method is chosen. By conducting open question surveys and interviews with both providers of these listed areas of cost and those who are using and paying for them, we were able to get an understanding of what the key-elements for the situations where physical invoices are in use and for the situations where the digital option is chosen. The data collected indicates that the following four areas are of importance: Develop a clear digitalisation strategy which is executed, evaluated and optimized, Identify and aknowledge the implementation of digital invoicing as an valuable part of the digitalisation strategy, identify and aknowledge the benefits of clients choosing digital invoicing alternatives, motivate salespersonel to follow through on digitalisation strategy.

KEYWORDS: Digitalisation, rate of implentation, invoicing, organisational behaviour

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ABSTRACT :

Kotitalousmenot, kuten sähkö-, internet-, vesi- sekä vakuutuslaskut, ovat joka kuukausi maksettavia, useimmille suomalaisille tuttuja kuluja. Näiden laskujen sisältö ei juuri muutu kuukaudesta toiseen. Maksaja tottuu nopeasti laskun sisältöön, ulkonäköön ja maksutapaan. Täten on kiinnostavaa, että merkittävä osa suomalaisista maksaa nämä toistuvat, samanlaiset laskut saatuaan fyysisen paperilaskun postitse, kun heillä olisi nykyisin käytössään laskujensa maksamiseen myös nopeita digitaalisia vaihtoehtoja. Tämän tutkielmani päämääränä on löytää avainasioita, jotka houkuttavat suomalaiset optimaaliseen digitaalisten laskutusvaihtoehtojen käyttämiseen. Keskityn tutkielmassani seuraaviin neljään kategoriaan. Tutkin sähkö-, internet-, vesi-, sekä vakuutusmaksujen suoritustapoja. Haluan tietää miten näitä laskuja maksetaan ja millainen rakenne niissä on. Päämääränä on saada kuluttajat siirtymään maksimaalisesti digitaalisten vaihtoehtojen puoleen. Haluan kehittää menetelmiä, joiden avulla yritykset saavat asiakkaansa valitsemaan digitaalisen maksuvaihtoehdon. Olen tehnyt yrityksille avoimia kyselyjä ja haastatteluja. Haastattelut on tehty sekä yrityksen omistajille että heidän asiakkailleen, jotka näitä laskuja maksavat. Näillä haastatteluilla olen halunnut saada selville, mitkä asiat ovat merkityksellisiä, kun valitaan fyysinen lasku ja milloin taas otetaan käyttöön digitaalinen vaihtoehto. Kerättyjen tietojen mukaan seuraavat neljä aluetta ovat keskeisiä tekijöitä, kun yritys haluaa kehittää ja optimoida laskutuksen digitalisointia, selkeä digitalisointistrategia, joka toteutetaan, arvioidaan ja optimoidaan, digitaalisen laskutuksen toteuttaminen, ja käyttöönotto osana digitalisointistrategiaa, tunnista ja ymmärrä digitalisoinnin edut yrityksen näkökulmasta. Motivoi myyjä seuraamaan digitalisointistrategiaa

Acknowledgements

I wish to acknowledge my appreciation towards the people who remain anonymous, The participants in the interviews during this research work. The amount of information these interviews provided have been of great importance to this project.

In addition to this I would like to express my deepest appreciation to the love of my life, Sandra. You have been the most important part of all this. Listening to me complain about how I won't be able to finish this with everything else going on simultaneously in life, this, has been fundamental in my success.

Thank you.

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1 Introduction

Electronic invoicing is the sending, receipt and storage of invoices in electronic format without the use of paper-based invoices as tax originals. (Billentis 2015)

In this research, digital invoicing is the subject of study. Digital invoicing in this particular research is a term that comprehends all forms of invoices or payment requests sent to you in a digital format, opposed to the traditional way of a physical invoice. Choosing digital invoicing as the primary form of receiving invoices among civilians is thought to be the obvious choice in 2019, yet many still receive their invoices in the traditional physical format.

This research studies why civilians in Finland are still using physical bills when there are options to use a digital format.

The main reason to this research is to find out why there are still cases where people chooses to receive physical bills. To narrow the subject down, this research concentrates on basic recurring costs such as electricity, phone, internet, water and insurance.

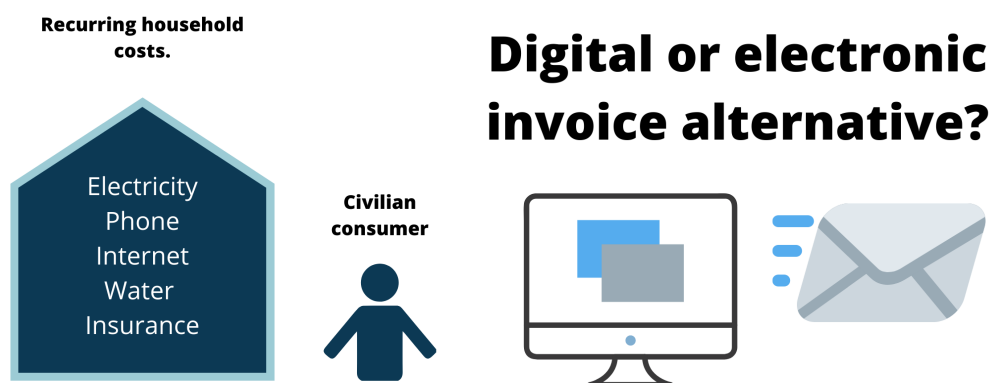


Figure 1: Visualisation of research

The research concentrates specifically on regular civilian consumers.

The objectives are to find the key factors/area that could be altered in order to speed up the adaptation of digital formats of invoicing among civilians. These results could help us move towards a paperless society even faster.

1.2 Key terms used

In the field of invoicing and the spectrum of this research there are many different terms and definition in use. In this section the key terms used in this research are presented with how each key term is used and defined in this specific research.

Print Out invoices

Invoices that are printed out and sent manually via mail or other logistical system.

Digital invoicing

This term comprehends all formats of invoicing that does not include Print Out invoices.

Electronic-invoicing

E-invoicing short for electronic invoicing are digital invoices sent via some kind of processing system.

Recurring household cost

In this research, the focus is put on reduction of Print out invoices within recurring household costs such as electricity, water, mobile, internet and insurances.

Electricity cost

The monthly cost of electricity in ones household, regardless off living situation.

Water cost

The monthly cost for water usage in a household.

Mobile and internet cost

The expense of internet and mobile usage in one household.

Insurance cost

The cost of all insurances among people in a household. Use generally for monthly expenses regarding insurances.

1.3 Research background

Moving towards a paperless community, or a smart community is something that we as a society are thriving towards, the benefits of using as little paper as possible are quite clear. In a study by Scheng-Chi Chen on e-invoice development in Taiwan, the focus is set on the government and what they could do to reduce the use of traditional invoicing. When discussing government, one can move forward by regulations and other clear incentives. (Cheng 2013) but as it comes to civilians and private companies, it is not as straightforward.

In the article; E-invoicing in Europe: Now and the future, by Salmony and Harald it states quite clearly that the use of e-invoice is a very important issue when looking forward at the future of our society, the economical benefits of e-invoicing are too huge to discard for the total economy of Europe (Salmony et.al 2010) Looking past the obvious cost reduction in printing physical material, the reduction in administrative costs across sectors are of great significance (Poel et. al 2016)

1.4 Aim of thesis

The aim of the thesis is to examine the different key-elements that are in fact underlying decision factors when it comes to choosing digital invoices or physical invoices. Even more specifically this thesis collects data among civilians and companies in Finland.

The segment that is studied in this thesis consists of companies and their clients in the field of household costs: electricity, water, insurance, internet and mobile.

1.5 Problem domain and importance

It is often asked how one can help the environment, and how we can reduce the harm that we are doing to the environment. By choosing to use digital formats of invoicing, we are doing exactly this. (Saari, 2018)

“An electronic invoice is on average four times more environmentally friendly than a paper invoice.” (Federation of financial services, 2010)

In addition to the direct reduction in carbon footprint, it also saves companies a lot of work time and resources, which also indirectly reduces the effects on the environment. (Federation of financial services, 2010)

This research is done in order to explore and analyse information regarding billing behaviour within recurring household costs among civilians in Finland. By conducting this research, important information on how to reduce the carbon footprint in these fields are gathered.

When analysing and gathering information on this subject, it becomes quite clear that there does not exist enough studies on this exact matter. By conducting a thorough data analysis among consumers and businesses this research provides a important set of information seen from both the business, consumer point of view. By conducting this research we are able to find key elements that has great benefits seen both from environmental, business and consumer point of view.

The importance of this problem statement becomes even more clear if looking at it from the more broad point of view, which is overall digitalisation and the benefits of that. According to Sabbagh et. Al, digitalisation has a proven impact on improving quality of life and reducing unemployment. In the article by Sabbagh et. Al it is also stated that the most advanced countries regarding digitalisation are deriving 20% more in economic benefits than countries in a very initial stage of digitalisation.

(Sabbagh, 2012) The potential economical benefits are stated to be up to 90% by digitizing information intensive processes, such as invoicing within recurring household costs.

digitalization

offers incremental economic growth; countries at the most advanced stage of digitalization derive 20 percent more in economic benefits than those at the initial stage. Digitalization has a proven impact on reducing unemployment, improving quality of life, and boosting citizen access to public services. Finally, digitalization allows governments to operate with greater transparency and efficiency.

1.6 Personal motivation

My personal motivation to this specific research within digitalisation and recurring household costs lies in my own personal interest of understanding behaviour within organisations and among civilians, this combined with a personal belief that it is of great importance to reduce the use of paper where there are digital choices. I am myself a house-owner, that pays these monthly recurring costs using digital invoices, and I have also worked within several of these fields of service. The field of insurance being one of them. In my role as a salesperson at one of the largest insurance companies in Finland I often experienced lack in guidance regarding efforts of digitalisation. Many times I would say that, as a low-level sales-person, I was not aware at all of any digitalisation strategy and therefore failed to execute it.

