Linnæus University
Sweden

Degree Project

A Qualitative Study of Users' Perception and Usability of Digital Mailbox.

Author: Shakirat Omotayo Akande

Supervisor:

Examiner: Päivi Jokela

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Department of Informatics

Linnæus University
Sweden

Abstract

The rapid growth of digital technologies has transformed various aspects of modern life, including communication and information management. Digital transformation of mail systems has significantly influenced how individuals manage their correspondence. Traditional mail systems have gradually given way to digital alternatives, offering increased usability, efficiency and convenience. Among these digital innovations is the Kivra digital mailbox in Sweden, that provides users with a platform to receive and manage their mails, appointments as well as get receipts electronically.

While the digital mailbox has been in existence for some time, previous research has established that perceived ease of use is an important factor influencing user acceptance and usage behavior of information technologies. However, very little research has been conducted to understand how that perception forms and changes over time especially with transformational technology like digital mailboxes. This study addresses this gap by exploring how users perceive the use of Kivra digital mailbox through the lens of Unified Theory of Acceptance and Use of Technology 2 (UTAUT2). The research questions guiding this study are *"How do users perceive the use of digital mailbox system?" and "What factors influence users' satisfaction and challenges when interacting with digital mailbox system?"*

A qualitative research method was employed, using semi-structured interviews with eight Kivra users residing in Sweden. The data were analyzed thematically, leading to five key themes: Convenience & Organization, Usability & Effectiveness, Privacy & Security, Environmental Impact and Recommendation.

The findings indicate that users perceive Kivra as convenient, effective, and environmentally beneficial. Participants highlighted its speed, ease of use, secure access via BankID, and minimal technical demands. The platform was found to integrate smoothly into daily routines. However, some users reported occasional issues with BankID authentication and internet connectivity. Despite these challenges, Kivra's timely notifications, intuitive interface, and overall utility were consistently appreciated.

Keywords:

Digital transformation, digital platform, digital mailbox, Kivra, qualitative research, semi-structured interviews, UTAUT2, thematic analysis.

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Abbreviation

UTAUT: Unified Theory of Acceptance and Use of Technology

UTAUT2: Unified Theory of Acceptance and Use of Technology 2

BankID: Bank Identification

SCB: Statistiska Centralbyrån

1. Introduction

This chapter presents the background of the study, identifies the knowledge gaps, research objectives, scope and limitation, and the structure of the report.

1.1 Background

The world is rapidly changing with the rate at which technology is advancing, this advancement has now created new and different market forces, it is therefore important for organizations to move with the technological advancement instead of settling for the basic, there is a lot of innovation that must be put to good and productive use (Lee & Trimi, 2018).
While traditional postal services have long been the norm, digitalization has introduced the concept of the "digital mailbox", enabling individuals to access mail through mobile applications or web platforms. Dimcheva (2016) indicated that the electronic substitution of traditional postal services accelerates as both consumers and businesses adopt electronic processes across multiple domains, it is more convenient, fast service, and lower costs which attract consumers.
Additionally, according to Aslanov & Mirzagayeva (2022), digitalization or digital transformation, is a global process integrating digital technologies across all areas of life. As society advances towards a digital future, the benefits are evident: new business models etc. alongside gradual shifts in lifestyles, values and worldviews. With the advancement of the digital age, postal services are also going digital and more advanced to improve the quality of people's life, which is with the digital mailbox system. A lot of people are looking out for faster, reliable, demand and verification-aware solutions for mail (Alam et al., 2022). The transition from the pre-digital age, sometimes back, to a new digital reality age has made it an interesting ground for scholars to study a landscape that is moving before our eyes (Lane & Levy, 2019).

Blagojević et al. (2022) stated that the digital mailbox services are simple secure delivery channels whereby consumers can manage, view as well as organize their digital post communications from several providers in a single location, through a single login, consumers can securely manage these services and other business relationships, such as uploading and storing documents, paying bills, hospital appointments, etc. In addition, Corredera & Leta (2019) also defined digital mailbox services as services that deliver mail to their end users (individuals, businesses, or governments) through digital channels. The main digital service delivery channel is the internet, and other telecommunications channels are also considered in this act.

However, despite the widespread adoption of the digital mailboxes, as Dimcheva (2016) mentioned that the shift from traditional postal services to digital alternatives is speeding up based on the adoption rate. The government services are usually the first to implement this digital communication system as frequent information are received by citizens from the government agencies. Previous research studies like; Carter & Belanger (2005) researched on the digital communication system from government utilization, while other studies examined the adoption, acceptance and utilization of digital technologies. Krøtel (2021) studied Danish citizens' perception of information received from government through the digital mail system. The study investigation suggest that the form of communication used (digital mail system) does not affect the citizens' perception of trust and satisfaction on the information they receive. While trust, satisfaction, perceived importance did not significantly increase, they remained consistently high, this suggests that digitization of governmental communication despite offering substantial internal advantages such as cost savings and increased administrative efficiency can be implemented without adversely affecting citizens' perceptions. Gharaibeh et al. (2018) study on adoption of mobile technology found that mass media, trust, effort expectancy, performance expectancy, social influence and facilitating conditions influence the adoption of mobile banking digital technology positively.

A significant gap exists in understanding how users perceive the use of these platforms. Therefore, exploring the perceptions of users of this digital technology is important to understand its usability and efficacy in this context. This research intends to examine and focus on exploring how users perceive the use of the digital mailbox system in Sweden. The digital mailbox is one example of digital transformation technology, however in Sweden, millions of people are using this digital mailbox system (SCB 2022).

1.2 Topic Justification

According to Dimcheva (2016) the transition from traditional postal services to electronic alternatives is growing as the adoption rate is increasing. Society increasingly transitions to digital platforms for various tasks. There is a need to understand how users perceive the use of digital mailboxes as digital transformation of postal service has experienced substantial growth and continues to expand. Alam et al. (2022) highlighted that the postal services are shifting to digital formats to enhance the quality of life, with individuals seeking faster and more reliable secure communication solutions.