As a civilian using many monthly services within the field of household cost, I am often surprised at how difficult it is to use digital alternatives within invoicing, the amount of effort it takes to start using digital alternatives are in my opinion many times almost ridiculous.

In the early stages of examining this topic, I found early on that it would be of great interest to get data among both clients and the companies providing these services. It became clear to me that I wanted to examine if there were any clear factors to be identified within the behaviour of the clients. The motivation of finding ways to optimise the rate at which people use digital alternatives became even more appealing after conducting theory reviews and realising that there did not exist previous information on the subject.

1.7 Approach

This research is conducted by collecting and analysing data from both businesses and consumers representing the following fields in recurring household costs in Finland.

- Internet
- Mobile
- Insurance
- Water
- Electricity

These five fields of expenses are chosen as they represent the most common recurring household costs in Finland.

By concentrating the gathering of information on these fields and by gathering data from both businesses and consumers a wide set of data is collected, which can be analysed in order to find key factors that influence consumer behaviour on the matter of choosing electric or digital formats in invoicing.

A qualitative approach, consisting of three different phases are conducted.

- Initial survey

- Survey 2.0
- Interviews.

In the book on Qualitative Research: An Introduction to Methods and Designs, written by Stephen D. Lapan, Marylynn T. Quartaroli and Frances J. Riemer, this research method is explained as a method that places emphasis on the study of the phenomena from the perspective of the insiders. (Stephen 2010)

A Qualitative approach is chosen due to the fact that by conducting a exploratory information gathering process, it is most likely to find the key behavioral elements needed in order to speed up the implementation process of digital alternatives among invoicing in the field of household costs in Finland.

A initial survey is done to a sample set of 10 participants, this initial survey serves as an indicator on how the survey should be conducted among larger sets of participants. The data gathered from the initial survey is analysed and helps set the format of the more broad survey, which is called Survey 2.0

Survey 2.0 is conducted on a sample set of a minimum of 100 participants. The main goal of Survey 2.0 is to gather data on the situation among consumers in Finland, specifically regarding household costs and what factors that might be influencing the choice to use electronic invoicing or traditional invoicing.

After conducting both the initial survey and survey 2.0, this research gathers data by doing interviews with representatives of the fields researched. In order to gain as unbiased information as possible, we ensure the participants their anonymity. The purpose of these interviews is to gather information on behavioral patterns within the organisation concerning digitalisation specifically within the field of invoicing.

1.8 Problem area

During the last two decades we have seen a fast evolution in invoicing and especially in the digitalization of invoicing. The benefits of choosing digital alternatives within

every field are many, with the category of environmental benefits being one of the most important one.

Every month people all around the world still receives physical invoices via traditional mail for recurring household costs. Recurring household costs such as electricity, internet, water and insurance are costs that does not differ that much from month to month and the preset for this whole research is that it is not needed for a regular consumer in Finland to receive these invoices as an physical print-out via traditional mail.

This research concentrates on Finland, and how we could increase the choice of digital alternatives among consumers, specifically within recurring household costs.

Research question 1.

What are the key-factors affecting consumers when choosing invoicing alternatives?

Research question 2.

Which key factors should businesses in the field of household costs implement in order to maximize the choice of digital alternatives within invoicing?

1.9 Results

In this research it is shown that there are clear factors that affects the consumer when choosing digital or physical alternatives within invoicing. This is shown by analysing information gathered from both the perspective of consumers and businesses.

By analysing the data both from the surveys and the interviews done, this research is be able to identify the key factors that are important to implement in order to increase the use of digital alternatives regarding invoicing in recurring household costs in Finland.

1.10 Structure of thesis

The structure of this thesis is as follows. The first chapter of this research begins with an introduction. This introduction gives the reader an understanding of the topic and the problem area, in addition to this, an introduction to the chosen approach and what the results sought after are presented in this first chapter.

The second and third chapters consists of the literature review and the presentation of the actual research design. The purpose of these chapters are to present existing literature on the matter and to show how the following research fills a gap in the lack of literature and research on the specific area which this research concentrates on.

The research design chosen is presented in order to give the reader an understanding of the research method chosen and why this particular research method is chosen for this research.

Results from surveys and interviews are presented in the fourth chapter, by using visualisations and extracts of interviews an overview of the results are given to the reader. In the fifth chapter the results from chapter four are discussed and analysed in order to find the key-elements that are sought after.

STRUCTURE OF THESIS

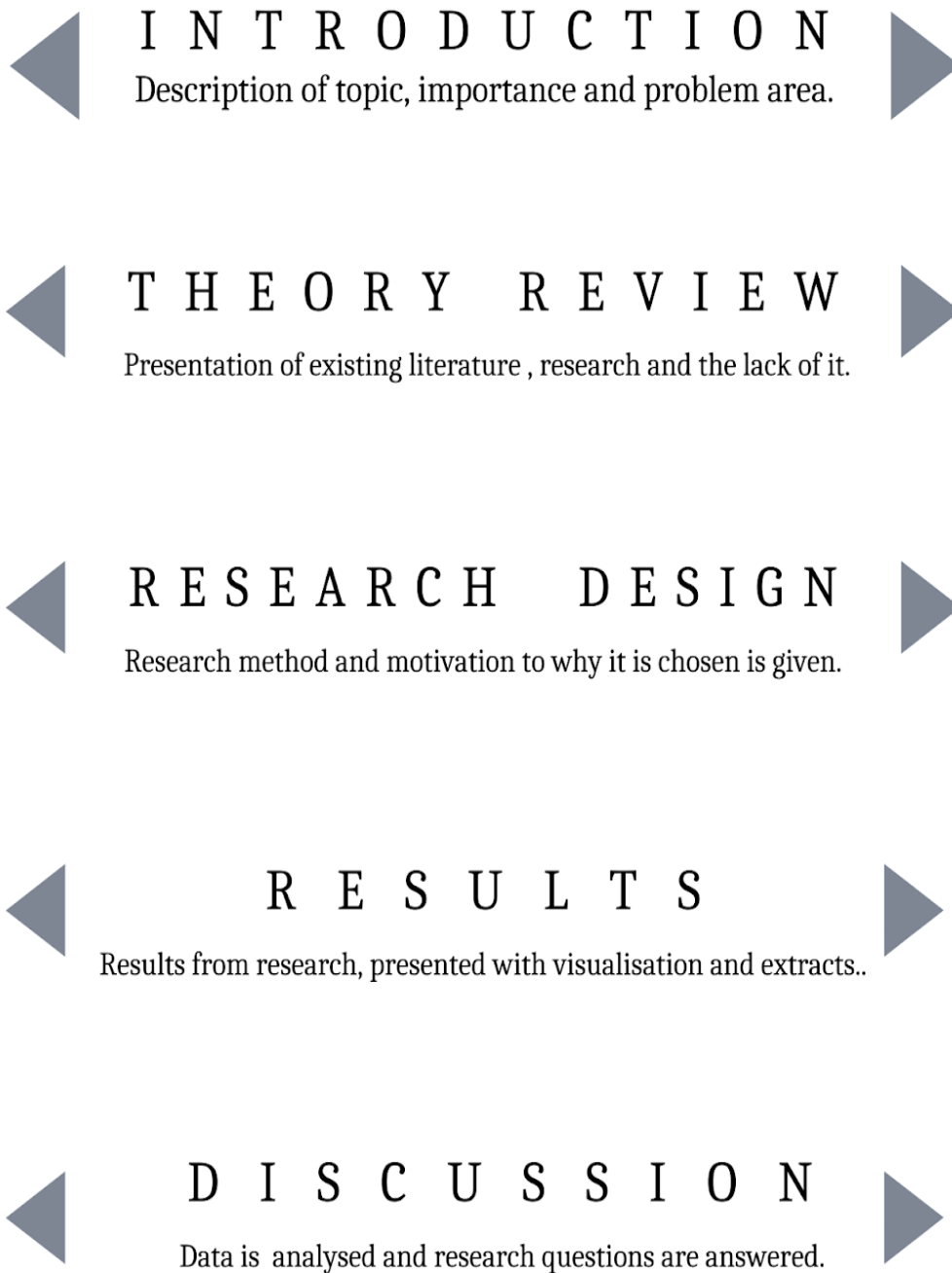


Figure 1: Visualisation of thesis structure

2 Literature review

This chapter and chapter 5,6 and 7 provides the theoretical background and view on invoicing and the digitalisation of invoicing. In addition to this, this literature review shall also provide a theoretical view on the effects of digital alternatives compared to physical alternatives within invoicing. As this research concentrates on the recurring household costs this chapter also provides a theoretical background to what these recurring household costs are. Finally this literature review also gives an theoretical oversight of the legislation around invoicing at the moment.

In this thesis, digital transformation is the basis of all research, by adopting digital invoicing choices, a pure form of digital transformation is being performed. (Matt, 2015) By introducing digitalisation, it is broadly understood that we are inducing a broad spectrum of benefits within all areas of human society. (E. Henriette, 2015) As a part of this research, a literature review is being conducted by the author, according to the result of this review it is quite clear that the existing literature on research conducted within the field of digital transformation is quite scattered and mostly focuses on specific innovations and not the wider scope of benefits within digitalisation.

2.1.1 The invoice

According to the (Cambridge University, 2020) dictionary, an invoice is per definition:

“a list of things provided or work done together with their cost, for payment at a later time” (Cambridge.org 2020)

If this definition is broken down even further, it is reasonable to say that invoices have most likely existed and evolved as long as humankind have used different payment methods in order to exchange goods and services.