Carter & Belanger (2005) conducted a study on the utilization of electronic government, which tends to benefit both citizens and government. The study found that compatibility, trustworthiness and perceived ease of use are crucial for citizens' willingness to adopt the e-government services. Previous research like Gharaibeh et al. (2020) has established that perceived ease of use is an important factor influencing user acceptance and usage behavior of information technologies.

However, very little research has been conducted to understand how that perception forms and changes over time especially with transformational technology like digital mailboxes. While existing research studies has also focused on adoption, acceptance, utilization of digital technologies, as Ratchfors (2019) also mentioned that these digital technologies/innovations now integrate smoothly, providing consumers with a seamless digital experience in their daily lives.

It is crucial to examine how users perceive the use of digital technologies, this will provide insights into the usability as well as effectiveness, hence my investigation of how users perceive the use of one of the digital technologies which is the digital mailbox in Sweden. The study can provide valuable insights for both researchers and practitioners in the field of information systems, informatics and information management. This research topic is justified by its growing importance in modern digital communication and document management systems.

1.3 Purpose Statement and Research Question

Due to agitation for a paperless environment to promote sustainability, the need to offer users platforms to receive, manage, and interact with digital mails from various senders is vital. The digital mailbox system in Sweden is open and well-known by its citizens and is being used by both private and public institutions. However, despite the widespread adoption, Dimcheva (2016) mentioned that the shift from traditional postal services to electronic alternatives is speeding up based on the adoption rate. Previous research studies examined the adoption, utilization and acceptance of digital technologies (Falch & Henten, 2018; Carter & Belanger, 2005). There exists a notable gap in understanding how users perceive the use of these platforms, which is essential for optimizing its usability and effectiveness. This study will be focusing on one of the digital mailbox platforms that is in use here in Sweden, the aim of the study is to explore this gap delving into various aspects of users' interactions with the digital mailbox system, provide insights into the effectiveness of digital mailbox solutions in facilitating communication between individuals and organizations, and also shed light on the drawback users might face in using this technology. Sweden's population is about 10.6 million inhabitants, and about 6.3 million are connected to digital mailboxes. (SCB 2024, Kivra 2024).

This study intends to provide a comprehensive understanding of the strengths and weaknesses of digital mailbox from users' perception and usability through a qualitative study; the findings of this research will not only contribute to academic knowledge in the field of information systems and informatics but also offer a practical implication for optimizing the design and functionality of digital mailbox to better meet users' needs and expectations. The way in which users perceive a system is likely to influence (and maybe determine) the extent to which they accept and use it. Users can be persuaded to use a system with the notion that it is easy to use and highly flexible, whether this aligns with reality is somewhat irrelevant if the user decides to use the system and does so efficiently. It is however significant to understand how user perceptions are formed and how they influence user behavior. Although it is new and I would like to reiterate that not all countries have this system in place right now, hence focus of the research study is Sweden due to the relevance of digitalization in the country, this research will give more insight and an eye-opener in understanding whether users find the digital mailbox intuitive and efficient compared to traditional mail system.

Here is the research question that will be explored to achieve the aim and objective of this study:

- *How do users perceive the use of digital mailbox system?*
- *What factors influence users' satisfaction and challenges when interacting with digital mailbox system?*

1.4 Scope and Limitations

This thesis will explore how users perceive the use of digital mailbox in Sweden; the attention of this research work will focus on people using a digital mailbox application called Kivra. The scope of this study is limited by geographical coverage using Sweden as area of concentration. Total of Eight (8) participants (5 male and 3 female) from the population of those using the digital mailbox app in Sweden are selected for the interviews. Another limitation is language barrier as the interviews will only be done in English Language. Finally, only the Kivra application will be explored for the purpose of this study and not all other types of digital mailboxes available today.

1.5 Thesis Organization

The rest of the study consists of six chapters as follows:

Chapter 2 – Literature Review
This chapter begins with a description of the search strategy used in the study, literature review that this research is based on. Digital Transformation, Digital Platform, Digital Mailbox in Sweden.

Chapter 3 – Theoretical Framework
The theoretical framework that will be used in this research was discussed.

Chapter 4 – Methodology
This chapter describes the research methodology used to conduct the study. The author explains the research approach, selection of participants, data collection process, and method of data analysis, then concludes with the validity, reliability and ethical consideration put in place while carrying out the study.

Chapter 5 – Empirical Findings
In this chapter, the author thoroughly describes the empirical findings after analyzing the data collected.

Chapter 6 – Discussion
This chapter discusses the outcome of the qualitative study based on the research question. The author also answers the research question in this chapter.

Chapter 7 – Conclusion
The author concludes the research study. The author rounds up this chapter with suggestions for future research work.

2. Review of the Literature

This chapter presents a review of past related research works within digital technology, digital transformation in areas such as postal service, government to mention a few.

2.1 Search and Selection Procedure

Cronin et al. (2008) stated that when conducting a literature review search, using keywords is important because it helps to simplify the search process and the path to finding relevant research. A literature search in this study was done using keyword search, forward search, and backward search. Keywords searches were specific to words or phrases to find relevant literature. In this study, keywords such as “Digital transformation”, “Digitalization”, “Electronic document”, “Digital post”, “Digital mailbox”, “Digital innovation”, “Digital technology”, and “Digital Platform” were used. A backward search is also used by reviewing other research works that were cited, i.e., by looking at the references and citations from other relevant articles. The database used to search for keywords through the Linnaeus University Library website was Scopus, where I got articles from other sources like IEEE Xplore, MIS Quarterly, Information Systems Journal, European Journal of AIS, and Journal of Information Technology. I also used in the keyword search some Boolean operators “AND” and “OR” in the database, and the relevant literature result was narrowed down using the following inclusion and exclusion criteria: First, I looked for literature particularly written in English Language, available in the Full-Text option. The search results were further narrowed down by using relevance, abstract relevance, and scope. Moreover, filters such as “open access only” and sorting by “most cited” were applied. Eventually, a total of 24 articles were selected to be included in the research. Research studies exploring digital transformation in different areas were also looked into and selected. Snyder (2019) highlighted that there are several ways of determining if an article is relevant or not. An example is looking at the methodology and findings, or focusing more on the abstract, and then reviewing the whole text.

2.2 Digital Transformation

Digital transformation’s meaning can be understood by inquiring about the lenses through which the concept is looked at during research. Digital transformation is a process that leverages digital technologies by transforming the organizational process, models, and activities. These three words are often confused; they are digital transformation, digitization, and digitalization. of course, they are similar but are fundamentally different. Digitization is the process of converting information format from analog to digital form. Digitalization is the leveraging of digitization to enhance business processes. Digital transformation is, on the other hand, customer-oriented (Bloomberg, 2018). According to Berman (2012), exploring the lenses of business strategy and innovation, it identified digital transformation as a strategic path to innovation through transformations, alongside opportunities for redefining the value proposition, operations, and business models for companies, as customer networks grow in parallel with their engagement and choice in products increases. While digitization and digital transformation have generally been successful, Gharaibeh et al. (2018) research study found that ease of use, social influence are among the factors influencing the adoption of mobile banking service which is a digital technology. Vial (2019) reviewed 282 works which provides a comprehensive review of the digital transformation concepts and proposes a research agenda to advance the understanding in this area. Various dimensions of digital transformation were explored by Vial, which include the definition, processes, outcomes etc. He underscores the multifaceted nature of digital transformation that comprises technological, organizational, and societal shifts, advocating for a comprehensive approach to studying its ramifications. Vial (2019) further mentioned that at the organizational level, firms find ways to innovate with technologies by devising "strategies that welcome the implications of digital transformation and drive better operational performance".

Digital transformation has paved the way for the discovery of digital platforms, which have been of great impact. Researchers within the information systems field seek to understand the ubiquitous digital platforms in today's industries (Tiwana, 2014; Parker et al., 2016). There are several digital platforms which are as follows: Operating systems platforms like Android and IOS in the mobile telecommunications industry, Payment platforms like Apple Pay and PayPal, etc. in the financial industry/mobile payment application technology, and so on. The way people interact and share experiences has changed now due to social media platforms like Facebook, Instagram, etc. Gharaibeh et al. (2020) stated that with the advancement of technology, mobile applications are becoming increasingly popular among consumers. Mobile applications across several fields like learning, fitness, health, clothing etc. have continued to gain tremendous awareness amongst consumers, which serves the benefit of convenience (ease of use) to consumers. With digital platforms, the circumstances are changing now in the Information system landscape. Digital platforms tend to facilitate online communities of consumers by changing user interactions with organizations (Spagnoletti et al., 2015).

Additionally, Malter & Rindfleisch (2019) noted that there had been a rapid succession of digital innovations over two decades now, which have taken over the marketplace. The key stages of the digital revolution from early e-commerce (Amazon) to superior information search engine (Google), further to the social media expert (Facebook) and mobile phone (Apple iPhone), and the almighty Internet of Things (IoT), which connects smart-home devices and appliances as well as to the Internet. A host of technologies, such as the ubiquitous spread of Wi-Fi, and GPS navigation (Garmin, OnStar, Google Maps), have enabled and accelerated all these developments, online consumer review and recommendation platforms, miniaturization of high-quality displays, and improved battery performance for mobile devices (Gupta, 2018).

All these advances have now in turn been able to set the stage for some further digital innovation, from wearable technologies (Fitbit, Apple Watch) to customized online shopping experiences, from Netflix and streaming video on demand, playing on improved televisions, laptops, and mobile devices running on super-fast wireless networks, to consumers engaging in self-manufacturing through 3D printers, digital mailbox system and even some robotic personal assistants. Carissa et al. (2023) mentioned that the growth of subscription video on demand (SVoD) services in Indonesia presents significant opportunities. As consumer behavior shifts from watching movies on television and in cinemas to online streaming, industry players are driven to innovate. Ratchfors (2019) stated that a lot of these innovations now work seamlessly together, offering consumers an everyday digital experience. This transformation has been especially rapid in developing countries, which skipped earlier stages and fast-forwarded straight to digital. Hossain & Quaddus (2010) stated that many countries have implemented a digital transformation system of identifying and managing their livestock with the use of radio frequency identification (RFID). This is a digital technology that plays a crucial role in monitoring livestock conditions and predicting faults, particularly during outbreak situations.

Digital transformation also in educational sectors ranging from high school up to universities, using digital technologies to run classes. Sghari & Bouaziz (2022) explored the determinants of the intention to use the moodle distance learning platform during covid-19 and its continuance usage intention. They highlighted the teachers' recognition of the essential shift toward innovative teaching methods and opportunity to build upon existing initiatives and progressively expand distance education. As digital transformation is evolving, there is a rise in the widespread acceptance of digitalized cultural work as a means of communication, and digital and virtual reality (VR) technologies are one of them and this offers people new ways to experience and connect with art (Cheng et al., 2024). Virtual reality utilizes computer technology to emulate real-world environments by integrating sight, sound, and touch, creating an immersive three-dimensional experience that gives users a sense of presence (Zhao, 2009). These virtual tours replicate spaces within entirely digital environments, allowing users to navigate and interact through electronic devices, these tours can replicate real locations, be fully constructed virtual space, or combine both elements (Guttentag, 2010). Numerous prestigious museums and art galleries have adopted VR exhibitions as a sustainable means of showcasing and sharing art information online, whereby users can connect to the virtual exhibition platform online, explore timeless artworks in a digital space, and experience a multi-dimensional artistic journey that enhances both physical and mental well-being (Wang et al,.2023). According to Li et al. (2022) the online virtual exhibition tour merges the academic rigor of museums and galleries with the richness and interactivity of digital resources. Sugiarto et al. (2019) mention that these virtual tours have become essential for art appreciation and education. Dong et al. (2006) also stated that enabled by emerging technologies, virtual exhibitions are transforming the traditional spatiotemporal dynamics of exhibitions and reshaping audience engagement.