According to archeological findings it is believed to be proved that systems for accounting and invoicing existed already as early as 5000 BC in Mesopotamia, an area which is now known as Iraq. (Harford,2017) In these early days of invoicing merchants would carve down details of transactions on tablets made of clay which was then used in order to collect the right amount of payment for the transaction. (Harford, 2017)

As the world has evolved, invoicing has moved from handwritten documents to a reality where documented and logical systems are a must when running any kind of business. Today, the majority of invoices are created electronically and sent out to clients digitally or physically. (Harford,2017)



SpiceImport Ltd., Kaisaniemienkatu 6A, 00100
Helsinki

Bering Catering
Hans Jansson
Bulevardi 15
00180 Helsinki

INVOICE

1(1)

Invoice number 20278
Reference number 2 02785
Invoice date 20.02.2017
Due date **06.03.2017**
Delivery date 20.02.2017
Payment terms **14 days net**
Our reference Marko Mikkola
Your reference Hans Jansson
Buyer's order number 1234
Penalty interest 7,50 %
Notice period 7 days
Customer's business ID 1212121-2
Customer number 2

Order delivered according to the accepted offer 19.2.2017

	Product No.	Description	Unit price €	Qty	VAT %	Total €
1.	18	Curry, 280g	4,50	50 pcs	24	225,00
2.	16	Stubb's Beef Spice Rub, 56g	5,90	10 pcs	24	59,00
3.	15	Tex-Mex spice mix, 370g	6,00	5 pcs	24	30,00
4.	13	Stubb's Oregano, 30g	2,90	15 pcs	24	43,50

Total excluding VAT € 357,50
VAT total € 85,80
Total to pay € 443,30

Tel: +358207181710		reino.merilainen@isolta.fi		Business ID: 123456-7	
Recipient's account number	IBAN Nordea	FI21 1234 5600 0007 85	BIC NDEAFIHH		
Recipient	SpiceImport Ltd. Kaisaniemienkatu 6A 00100 Helsinki				
Payer's name and address	Bering Catering Bulevardi 15 00180 Helsinki				
CREDIT TRANSFER	Signature				
	Ref. No	2 02785			
From account no	Due date	06.03.2017	Euro	443,30	



The payment will be cleared for the recipient in accordance with the General terms for payment transmission and only on the basis of the account number given by the payer

Figure 2: Invoice template

In figure 1.1 an example of a standard invoice is shown. This invoice template is produced by one of the leading invoicing softwares for SMEs in Finland, Isolta.

This invoice consists of all the data points that are required in an official invoice in Finland. (Isolta.fi, 2020)

- Invoice date
- Sequential invoice number
- Seller VAT number or Business ID
- Seller and buyer name and address
- Quantity and type of products or services
- Delivery date of products or services
- Unit price, VAT exclusive
- VAT rate
- Amount of VAT

2.1.2 Prior results and findings

E-invoicing and e-billing are terms that are widely known within business and among consumers in Europe. When researching prior literature and research done on the matter of digitalisation within invoicing in spectrum of household cost, it soon becomes quite clear that there are not much research done within this specific area.

If we are to look further, and concentrate on findings and and research done on digitalisation and overall use of e-invoicing there are some research to be found, even if it is also quite limited.

in 2010 the federation of Finnish financial services conducted research on the topic of “Environmentally friendly electronic invoice”. (Federation of financial services, 2010)

The environmental benefits from the business point of view are many. According to the research done by the federation of Finnish financial services, the most important ones are the fact that implementing electronic invoicing saves time, which reduces overall emissions and also improves overall productivity.

2.1.3 Gaps in previous research and literature

As a part of this research, a thorough search of prior research and literature is done. As stated earlier, the lack of previous research within this specific area is broad. These gaps in research are identified as a part of the literature review.

- The rate of digitalisation of invoicing in Finland, within household costs.
- Digitalisation efforts within companies providing services in household costs.

3 Electronic and digital invoices

What is the difference between electronic invoices and digital invoices?

This research concentrates on finding key factors that reduces the use of physical printout invoices, which means that the difference between Electronic and overall digital invoices are not of great importance in this particular research.

An digital invoice is a broad term that comprehends invoices sent out in a digital format and the electronic invoice is a term that comprehends an standardized invoice which is sent automatically via an information system of some sort. (Work-flowwise.com,2020)

3.1 Benefits of electronic invoices and digital invoices

Electronic invoicing enables sending, receiving and processing invoices without manual intervention (Spanic, Davor & Ristic, Denis & Vrdoljak, Boris. 2011)

It is argued that the implementation of electronic invoicing and digital invoicing has a broad spectrum of benefits for business across all fields of work. Regardless of system in use, companies are experiencing lower costs, shorter delays and a more smoothly operated transactional structure (Spanic et. al. 2011)

The benefits of electronic invoicing systems and overall digital billing systems are widely known. In an article by Vikas Rohilla the following benefits are listed as the most important ones. (Rohilla, 2016)

- Environmental issues.
- Access.
- Safety.
- Processing.

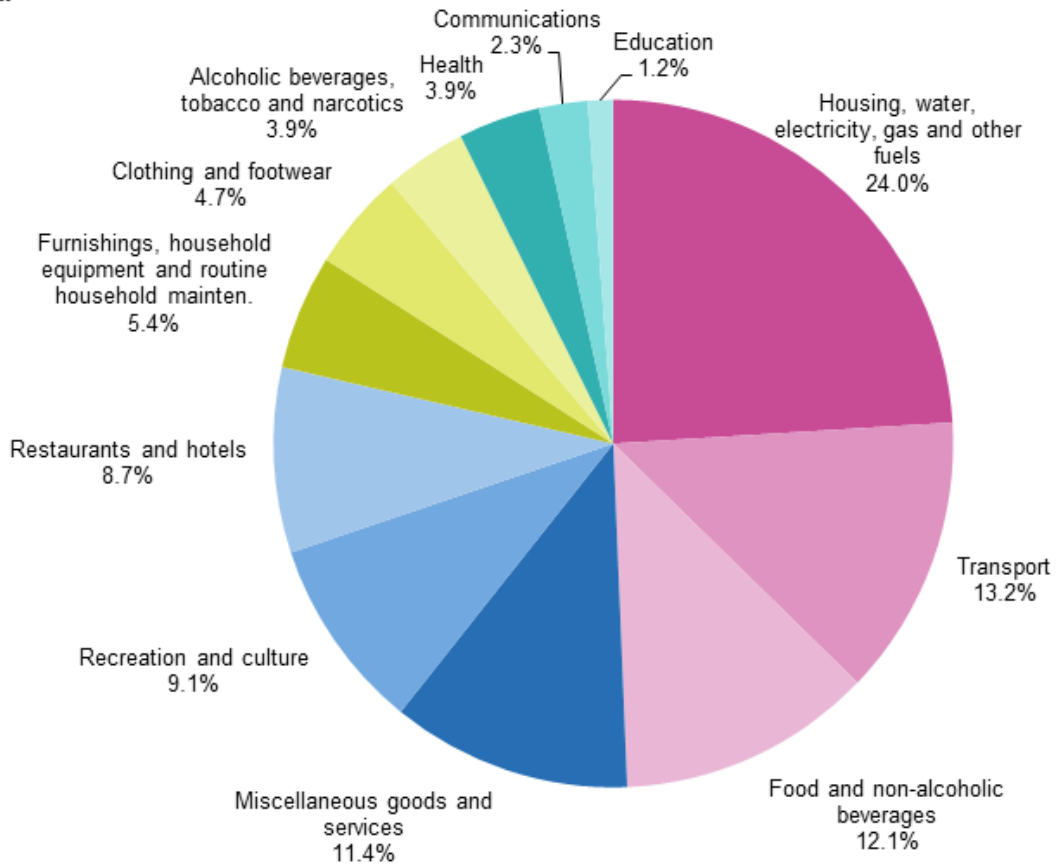
Rohilla also concludes that the listed beneficial areas includes a broad number of benefits among both the customers and the companies. According to the market overview done by Billentis on e-invoicing in January 2019, around 50% of the organisation will be sending over 20% of their invoices as electronic invoices. (Billentis 2019) It is important to point out that these numbers only take into account invoices sent to electronic invoicing systems and that if the market overview would take into account all electronic billing, the percentage would most likely be somewhat higher.

4 Household expenses

Household expenses represent the general living expenses per person in an household. (investopedia,2020) These expenses can be categorized in several different categories, one of them being “Home expenses”. The costs studied in this research paper are Mobile/internet, electricity, water and insurance, which are all expenses in the “home expenses category”.

The recurring expenses that are associated with upkeeping of one's household also consists of many different categories. According to the COICOP, EU 28, approximately a quarter of household expenses in an average EU household in the year 2018, consisted of recurring costs categorized as “Housing, water, electricity, gas and other fuels. (europa.eu,2020)

Household expenditure by consumption purpose - COICOP, EU-28, 2018, share of total



Source: Eurostat (online data code: nama_10_co3_p3)

eurostat 

Figure 3: Visualisation of household expenditure

This quarter of costs added to the 2,3% used for communication indicates that the household costs focused on in this particular study are quite a large part of the monthly household expenses in an EU household.

5 Legislation

An electronic invoice differs from the broader term electric bill. A common mistake made by people in Europe is that any invoice sent and received in a digital format constitutes as an official electronic invoice. (Untapped,2019)

An official electronic invoices has to be created with a correct structure of an official invoice, and has to be transferred from the seller's system to the buyer's system. This means that invoices created and sent in pdf format via email is not an official invoice (Untapped,2019)

During the last decade, several changes in legislation has been done in order to speed up the digitization in e-invoicing and overall decrease in use of traditional physical invoicing.

The Directive on electronic invoicing in public procurement was voted for in the European Parliament in 2014.

"The Directive calls for the definition of a common European standard on e-invoicing at a semantic level, and additional standardization deliverables which will enhance interoperability at the syntax level." (European commission, 2019)

This directive on electronic invoicing is voted through so that public authorities engaging in public procurement within the EU should comply with this new European standard set in order to ensure that e-invoices of companies in the EU are timely and automatic. This will make it easier for companies to manage their business within any EU country (European commission, 2019)

As the european commission for standardization elaborates, from the 17th of april 2019, is a big day from the digitalization perspective. From now on, European public administrations has to be able to process e-invoices in a harmonized way. (CEN,2020)

5.1.1 Prior results and findings

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The environmental benefits from the business point of view are many. According to the research done by the federation of Finnish financial services, the most important ones are the fact that implementing electronic invoicing saves time, which reduces overall emissions and also improves overall productivity.

5.1.2 Gaps in previous research and literature

As a part of this research, a thorough search of prior research and literature is done. As stated earlier, the lack of previous research within this specific area is broad. These gaps in research are identified as a part of the literature review.

- The rate of digitalisation of invoicing in Finland, within household costs.
- Digitalisation efforts within companies providing services in household costs.

6 Method

This chapter describes the background setting and methodology used in this research.

By concentrating the gathering of information on these fields and by gathering data from both businesses and consumers a wide set of data is collected, which can be analysed in order to find key factors that influences consumer behaviour on the matter of choosing electric or digital formats in invoicing.

A qualitative approach, consisting of three different phases are conducted.

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- Survey 2.0
- Interviews.

In the book on Qualitative Research: An Introduction to Methods and Designs, written by Stephen D. Lapan, Marylynn T. Quartaroli and Frances J. Riemer, this research method is explained as a method that places emphasis on the study of the phenomena from the perspective of the insiders. (Stephen 2010)

Phenomenological inquiry, or qualitative research, uses a naturalistic approach that seeks to understand phenomena in context-specific settings. (Hoepfl, 1997)

As Hoepf says it, the qualitative research approach seeks to understand the phenomena in this context-specific setting, the focal points of this research are not something that can easily be gathered in numbers, instead it is required to observe, describe and interpret. The research used consists mostly of words and not that many numbers, which is how Creswell explains the difference between qualitative and quantitative research methods. (Creswell, 2014)

A Qualitative approach is chosen due to the fact that by conducting an exploratory information gathering process, it is most likely to find the key behavioral elements needed in order to speed up the implementation process of digital alternatives among invoicing in the field of household costs in Finland.

Gathering information via surveys and interviews are done because of it being a suitable process for this specific research. By conducting surveys, information about the situation of the consumer is gathered, we are able to analyse and search for key-factors among consumers, due to the high amount of participants needed it is not a possibility to conduct personalized interviews with consumers.

To get the best possible understanding and exploratory look on the situation within the companies representing the field under research, interviews are conducted with representatives of each field. The data and information from the interviews are analysed by interpreting and manual analysis of transcripts of the conducted interviews.

6.1.1 The initial survey

The initial survey is done to a sample set of 10 participants, this initial survey serves as an indicator on how the survey should be conducted among larger sets of participants. The data gathered from the initial survey is analysed and helps set the format of the more broad survey, which is called Survey 2.0

This initial survey is a form of convenience sampling and shall not be evaluated as an official source of data for this research, the initial survey functions more as an evaluation of the situation, which helps to produce the best possible survey 2.0

6.1.2 Survey 2.0

Survey 2.0 is conducted on a sample set of a minimum of 100 participants. The main goal of Survey 2.0 is to gather data on the situation among consumers in Finland,

specifically regarding household costs and what factors that might be influencing the choice to use electronic invoicing or traditional invoicing.

6.1.3 Interviews

After conducting both the initial survey and survey 2.0, this research gathers data by doing interviews with representatives of the fields researched. In order to gain as unbiased information as possible, we ensure the participants their anonymity. The purpose of these interviews is to gather information on behavioral patterns within the organisation concerning digitalisation specifically within the field of invoicing.

7 Study results and analysis

7.1.1 First data collection

The purpose of this initial collection of data was to get an initial understanding of the situation. This initial data collection provides information and understanding on how to conduct a larger data collection both among clients and providers.

The 10 people chosen in this initial survey, represent an age span of 18-59, multiple different educations, economical class. The sample of people chosen are chosen to represent as wide of an sample as possible.

- How old are you?
- What is your level of education?
- How would you describe your economical status?
- Do you use e-invoicing? (YES/NO)
- If you use e-invoicing, explain shortly why?
- If presented with the choice of e-invoice, do you choose this? (YES/NO)
- Do you use traditional paper invoicing? (YES/NO)
- If you use traditional invoicing, explain shortly why?
- Are you currently receiving traditional invoices for re-occurring costs such as electricity, water, phone or internet? (YES/NO)
- If you are using traditional billing in cases where you now that it would be possible to pay via e-invoicing, explain shortly why?
- Do you use services where it is a must to pay using physical bills, if so, which

7.1.1.1 Analysis of collected data

Name	Age	Education	Economical class
Person 1	59	Master of science	Higher middle class
Person 2	24	Bachelor of science	Lower middle class
Person 3	26	Vocational	Middle class
Person 4	18	Student	Unknown
Person 5	42	None	Higher middle class
Person 6	50	Doctor of philosophy	Higher middle class
Person 7	32	Vocational	Lower middle class
Person 8	26	Master of science	Lower class
Person 9	28	Vocational	Middle class
Person 10	22	Vocational	Higher middle class

Table 1: Convenience sampling

As we see in the figure above, we have managed to get quite a wide set of people, representing a wide range of demographics. This is of great importance as this might give indicators on how demographic status might affect the use of e-invoicing.

Among the ten attendees, 100% of them answered that they use e-invoicing. And also 100% of the attendees answered that they also use traditional invoicing. This indicates that the use of e-invoicing is widely in use, but that is in no way used to a maximum extent. This survey has a low sample size and can not be seen as a justified study but it functions as a base for survey 2.0

When asked why the attendees use e-invoicing, the consensus of the group seems to be that it is quite convenient. In addition to this clear consensus, attendees re-

presenting no specific demographic sample, also communicates that it is really easy when it works.

The attendees were also asked if they chose e-invoicing, if they were presented with that option. Here the consensus from the earlier questions are gone. If we look to the answers for question number eight, on why the attendees would use traditional invoicing, a pattern is starting to evolve among the answers among the participants of the survey. In the cases where traditional invoices are used, the option of e-invoicing is not clearly presented and therefore the user tends to choose the traditional way of invoicing.

7.1.1.2 Conclusions from initial data collection

The research shows quite clearly that demographic is not affecting the choice of e-invoicing or traditional invoicing. The data shows us that in the cases where the attendees use physical bills, the most common reason is in fact that it is not clearly presented how one will do to get it fixed right away. This leads to the customer thinking that him or her will change to e-invoicing in a later stage which then in retrospect does not happen.

The conclusion of this initial survey is that contracts made with recurring costs for living such as internet, mobile, electricity and insurances, should all follow a structure that guides the user to start using e-invoicing right away. This means that when the contract is made, the user should have to complete the e-invoicing format before the contract is made.

The data collected from the survey also indicates that simply choosing the e-invoicing option when setting up the contract, does most often mean that the client does not actually fulfill it later. This leads us to the conclusion that the client should be guided towards actually taking the e-invoicing in use in the stage of accepting the contract.

7.1.2 Datacollection 2.0

Our initial survey indicates towards two clear key factors on why e-invoicing is being discarded.

- Lack of guidance
- Lack of information

In order to get a more comprehensive look from the consumer point of view a broader survey is conducted. The second survey done is based on the information gathered from the initial survey.

7.2 Analysis of survey 2.0

As survey 1.0 already indicated, a lack of guidance and information seems to be the two main factors when analysing the behavioural patterns of clients and whether they are using e-invoices or not.

Survey 2.0 was conducted as a more broadened version of Survey 1.0, questions were expanded and more clarified and the survey was completed by 109 anonymous users. The participants to this anonymous survey were gathered via links on personal social media accounts. The survey itself was conducted using an online service by google called google forms.

Among the 109 participants a total of 102 participants were regarded as legitimate entries. Seven participants was deemed irrelevant due to given age and some open answers which were given in an unserious tone.

The initial survey indicated that age and socioeconomic status is a key factor, something that is also clearly shown in survey 2.0.

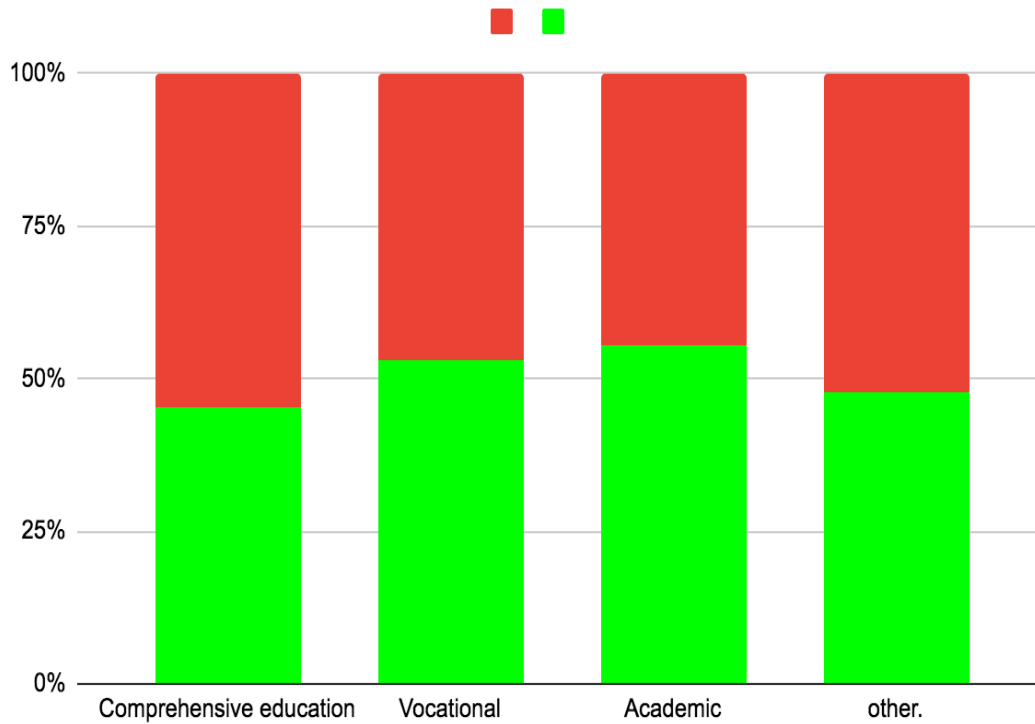


Figure 4: Visualisation of education level and choice of invoicing

The socioeconomic status and the use of e-invoices does not seem to be dependent of each other in such a way that it can be seen as a key factor. The age of the participants seems to be quite a clear factor as might be suspected. The lower ratio of e-invoice use among higher ages stands quite obvious as the overall use of digital services is lower among senior citizens.