2.2.1 Digital Transformation in Postal Service

Otsetova (2019) stated that digital transformation in postal services involves integrating digital technologies to meet strategic goals. The impact of digitalization has developed the postal markets across the world. The core business activity of postal operators has impacted the digital transformation of companies and correspondence. In other words, digitalization has changed the role of the postal sector as there is a decline in the volume of letters, the postal operators have also diversified into a broad range of service areas. Hence, digital transformation has become a strategic priority for postal operators. (Blagojević et al., 2022). A digital mailbox is an e-service in the form of a web-based or mobile app-based mailbox. Individuals can receive their digital mail from either government agencies as well as companies (Blagojević et al., 2022). Digital mailbox is also a form of digital platform which is a digital transformation of traditional postal services, the digital mailbox provides users with a digital platform to manage and control their mail as well as documents. The postal services have been in existence for over two thousand years and have a significant role in the economic development of all countries. These services are important to citizens and businesses, and they play a critical, daily role in keeping countries, economies, and people connected around the world (Otsetova. 2019).

Lewandowski et al. (2019) stated that the postal services that are offered through digital platforms are referred to as "digital mailboxes", "digital boxes" utilized by EU governments for correspondence and document exchange with citizens. Furthermore, digital correspondence is legally binding, providing indisputable evidence of receipt and dispatch, securing content, and ensuring authenticity of origin through advanced authentication systems. Digital mailboxes are highly accessible, as they can be accessed from virtually anywhere through the internet. Additionally, Blagojević et al. (2022) mentioned that a secure digital mailbox is far more secure than sending physical communications through the regular postal system, as stealing information from a physical mailbox is much easier. Also, the advantages of using a digital mailbox include saving on internal and postage costs while also minimizing environmental impact.

Matúšková & Madleňáková (2017) stated that in the past three decades, EU postal sectors have seen two key trends. First, full market liberation and second, traditional postal services have faced growing competition from electronic alternatives. Advancements in information communication technologies (ICTs) are blurring the line between physical and electronic communication delivery. Digitalization has therefore influenced the evolution of postal markets worldwide. Additionally, digital means of communication are gradually replacing paper-based ones and decreasing the demand for physical letters. This simply means that there is a call to action to increase the digital transformation within the postal service. Some EU countries have taken the leap of driving development in a digital direction, pushing new digital services which enable them to communicate in a secure and trusted way with their own residents. Jansen et al. (2016) stated that these EU countries (Denmark, Sweden, and Norway) have the ambition that their citizens should choose to use digital channels to push communication between public institutions and citizens/businesses. Adopting digital posts "choice" in Denmark are made mandatory, there is no choice (Falch and Henten. 2018). Norway made a policy and infrastructural arrangements to use digital posts as a first option, but still a real choice. Sweden, on the other hand, rolled out the digital post, but the strategy is to let the public instructions and external users choose freely how they would like to communicate, thus choosing a digital post in Sweden must be an active choice. Blagojević et al. (2022) stated that the development of postal markets across the world has been impacted by "Digitization". A company's digital transformation and correspondence impact the core business activity of postal operators. The postal sector has changed with the help of digitalization as the letter volumes decline, and parcel volumes grow. Krøtel (2021) research study through survey on Danish citizens' perception of the information received in digital form from the government, it can be argued that digital solutions have both pros and cons. Some citizens may find digital communication easier to use and more convenient, while others may see it as unnecessary or difficult, leading to frustration and skepticism. The result from the study suggest that the communication form used in sending out information does not affect Danish citizens' perception of trust and satisfaction on the information received.

2.2.2 Digital Mailbox in Sweden

In Sweden, there are goals set by the government to be the best in the world at using the opportunities brought on by digitalization, which must happen sustainably. The government stated that electronic communications shall be efficient, secure, and robust and shall meet the needs of the users (Regeringskansliet, 2022). One of the digital mailbox systems initiatives in Sweden came from a public authority initiative around 2009 (Min Myndighetspost) and did not come from the political-ministerial level, the cost reduction for switching to digital post was estimated to be high (Jansen et al., 2016). According to the government agency, which is the Swedish Tax Agency, the digital mailbox service purpose is to replace paper-based communications between private companies, government and private individuals in Sweden. This service is intended to give users secure and easy access to their mail anytime, swiftly, and environmentally friendly. The digital mailbox service represents a significant step towards easy access to mail, reducing paper consumption, minimizing environmental impact and promoting sustainability. Some examples are as follows: Billo, Kivra, and Min Myndighetspost, these digital mailboxes are secure because the login is done with e-identification, such as Mobile Bank ID (Skatteverket 2023).

According to Anders et.al (2021), one of Sweden's digital mailboxes - Kivra have continued to have the highest proportion of private individuals connected to it, accounting to 91% compared to Min Myndighetspost Privat, which holds a 7% share. Kivra has also experienced strong growth among business owners, by achieving a share amounting to 44% of connected companies at the end of 2020. At the end of 2022, over 400 million essentials were sent to Kivra. Tax office send in information digitally to users of digital mailbox, hospitals also send in appointments, bills are sent as well as digital receipts when you shop at some stores like Åhlens, Stadium, Kjell och Company, ICA right now in Sweden and Doz Apotek has also joined the crowd as the first pharmacy to offer digital receipts, they have so far sent 70,000 receipts in Kivra by the end of 2022 (Kivra 2023).

Digital mailbox growth has remained high and secure digital correspondence, though there is still a long way to go to see the full capacity and its effect on the volume development of physical letters. The number of private individuals connected to digital mailboxes in 2020 increased by over 15% to about 50% and for business owners, the growth was over 16%, However, DIGG estimates that the growth in the number of users over the next four years will be 75% of the number in the previous year (Anders et.al 2021).