Participants of this survey also filled in their level of income, the data does not indicate this being a key factor to whether the participants are using e-invoices or not.

Percentage that uses digital invoices for household costs.

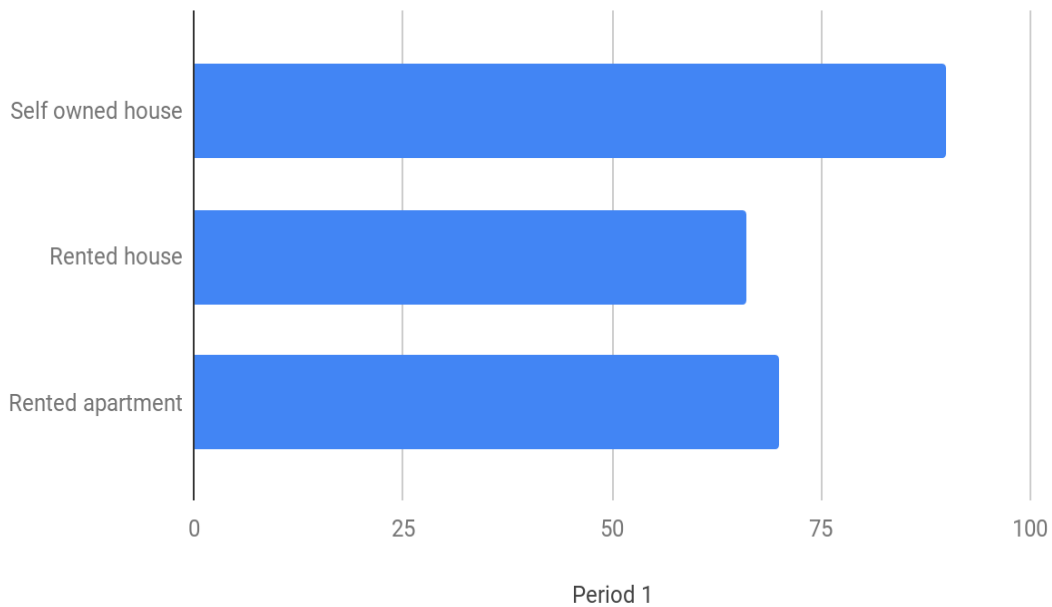


Figure 5: Visualisation of housing situation and invoicing choices.

When analysing the data from Datacollection 2.0 it is quite clear that the highest frequency of e-invoice users are among the participants who stated that they are currently living in a self-owned house. Among the 102 legitimate entries 90% of participant living in a self owned house stated that they also use digital invoices. The participants who stated living in a rented apartment or rented house represent a lower percentage, with 78% of participants living in a rented house stating that they use digital invoicing within household costs. Among participants who stated living in an rented apartment at the time of participating in the survey, 72% stated that they are currently paying for some of their household costs with digital invoices.

Payment situation in household costs.

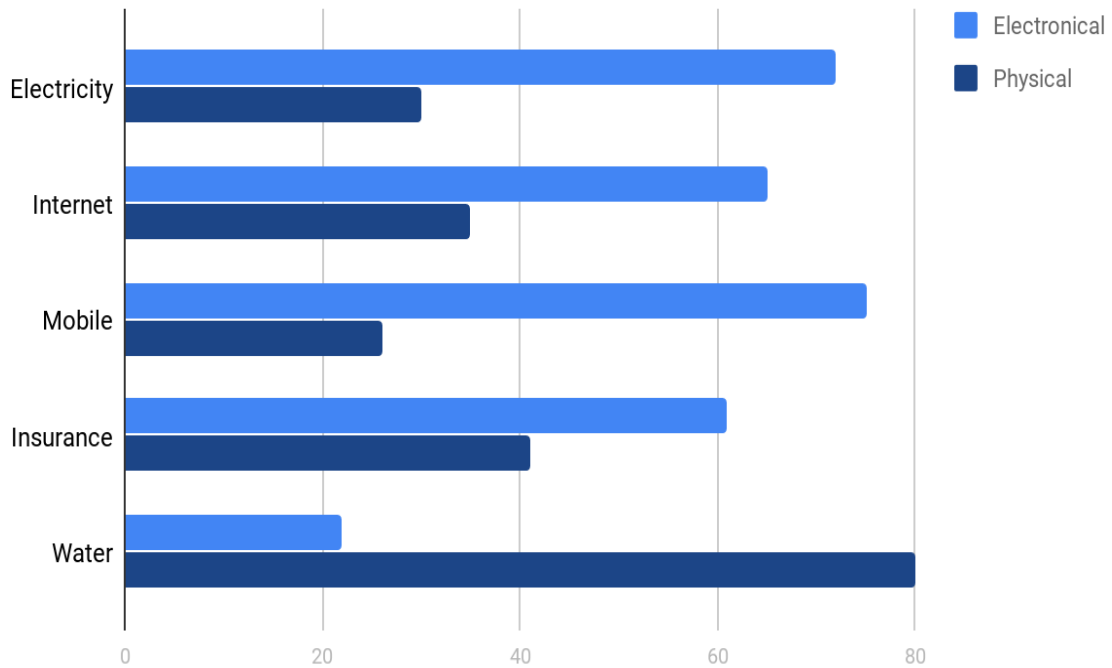


Figure 6: visualisation of payment situation in household costs

In the graphic above, the use of e-invoicing among the different fields analysed is visualised. As can be seen in the visualised data, it is quite clear that the costs for water are significantly different from the other fields, here the vast majority pays their invoices using physical traditional bills.

The field of insurance also indicates that a large amount of users still choose to use physical invoices, among our participants 61 of the 102 valid entries stated paying their insurance costs via an electronic alternative, with the rest of 41 participants stating that they pay their insurance using a traditional physical choice.

Electricity also seems to be a bill that is popular to pay with using the traditional physical invoices.

Mobile and internet and electricity seems to be the three fields where the participants mostly pay using electronic alternatives. With the mobile branch being the

one with the largest percentage of participants stating that they pay using electronic invoicing alternatives.

7.2.1 Conclusions from survey 2.0

The purpose of this survey was to collect data on key factors that determine whether a person chooses to use a digital format or a physical format on their invoices. The following key factors were found.

- AGE.
- FIELD OF INVOICE.
- HOUSING SITUATION.

Age

The use of digital alternatives in invoicing among elderly people is lower than with younger people. This is something that is quite logical as the use of digital services overall is lower among senior citizens. Regardless of this, it is likely that more of the higher age spans would be likelier to use e-invoices with better guidance.

Field of invoice

As seen in the results, there are quite a clear difference between the fields of water, electricity, internet and insurances. In some fields the use of e-invoices are significantly lower.

Housing situation

The answers among participants of survey 2.0 show clearly that the housing situation is a key factor in whether the participant chooses to use e-invoices or traditional invoices. Participants who state that they are currently living in a house which own, are more likely to also be paying their bills using e-invoices

7.3 Interviews

This study focuses on finding the key factors on why people chooses to use digital invoices or traditional print-out invoices. As a part of the research methodology, interviews with representatives from each field are done. Semi-structured interviews were used in this qualitative study. meaning that there was a guide with certain topics and themes to be followed. According to DiCicco-Bloom & Crabtree (2006) the key features of semi-structured interviews are that they are scheduled in advance at a designated time which is set outside of everyday events. In addition to this, DiCicco-Bloom and Crabtree states that semi-structured interviews are generally organised around a set of predetermined open-ended questions. In this study, our predetermined open-ended questions are formed with the main research objectives in mind and with the gained data both from survey 1.0 and survey 2.0.

Predetermined questions.

Do you have guidance/guidelines on how to increase the chance of people choosing e-invoices?

What changes do you think could be done in order to speed up the adaptation of e-invoicing?

What are the main issues with e-invoicing in your company/field?

The chosen interviewees were targeted due to their positions in their fields. All targeted participants are contacted in via email and phone in order to schedule an interview. The chosen interviewees are all promised total anonymity as the discussion and topic might also lead the interviewees to speak about matters that do not follow their employers strategic branding and overall communication strategy.

As DiCicco-bloom and Crabtree explains, it is important that the time schedule of the interviews are set in advance. A schedule of max 45 minutes is set for each interview and the number of interviews are four. As the study focuses on four different fields, we have targeted people from each field.

- Mobile/internet
- Insurance
- Water
- Electricity

7.3.1 Interview participants

The participants chosen for these interviews are all representatives of companies in the fields of study. Participants are to stay anonymous and represent a position of middle management in customer service, which gives them a broad perspective on behavioural patterns of their clients. Each participant chosen works in one of the fields of study. All names of participants and companies are altered in order to protect the anonymity of the participants. By ensuring anonymity, it is easier to find participants for these interviews.

Name	Field	Position	Experience of field.
Amelia	Water	Customer service	ca. 14 years.
Jonathan	Insurance	Head of sales	ca. 25 years.
Ralf	Mobile/internet	Sales/management	ca. 6 years.
Mervi	Electricity	Regional manager	ca. 40 years.

Table 2: interviews

Person A

Amelia is 34 years old and currently works in a “Local water company”.

She has over 14 years of experience from this same company.