Table 1: Overview of the functions of digital mailboxes in Sweden (Post-och-telestyrelsen, 2021)

Functions	Billo	Kivra	Min Myndighetspost
Possibility to receive mail from the public sector	Yes	Yes	Yes
Possibility to receive mail from the private sector	Yes	Yes	No
Ability to pay bills	Yes	Yes	No
Ability to sign documents	No	Yes	No
Possibility for others to read and manage your letters	Yes	Yes	Yes
How to identify yourself?	BankID, Freja eID	Mobile BankID	BankID, Nordea e-legitimation, Freja eID+, Foreign eID
How do you get notifications of new letters?	App or email	App or email	E-mail or SMS
What platforms are supported?	Web browser, IOS, and Android	Browser, IOS, and Android	Web browser

2.2.3 Digital Transformation in Government

The digital transformation in government is known as e-government and according to DeBenedictis et al. (2002) e-government refers to the use of internet-based information technology to improve government efficiency and transparency. It involves the execution of government activities, delivering services, providing access to information, and enabling citizen and organizational participation. Carter & Belanger (2005) researched on the electronic government utilization which is a form of digital transformation whereby the use of information technology is implemented to improve the efficiency and effectiveness of the government services that are provided to the citizens, businesses, employees and agencies. The e-government services that were put in place were to enable the purchase of goods and services, dissemination of information etc. The benefits of e-government are for both the citizens and government. Cost reductions and improved efficiency were noted by the agencies, alongside with citizens getting faster, and more convenient services (Trinkle, 2001). Although, there is substantial growth in the development of e-government initiatives, the embracement of these services by the citizens is unclear. According to Latupeirissa et al. (2024) on a comprehensive review of digitization initiatives which was transforming the public service delivery, it was mentioned that digital transformation enhances public services but risks creating a division, marginalizing those without access or familiarity with technology, and then worsen inequalities. Latupeirissa et al. (2024) study used literature evaluation and case studies of digital transformation projects in different nations to examine public service delivery of digital transformation projects and their effect on local governments. With the fast-involving digital landscape, transforming public service delivery has now become a crucial agenda for governments around the world. Carter & Belanger (2005) mentioned that while the success and acceptance of e-government initiatives, such as online voting and license renewal, are dependent on the citizen's urge to adopt these services, the factors influencing citizen adoption of e-government are also explored and found out from the study that perceived ease of use, compatibility and trustworthiness are important determinants of citizen's willingness to use an e-government service.

Schrape (2019) stated that emerging digital technologies, like mobile devices and the internet, have raised citizens' expectations about public service delivery. These tools also help improve service delivery, offering faster and more integrated services at lower costs. This can be seen in the widespread use of e-government services across most industrialized western nations. The transition towards digitization aims to enhance public service delivery by leveraging technology, data, and connectivity. By adopting digital solutions, governments can streamline and automate processes, boost efficiency, and improve the citizen experience. Nonetheless, successful digital transformation also requires managing the public expectations and adding value to the digital services. Digital government strategies are essential for modernizing the public sector, helping to identify the structures needed to support digitization, improve engagement with citizens and businesses, and cut costs. These strategies must align with local realities to be effective. Public sector digitization covers various operations with the aim of improving service delivery, efficiency, and transparency (Teixeira et al., 2021).

Kautonen & Nieminen (2016) noted that public management has been transformed by new technologies and disruptive models, improving governance in areas like transportation, public services, and health. This shift is influenced by political, economic, social, and spatial factors, with digital technology and AI leading the way. However, a balanced approach is crucial, as neglecting citizen's roles in digitalization could create a new challenge. Jonathan et al. (2024) researched a study on how digital transformation enables the decentralization of public governance, using a systematic literature review as well as semi-structured interviews with public sector experts, it was stated that recently, discussions on decentralizing public governance have merged with digital transformation in the public sector. This is because digital transformation has been shown to enhance decentralization, boosting organizational efficiency and creating more public value for citizens. The concept of decentralized governance focuses on a system that moves away from traditional centralized control, where independent bodies have the freedom to resist government direction, shape their own policies, and influence their environments (Rhodes, 2007). According to Charbit (2020), decentralized governance is a process in which the central government transfers some of its power, decision-making authority, and responsibilities to local governments, leaders, or community institutions. Digital transformation can aid devolution by providing crucial digital tools as power shifts. For example, digital platforms enable collaborative governance, allowing government, civil society, and local communities to tackle local issues together. These platforms also support decentralized decision-making, giving local communities a sense of ownership. Digital tools help share knowledge and best practices across governance levels, while online training resources and webinars help build the skills local authorities and leaders need for effective decision-making (Jonathan et al., 2024).

Jonathan et al. (2024) concluded the research that the rise of digital technologies has been key to advancing decentralized governance globally. Digital transformation not only helps implement decentralization but also encourages greater citizen involvement in public decision-making. This has proven essential in enhancing public value. Consistent with earlier studies, which indicates that digital-enabled decentralized governance boosts citizen participation, transparency, and accountability. Additionally, emerging technologies like blockchain have allowed public organizations to offer global, borderless services. The governments must adopt new stakeholder collaboration methods, implement innovative service practices, and develop strategies for market engagement in order to achieve successful digitization initiatives (Meshu & Rao 2016), (Torfing et al., 2021). The evaluation from Latupeirissa et al. (2024) research revealed that digital transformation boosts efficiency, citizen engagement, and government transparency in public service delivery. The research shows that improving efficiency, meeting citizen needs, and responding to higher authority demands drive digital change. This highlights technological readiness as key to local government transformation.

3. Theoretical Framework

Klein & Myers (1999) suggest that theory is used in qualitative research study as a sensitizing device. The Unified Theory of Acceptance and Use of Technology (UTAUT2) is the extended version of UTAUT. This model was selected as an interpretive lens to guide both the research process and data analysis and due to its effectiveness in understanding technology acceptance and user behaviour.

The Unified Theory of Acceptance and Use of Technology (UTAUT) was introduced by Venkatesh et al. (2003). UTAUT identifies four key constructs that are relevant and directly determining technology use and intention by users are: performance expectancy, effort expectancy, social influence, and facilitating conditions. Venkatesh et al. (2003) further stated that gender, age, experience and voluntariness of use are seen as moderators affecting the determinants while behavioral intention and use behavior are dependent variables. The key constructs of UTAUT are as follows:

- Performance Expectancy: refers to the extent to which an individual believes using a system will help in achieving gain performance and provide benefits to consumers.
- Effort Expectancy: is the level of convenience and perceived ease of using a system and is especially influential in the early stages of adoption.
- Social Influence: this relates to the degree to which users perceive that others (family and friends) believe he/she should use a particular technology. Individual's use of technology can be influenced by social norms, experiences of others and recommendations.
- Facilitating conditions refers to the individual's perception of the organizational and technical resources available to support the use of the system.

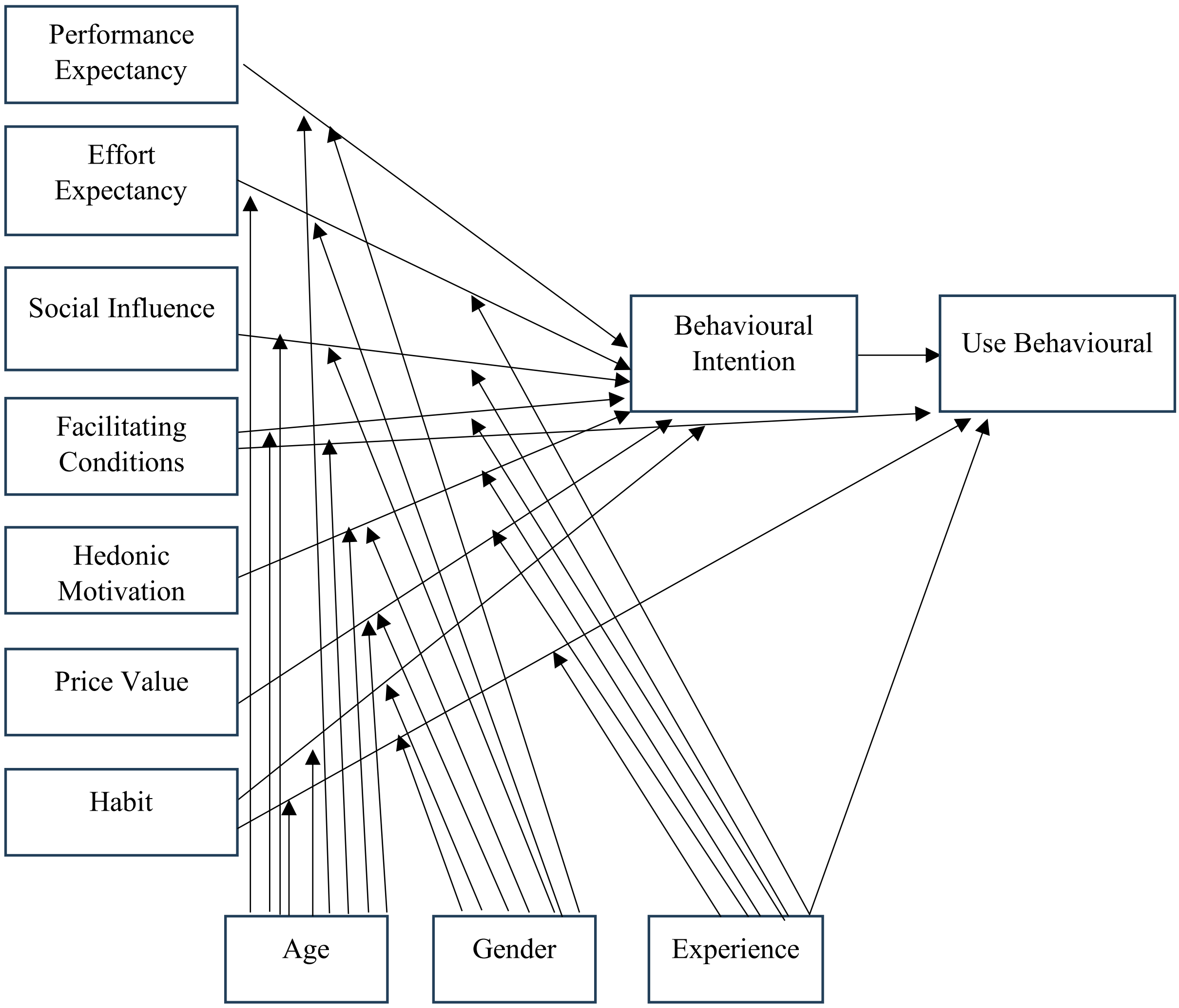
Furthermore, Venkatesh et al. (2012) mentioned that UTAUT have been applied in various studies across both organizational and non-organizational context. Recognizing the evolving technology landscape and the need to address consumer use, UTAUT2 was introduced as an enhanced version of the model to pay particular attention to consumer use context.
UTAUT2 introduced three additional constructs tailored to consumer technology contexts and the model can be seen in figure 1 below:

- Hedonic Motivation: refers to the enjoyment or pleasure derived from using a technology. It plays a significant role in consumer behavior, influencing acceptance based on perceived enjoyment, and evidence have shown that this is an important influencer in accepting technology (Venkatesh et al., 2012). This does not apply to Kivra, where usage is driven by functionality and effectiveness rather than entertainment.
- Price Value: this captures the trade-off between perceived benefits of using technology and its cost. This is not relevant in case of Kivra as the service is provided free of charge.
- Habit: reflects the extent to which people tend to perform behaviors automatically, based on prior experience and learned behavior. It emphasizes the role of routine and atomicity in technology use. This construct is not applicable in this study because Kivra usage is task specific and necessity driven, rather than routine.

However, some qualitative studies have used UTAUT2 theoretical frameworks to highlight its usefulness. Gharaibeh et al. (2018) carried out a qualitative study using focus groups with seven participants in Jordan. It explored how traditional UTAUT2 constructs (performance expectancy, effort expectancy, facilitating conditions, social influence, trust, and mass media) influence mobile banking adoption. For this study Hedonic motivation was not a significant factor. Other studies by Schretzlmaier et al. (2022) combined guided interviews with both experts and mobile Health users alongside literature review (triangulation). Structured content analysis validated UTAUT2 constructs and identified two additional relevant constructs: trust and perceived disease threat in diabetes mobile Health contexts. Zhu et al. (2023) employed user interviews paired with grounded theory coding (open, axial, selective) to adapt UTAUT2 constructs, refine definitions, and uncover new variables such as trust. This research combines the actual needs and the main factors affecting the use intention of users, solves the problems of low satisfaction of user experience, and provides better strategic suggestions for developing mHealth applications.