Here duties varies a lot in this company, but most of her work is in customer service.

Person B

Jonathan is 52 years old and currently works in a “insurance company”.

Jonathan has worked in several different companies during his career, but the field of insurance has stayed the same. His current position is stated as “Head of regional sales”. This position allows him to both work hands on with sales and to manage smaller sales teams.

Person C

Ralf is 31 years old, he works for one of the biggest mobile/internet providers in Finland. His role is middle management and sales. The daily job consists of various sales tasks, such as sales via internet, telemarketing and face to face sales at the physical office. Ralf is a great interviewee because of his great broadness of sales experience.

Person D

Mervi is 62 years old, and has a lifelong career in the household electricity field. Currently she works in regional management for one of the main electricity providers in Finland. During her career she has gained experience from sales and customer service, and she has also worked with strategic and administrative tasks.

7.3.1.1 Companies

The participants that are introduced in the section above, are currently employed by companies that represent the four different fields that this study focuses on. All names of the companies are altered in order to ensure the anonymity of the participants.

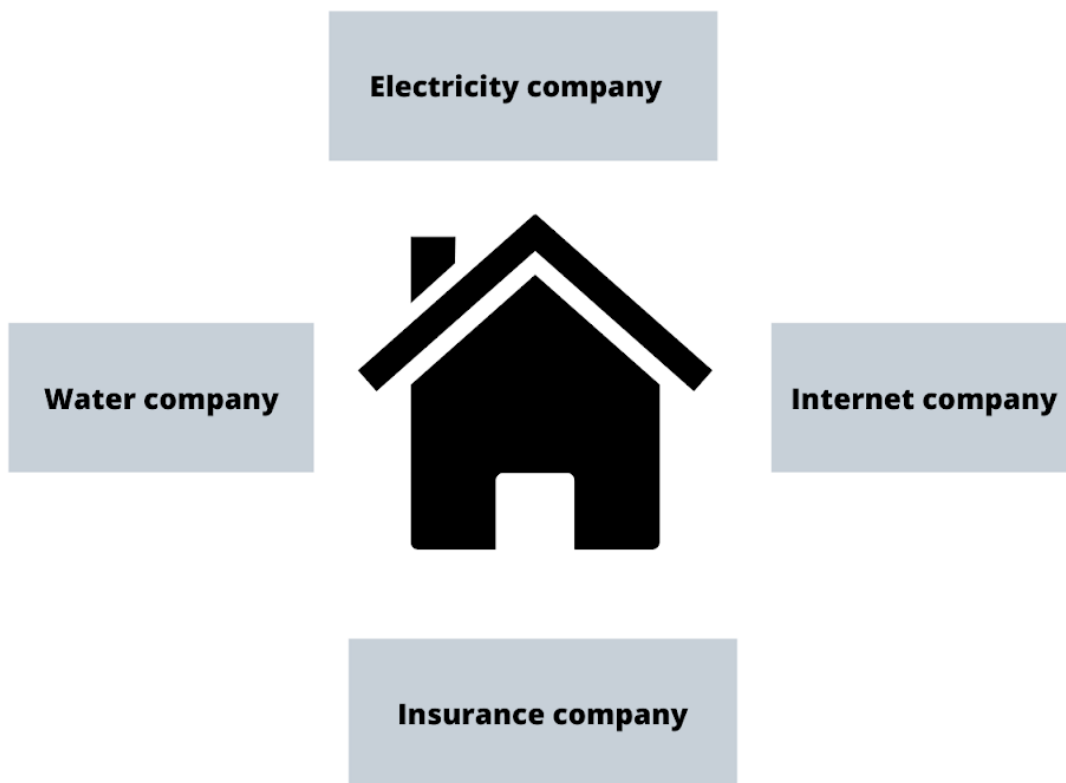


Figure 7: Visualisation of companies interviewed

The interviewees that were part of the interviews represented four different companies within the research fields. The names of the companies are given according to the field that they represent.

Company 1

This company is called “Water company”. Water company has existed as the main provider of water in a smaller municipality in Finland for over 50 years. In this municipality there are no other options than to be a customer of this Water company.

Company 2

This company is called “Electricity company”. It is a company which is a Finnish state-owned company. They offer a wide selection of services in the field of household electricity and is one of the largest in its field in Finland.

Company 3

This company is called “Internet company”. The company provides services in internet and mobile. They are also one of the largest in their field in Finland.

Company 4

The company is referred to as “Insurance company”. Insurance company is one also one of the largest in its field in Finland. The company is domestic with no apparent plans of globalisation at the moment. Insurance company provides services both to businesses and regular consumers.

Company 1	Water company
Company 2	Electricity company
Company 3	Internet company
Company 4	Insurance company

Table 3: fields represented in interviews.

7.3.2 Results of interviews

In this section, extracts from the four interviews are presented followed by summarised presentation of the data gathered by conducting these interviews.

After each summarised interview a set of key factors are identified, these key factors are factors that seem to alter at which rate the clients in that field choose digital invoicing alternatives.

Finally a summary of each company, key points and status according to the data from survey 2.0 are presented and visualised.

7.3.2.1 Interview: Local water company

At the local water company there does not seem to be any set guidelines on how to increase the use of e-invoicing instead of the traditional alternative of receiving

your invoices in a physical format via regular mail. While the interview progresses, it becomes clear that there have been many “Digital-invoicing-friendly” changes done during the last decade at the company that Amelia works at. For example Amelia mentions that when she started at this company, the vast majority of their invoicing was automatically done via traditional mail and that sending invoices via email to certain customers was seen as an exception, during the last decade she has seen many positive changes in digital communication with their clientbase, information letters being sent via email and waterdata being collected digitally are a couple to be mentioned.

According to Amelia who states working in customer service in this mid sized regional water company, there is a total lack of discussion in the company on how to effectively reduce paper invoices among their new and existing customers.

When addressing the issue of improving the rate at which their company is decreasing the amount of physical invoices sent to customers, Amelia mentions the lack of strategic work.

Her opinion is that a concentrated team effort of direct contact with their client base could easily change the numbers. Amelia elaborates and says that many of their clients would probably change to a digital format of invoicing if they contacted their clients directly and gave them information about this alternative.

The main issue with the lack of e-invoicing is in Amelia's opinion part lack of strategic work and lack of resources. The management does not see the benefits of changing a system that works. According to Amelia, this should not even be a big deal, she proposes a simple strategy that consists of always asking each client if they would want to change to receiving their invoices via mail, this should be done when they are already in contact with customer service for other reasons, meaning that it would not require any extra resources of the local water company. The same should also be done when acquiring new clients and being in contact with them

Key points summarised: Water company

AMELIA

High experience level.
Wide perspective on
company affairs.

WATER COMPANY

Very low competition.
Established and
respected company.

KEY POINTS

Very low competition.
Established and
respected company.

DIGITALISATION STATUS IN SPECIFIC FIELD ACCORDING TO DATA FROM SURVEY 2.0

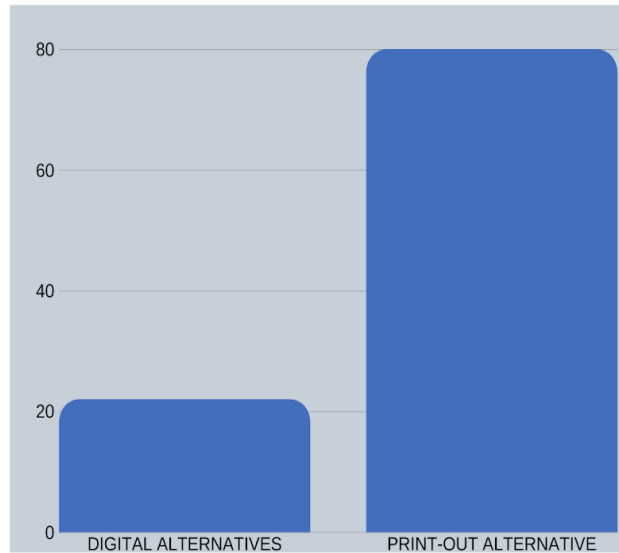


Figure 8: Keypoints of water company summarised

- No clear strategy on digitalisation within invoicing alternatives.
- Lack of guidelines on how to implement changes.
- Lack of resources needed in order to digitalize.

7.3.2.2 Interview: Insurance company

Jonathan has a vast experience in the insurance field, it is clear that he is able to speak about the era of digital services and the evolution of it, from the viewpoint of several different larger companies in the field of insurance in Finland. During the interview it becomes quite evident that there are quite clear digitalisation-strategies being implemented and followed through in the insurance field. One aspect of these strategies is in fact to decrease the amount of physical invoices to their customers.

As Jonathan works as head of regional sales, a part of his job is to see to it that the correct strategies are being implemented as a part of the larger domestic strategic framework.

Currently the amount of insurances bought online are increasing substantially while the number of customers actually buying insurances over the counter at a physical location are decreasing significantly. Nevertheless, the transition to digital alternatives regarding invoicing, is made as easy and comfortable as possible. Being able to provide automatic invoicing through customers online banking system has been one of the most important steps to decrease physical invoicing, according to Jonathan.

When discussing how to speed up the transition to digital invoicing alternatives among customers, Jonathan explains that in his opinion it is being done as fast as possible. In his opinion it can not be done any speedier at the company that he is currently employed by, and he seems to think that this is the case for the entire field. He explains his thoughts by stating that there are currently wide strategic plans on how to get this done, and that the current plans has to be followed through before they can be evaluated.

When asked whether Jonathan thinks that there things that could be done better. He explains that there are always things that could have been done better, but that it is a matter of allocating resources as the company seems most appropriate.

Key Points summarised

- Clear digitalisation strategy and tools on how to implement it exists.
- Large amount of contracts are signed online.
- Plans and endeavours in digitalisation are constantly being evaluated and altered.

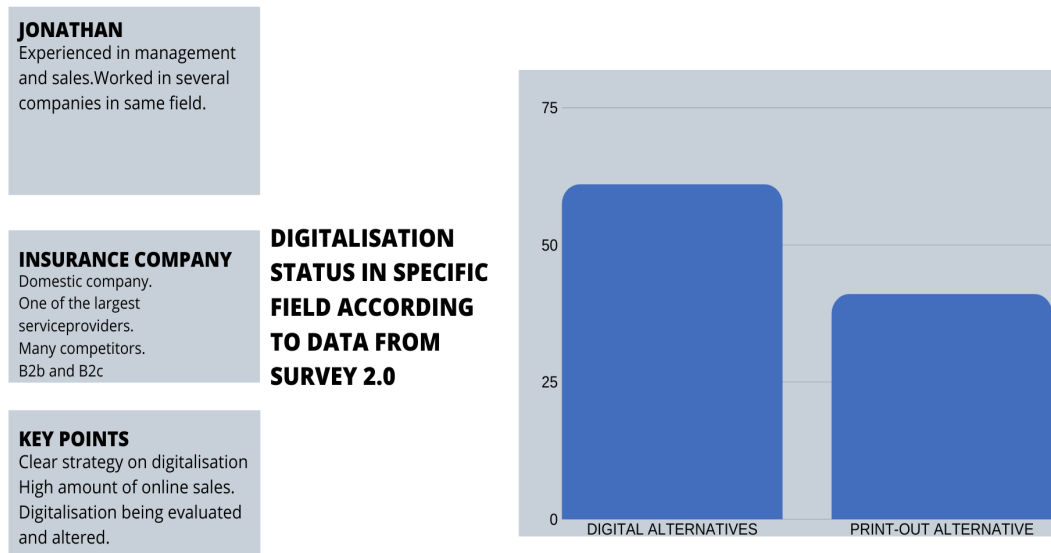


Figure 9: Visualisation of data in insurance company

7.3.2.3 Interview: Ralf at internet company

Ralf starts of the interview by explaining from the beginning that there are guidelines on how to maximize the usage of digital-invoicing alternatives among their existing and new clients. Ralf, who has a good knowledge of sales and has worked in both management of smaller salesteams and in face to face direct sales, is of the opinion that even though these guidelines do exist, they do not actually count that much.

-The actual sale comes first

When speaking from a strict sales point of view, Ralf explains that the actual sales comes first, and that this then often leads to the choice of invoicing alternative to come second, which in all fairness sounds quite logical. The interviewee seems to be a full blooded salesman and expresses quite clearly that for him the actual sale has always come first, as his task is to generate as much new sales as possible.

When getting in to the topic of how to improve the rate at which clients are choosing digital invoicing-alternatives, Ralf elaborates that in his opinion it would be quite simple to change the strategy of the company quite easily. Instead of asking if clients would like to pay using an digital alternative, they should be asking if there is any reason that they would not. The percentage of clients that simply can not use digital invoicing-alternatives is decreasing by the day, and with time, it will become an insignificant percentage, in Ralf's opinion.

In Ralf's opinion there are no other issues then the fact that salespersons and customer service persons at their company does not actively pursue to maximize the number of people that chooses e-invoicing instead of traditional invoicing.

Key points summarised

- Sale is more important than implementation of digital invoicing alternative.
- Digitalisation processes made too complicated.

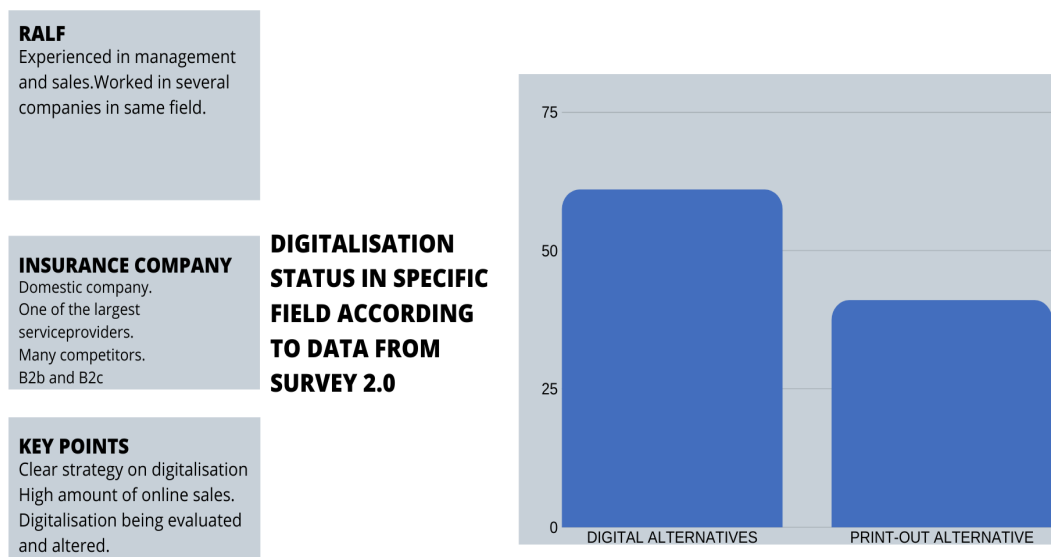


Figure 10: Visualisation of data in insurance company

7.3.2.4 Interview: Mervi at electricity company

In this interview it becomes quite clear from the start that digitalisation is a big part of the active business strategy at the state-owned electricity company that the interviewee works at.

Mervi explains that it is seen as part a cost reduction activity and as a long term climate friendly activity. By reducing the amount of print on paper, they reduce their carbon print, explains Mervi.

As a part of their digitalisation strategies and the activities that make these strategies, are specific guidelines set in order to minimize new clients that use traditional invoicing. In her opinion the majority of new clients receive their first invoices in a printed physical format via traditional mail. After paying their first invoice via their internet banking system, the client is asked electronically if they would like to receive this invoice straight to their online banking system in the future. The majority of clients choose to do so, says Mervi.

Although Mervi does not have any clear data on this, her opinion is that the people that still chooses to receive traditional invoices are elderly people. Another group that Mervi thinks is a little bit “problematic” are business owners, who seems to prefer to receive their invoices in a physical format due to bookkeeping regulations and overall tasks.

On the topic of speeding up the rate at which client chooses to use digital invoices instead of physical, Mervi seems to think that there should be a better way to get new clients to receive the first invoice also. Instead of receiving their first bill in a physical format along with the “physical contracts” and what not, it should be made clearer in the sales situation that the client can opt out of all physical prints if they want to. She suspects that the majority of clients would choose this if the alternative were presented to them in a logical way in the first stage of commitment to a new electricity contract.

As an elaboration of this topic, she explains that the actual sales situation is one of the strategic situations that should be looked more closely at, when making the sale, the salesperson should also have a knowledge of how to steer the new client in the direction of using digital invoicing alternatives from the beginning.

Key points of interview summarised

- Digitalisation is a big part of company strategy.
- Environmental benefits are seen as important in strategy.
- Salespersons lacking in guidance regarding digitalisation.

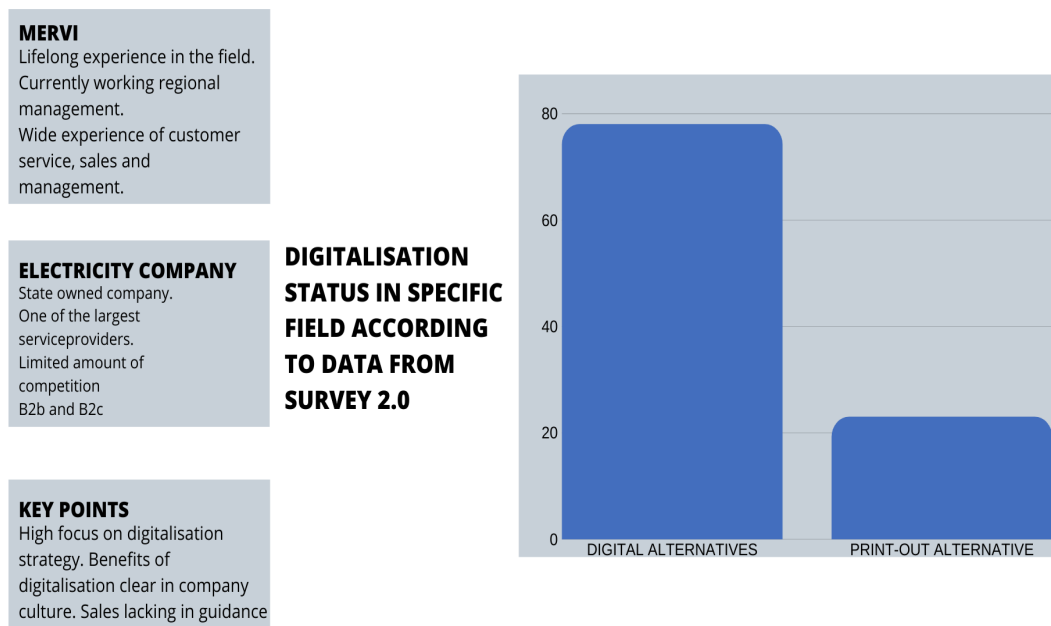


Figure 11: Visualisation of data in electricity company

7.3.2.5 Summary of collected data from the interviews

The interviews were recorded and manually examined. The following words were used the most frequently: Digitalisation, strategy, sales, benefit. The interviews were transcribed manually in order to create a wordcloud that visualises the data

7.3.3 Combined findings of Survey and interviews.

The data from survey 2.0 and the interviews conducted indicates that the following are key factors that mainly alters how the clients in these fields chooses regarding the question of digital invoicing alternatives versus traditional print out alternatives.

Strategy

Companies with clear digitalisation strategies that has identified the implementation of digital invoicing as a clear part of their digitalisation strategy, have a higher rate of clients who chooses digital invoicing alternatives.

Benefits

Companies that focuses on the benefits of overall digitalisation in both their internal company culture and their external company branding seems to have a higher rate of clients that chooses to use digital invoicing.