Finally, Thérouanne et al. (2023) conducted a qualitative study with 26 post-bariatric surgery participants evaluating user preferences among telehealth, active video games, and mobile apps. They Investigated UTAUT2 constructs and adapted them into context-specific subcategories (e.g., facilitating conditions broken into resources, support, human assistance). Demonstrated the model's applicability and highlighted especially motivational and engagement-related factors.
The Figure1 below UTAUT2 framework describes that the actual use of technology is determined by behavioural intention. The perceived likelihood of adopting the technology is dependent on the direct effect of four key constructs which have been named below.

Figure 1: Unified Theory of Acceptance and Use of Technology 2 (Adapted from Venkatesh et al., 2012)



Unified Theory of Acceptance and Use of Technology 2 (UTAUT2) moderators such as Age, Gender and Experience are posited to influence the relationships between core constructs (example: Performance Expectancy, Effort Expectancy, and Habit) and behavioural outcomes (Venkatesh et., 2012). The significance of these moderators, however, is contingent upon the specific research context. For example, this study examines the relevance of these moderators within the context of Kivra users' perception in Sweden.

Age and Gender as Moderating Factors:
Prior research has indicated that age and gender can moderate technology adoption behaviours (Venkatesh et al., 2003). Age has been shown to influence the relevance of factors like hedonic motivation and facilitating conditions with young users often valuing the hedonic motivation (the fun or pleasure derived from using a technology) and older users the facilitating conditions (the resources and support available for using the technology). However, the participant pool in this study consists of Kivra

users who fall within narrow adult age range, limiting the potential for significant variation. As such, age is not considered a meaningful moderator for explaining this study's findings. Similarly, gender has been explored as a moderator, with some studies suggesting that men are more influenced by performance expectancy, while women may be more responsive to social influence and effort expectancy (Venkatesh et al., 2003; Venkatesh et al., 2012). While this study's sample includes both male and female participants (five males and three females), the small sample size and qualitative methodology preclude a robust analysis of systematic gender-based differences. Therefore, gender is included for the descriptive profile of the participants but is not highlighted as a significant moderator.

Experience as a Moderator

In contrast to age and gender, experience emerged as a highly relevant moderator in this study. The UTAUT2 framework suggests that with increasing experience, the influence of effort expectancy and facilitating conditions diminishes, while the importance of habit grows. The qualitative interview data from this study corroborated this relationship. Participants' years of experience with Kivra varied, ranging from two to nine years, and this variation directly shaped their perceptions of the service. For instance, more experienced users frequently emphasized aspects of efficiency and the seamless integration of Kivra into their daily routines. Conversely, newer users often focused on the initial learning curve and the role of authentication methods, such as BankID, in their adoption process. Consequently, experience provides a critical lens for interpreting the findings and is the most significant moderator in this research context.

In summary, among the UTAUT2 moderators, experience is relevant and adds explanatory value to the findings, while age and gender are less relevant due to the narrow age range of participants and the limited sample size for gender-based comparison.

4. Methodology

This chapter explains the research paradigm, methodology, data collection method, and the research ethics that were considered during the study.

4.1 Methodological Tradition

Research philosophy is beliefs, assumptions, perceptions, and the nature of reality of truth, which is different for individuals yet unconsciously influences the research design. It is necessary to first consider the research philosophy before conducting research to understand, expose and reduce any possible bias when carrying out research work (Saunder et al., 2009).
According to Orlikowski & Baroudi (1991), in the field of Information Systems, three philosophical traditions rely on different epistemological assumptions based on knowledge acquisition: Positivism, Critical, and Interpretivism. Positivism assumes that reality is objective and can be described by measurable properties which are independent of the observer (researcher) and his/her instruments (Weber, 2004). While the critical paradigm, on the other hand, assumes that social reality is historically constituted, produced, and reproduced by people. Even though people can consciously act to change their social and economic circumstances, critical researchers recognize that their ability to do so is constrained by various forms of social, cultural, and political domination. Critical research focuses on oppositions, conflicts, and contradictions and seeks to be emancipatory (Galdolage, 2021).
The interpretivism paradigm begins with assumptions that access to reality (given or socially constructed) is only through social constructions such as language, consciousness, and shared meanings. The interpretive research's philosophical base is hermeneutics and phenomenology. Interpretive studies are generally used to understand the context of information systems and their influence on the context (Klein & Myers, 1999). One of the main tasks of interpretive research is seeking the meaning and interpretation of a study and as the focus of this study is exploring how users perceive the use of digital mailbox. This study falls within the paradigm of interpretivism and will be carried out using the opinions of the participants. Furthermore, according to Creswell (2014), the interpretive research goal is to rely as much as possible on the participants' views of the situation being studied and considering the open-ended questions provided to the participants; the participants can express themselves without any constraint. Although no research can be said to be without bias, this research study was carried out with an open mind by allowing the participants to express themselves. The researcher also listened attentively while taking notes and recording each session to ensure all vital information was captured.

4.2 Methodological Approach

Research methodological approaches can either be Quantitative, Qualitative, or the Mixed methods. The distinctions between quantitative research and qualitative research are shaped in terms of using words or closed-ended questions (Qualitative) rather than numbers or open-ended questions (Quantitative). The mixed method approach involves collecting data using both the quantitative and qualitative approaches (Creswell & Creswell, 2018).

This research uses a qualitative research approach due to the interpretive paradigm that is adopted for the study and the nature of the research questions, the selection of the research approach is based on the fact that it provides the essential tools for researchers to study and analyze complex phenomena within their contexts (Baxter & Jack, 2008). Qualitative research allows the researcher to seek and understand a better situation from the view of the participants who participated in the study (Creswell, 2014). According to Baxter & Jack (2008) it is stated that a qualitative approach equips researchers and authors with the right tools to study and gain in-depth understanding of complex research areas. The qualitative research approach is the best fit for this research study since this study aims to explore users' perception of the use of digital mailbox, which can be related to seeking more understanding and deeper insight into the reality of others and using a quantitative research approach would not fulfil that aim.