Sales

The sales situation seems to be crucial in whether the client chooses to use and digital invoicing alternative or not. It seems that there are might be a lack of motivation to follow through on digitalisation guidelines among sales personnel.

Implementation process

The implementation process of digitalisation are thought to be too complicated among personnel leading to the failure of reaching digitalisation goals.

In addition to these four key factors, the data from the surveys among the consumers indicates that age, field of invoice and housing situation are key factors that identifies consumers with a higher rate of digitalisation speed.

8 Discussion

In this chapter the data gathered from both the surveys and the interviews are analysed in order to identify the key factors when trying to reduce the use of print-out invoices regarding household cost in Finland. The discussion section includes a brief repetition of results and estimation of the importance. In addition to this the results are reflected upon in order to summarise the research into recommendations on how to increase the use of digital invoices in the field household costs in Finland.

8.1 Summarised results

This research has consisted of two surveys and four interviews. Both the interviews and surveys were executed in order to receive data from customers within the researched fields of water, electricity, internet/mobile and insurance.

8.1.1 Summarised survey results

The data from the surveys conducted shows clearly that the cost of water is the category of household costs were most of the clients uses traditional print-out alternatives.

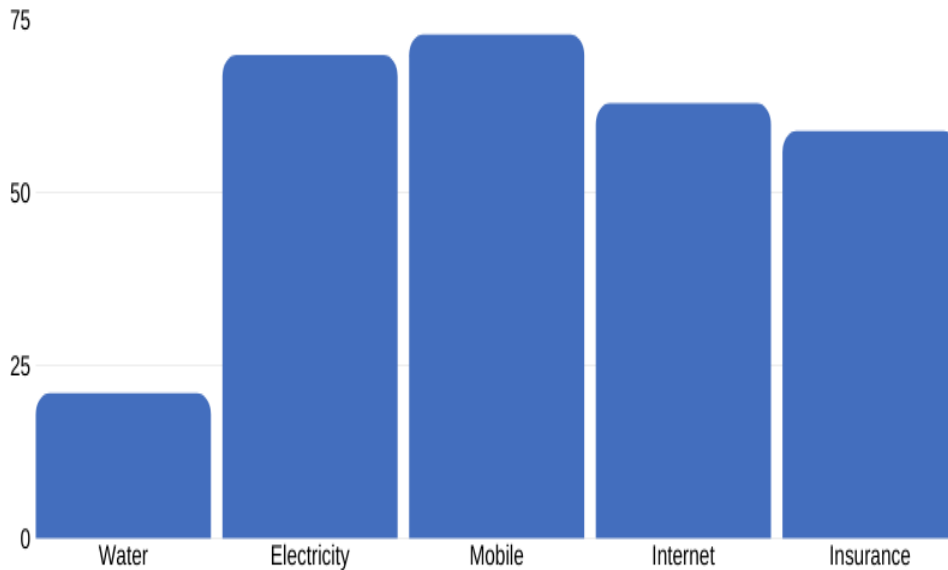


Figure 12: Visualisation of user behaviour in each field.

In the rest of the categories, the digital alternatives within invoicing are all in majority.

8.1.2 Summarised interview results.

The data extracted from the interviews shows that the following four areas are effecting the rate at which a companys clients chooses digital alternatives or not.

- **Benefits of persuading clients to choose digital invoices being clear within the company.**
- **Salessituation, salespersonel being motivated to follow through on implementation of digitalisation.**
- **Implementation process, overall implementation of digitalisation strategy.**
- **Digital strategy.**

These four areas can all be connected to the broad field of digital strategy within the company. Benefits being clear within the organisation is crucial in order to keep the management of the companies motivated to push through on digitalisation efforts within invoicing. The management of the organisation acknowledging the benefits of digitalisation also makes it easier to keep the salespersonel motivated to follow through on the digitalisation efforts.

8.1.3 Recommendations based on data

The research questions for this research where to identify what is affecting the consumers when choosing the digital invoicing alternatives instead of the traditional print-out alternatives. In addition to identifying these key-factors, the research also concentrates on finding what exact key-factors businesses should focus on to maximize the rate of digitalisation within digital invoicing.

Research question 1.

What are the key-factors affecting consumers when choosing invoicing alternatives?

Research question 2.

Which key factors should businesses in the field of household costs implement in order to maximize the choice of digital alternatives within invoicing?

Based on the data gathered from the surveys, the analysis shows that the housing situation of the customer, age, and field of invoices are keyfactors that affects wether the customer is more likely to use digital alternatives or not. When analysing all the data from the survey combined with the data from the interviews it still becomes quite clear that focus lies on the companies providing the services. There are key-factors from the client perspective but these are difficult to alter or change.

This analysis combined with the key factors from the companies points of views leads to the following recommendations for companies within the household costs.

- **Develop a clear digitalisation strategy which is executed, evaluated and optimized.**
- **Identify and acknowledge the implementation of digital invoicing as an valuable part of the digitalisation strategy.**
- **Identify and acknowledge the benefits of clients choosing digital invoicing alternatives.**
- **Motivate salespersonel to follow through on digitalisation strategy.**

By implementing and working on these recommendations the rate at which digital invoicing among the customers is chosen, should increase.

9 Conclusions

The overall era of digitalisation is a huge part of not only companies but also society as a whole in today's world. The benefits of digitalisation within organisations are many and known by both the organisations providing and by civilians using services.

By conducting a survey among 100 people in Finland this research was able to show that the behavioural aspects among the clients are not of big importance. Aspects such as age of client, or household situation might indicate different rates in digitalisation speed but still the main influence seems to lie within the organisations that are providing these services.

As a part of this research, extensive interviews with people representing different job titles within different organisations were conducted. Digitalisation, with the main focus on digitalisation within invoicing was discussed. Through these interviews it became quite clear that there are clear factors that are affecting the rate at which people in Finland adapt to digital invoicing alternatives. These clear factors and areas of importance are to be worked more closely in order to optimise the rate of digitalisation of invoicing among clients.

While this study was able to identify many areas of importance, it is also important to remember that these areas of importance could in many cases already be identified within the organisations, but for internal reasons it might be aligned with the organisations overall strategy not to optimise their digitalisation adaptation speed. This might sound unlikely, but the case could be that many companies are also identifying negative outcomes of rushing the speed at which their company moves towards zero print-out alternatives.

The field of digitalisation and more specifically the adaptation rate regarding digital invoicing alternatives is a wide and interesting topic which could and should be used as a topic and base for many more future research works.

The practical contribution of this specific research is to give an understanding on what companies within recurring household costs should focus on in order to speed up the rate of digitalisation within invoicing. In addition to this, this research also gives an scientific contribution by adding to the research conducted within this specific area of digitalisation. This research contributes to the current understanding of how digitalisation could be improved and sped up by conducting different organisational changes within companies. The analysis of the data gathered in this study added to existing research by identifying a set of key areas to focus on regarding the digitalisation of invoicing within recurring household cost in Finland.

9.1.1.1 Recommendations to researchers

This research functions as a good basis for an indication on how businesses should work in order to increase the rate at which their clients chooses digital alternatives regarding recurring invoicing.

This research could be expanded into a more broadened analysis with a larger survey to show in more detail what the attributes of the normal digital choosing client is. In addition to this, more in depth interviews would give an even better understanding of the situation that companies are facing. The information gathered in this research shows that there is much to be done in order to optimise the rate at which clients within household cost, chooses digital invoicing.

In addition to the sections of research that has been conducted in this research, it would be of interest to also research in more depth the internal behavioural patterns of organisations. For example, it would be interesting to get more information on the actual weight that companies put on digitalisation as long as they are not obliged by legislation.

9.1.1.2 Limitations and evaluation of Research

The qualitative data collection done in this research is limited as both surveys and interviews are done in a limited number. By expanding the number of participants in the surveys and increasing the amount of interviews conducted the research would be less limited.

This study focuses on clients within the recurring costs of household costs in Finland. No other area has been researched eventhough all areas where digital invoices are an alternative are important.

The companies chosen for the interviews were chosen as convience sampling, meaning that some of the people had been in contact with the conductor of the research before, this method of convience sampling is vulnerable as the participants might be effected by their relation to the person conducting the research somehow.

The set of people participating in the survey were found via socialmedia and might therefore also be seen as a set sample that might be effected by how they where approached about entering the survey.

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Appendices

Appendix 1. Survey 2.0

1. How old are you?
2. What is your level of education?
 - a. Comprehensive education
 - b. Vocational
 - c. Academic
 - d. Other, what?
3. What is your net level of income?
 - a. 0-1000€
 - b. 1000-2000€
 - c. 2000-3000€
 - d. 3000-4000€
 - e. Other.
4. What is your current housing situation?
 - a. Rental house
 - b. Rental apartment
 - c. Owned house
 - d. Owned apartment
 - e. Other, what?
5. Do you use digital invoices?
 - a. Yes
 - b. No

6. Which of the alternatives are you currently paying for and in what format you receiving your invoice?
 - a. Electricity
 - i. Electronic
 - ii. Physical
 - b. Internet service
 - i. Electronic
 - ii. Physical
 - c. Mobile service
 - i. Electronic
 - ii. Physical
 - d. Insurances
 - i. Electronic
 - ii. Physical
 - e. Water
 - i. Electronic
 - ii. Physical
7. If you use digital-invoicing, explain shortly why?
8. If presented with the choice of e-invoice, do you choose this?
 - a. Yes
 - b. No
9. Do you use traditional paper invoicing?
 - a. Yes
 - b. No
 - c.
10. If you use traditional invoicing, explain shortly why?

11. Are you currently receiving traditional invoices for recurring costs such as electricity, water, phone or internet?

- a. Yes
- b. No

12. If you are using traditional billing in cases where you know that it would be possible to pay via e-invoicing, explain shortly why?

13. Do you use services where it is a must to pay using physical bills, if so, which?