4.3 Method of Data Collection

In order to identify the choice of participants for data collection in research study, the researcher on the other hand must first understand and decide on the research approach to use for the study. Both quantitative and qualitative research approaches adopt different sampling methods. According to Lewis and Ritchie (2003), with a quantitative approach, the selection is done using statistical methods and probability sampling to conduct research. The "Probability sampling" refers to the approach where researchers randomly select participants without any specific criteria. While on the other hand with a qualitative approach, the researcher selects participants purposely based on how relevant their story is to the study as well as their characteristics, this sampling is not meant to be statistically representative and is therefore called the "non-probability sampling". This study aims to explore and better understand users' perception of the use of this digital mail system; the choice of participants was majorly people who use this mobile technology. The researcher used the purposeful sampling method to select participants for this study by sending messages to colleagues as well as classmates and one of the requirements is that they are using the Kivra digital mailbox and also ask for their interest in participating in the research study. Rai, N., & Thapa, B. (2015) described purposeful sampling as a sampling used in qualitative research where decisions concerning the individuals to be involved in the sample are taken by the researcher, based on some criteria which could include specialist knowledge relevant to the research area, capacity and also willingness to participate in the research which will best give answers to the research questions.

The participants used for this research are residents of Sweden. 5 male and 3 female participants were considered, altogether 8 participants from people who are presently using this digital mailbox app as seen on table 2. The researcher ensured the participants chosen for the interview were people that met up the requirements for the study, that means those people who are presently using the Kivra digital mailbox and also willing to participate in the research when given the detailed information of what the study entails. According to Sargeant (2012), qualitative research participants are selected based on their knowledge and understanding about the phenomenon of the research study. Hence it is important to select participants who would be able to give the best responses in relation to the purpose of the study. The participants were first asked if they use Kivra digital mailbox before being eligible or not eligible for participation in the study. After this selection, the researcher then proceeded with 8 participants, this set of individuals are best fit for this research as they are known to be socially active and will also be capable of giving appropriate answers to the researcher. The choice of participants and their inputs will serve as an eye-opener in the Information Communication Systems world (ICT). Ritchie and Lewis (2003) highlighted three reasons to justify keeping small sample sizes in qualitative research. Firstly, a phenomenon actually only needs to manifest once to be included in the analysis, the study may not be significantly enhanced with an expanding sample size. Secondly, frequency is not the focal point in qualitative research. Thirdly, the detail obtained through qualitative methods is so extensive that managing and processing a larger sample would be impractical. Hence the researcher opted to work with the 8 participants who were well-suited and capable of providing rich insights relevant to the research study.

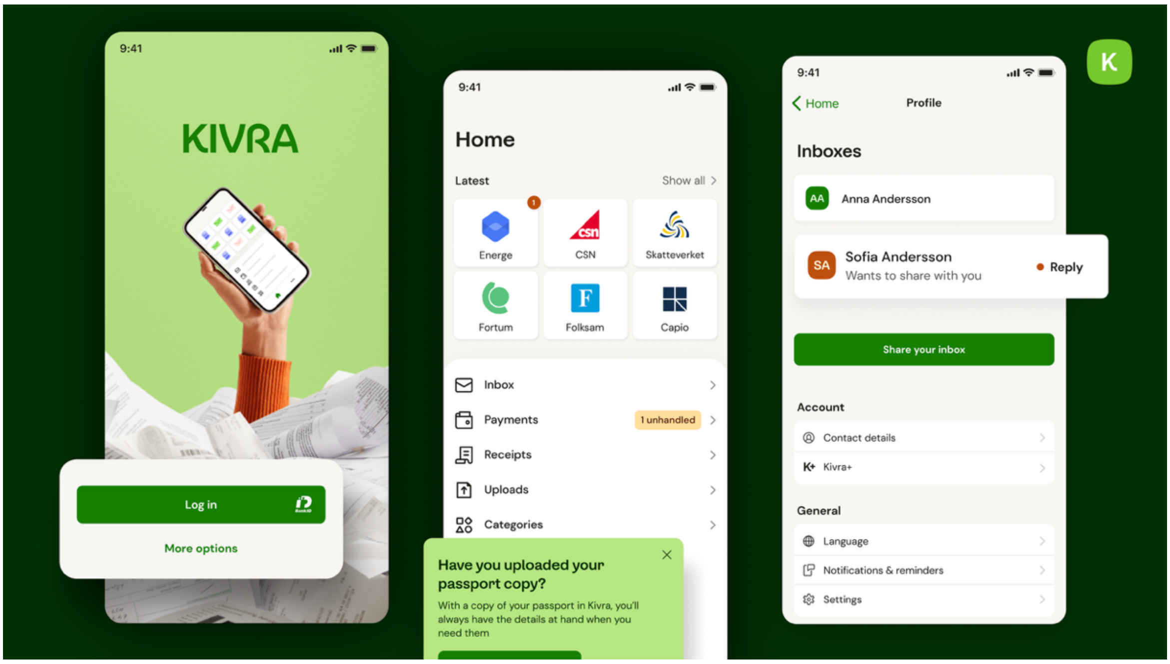
The purpose and objective behind this study is put into consideration and a qualitative approach is chosen for this research, in that case, using the interview as a means of data collection allows the researcher to get the essence of the subject matter while connecting to the participant's emotions and experiences. The research used semi-structured interviews done through Zoom, and the interview questions were open-ended; According to Kaplan & Maxwell (2005), open-ended interviews range from informal and conversational interviews to ones with a specific agenda. When an open-ended interview is conducted, it helps to bring out the respondent's views and experiences in their own terms as it is, rather than a static approach where data is collected, and the interviewer is not bound to a rigid interview format or specific sets of questions, the interviewer can elaborate further for better understanding. The interviews were held in English language and with the consent of the participants, the conversation was recorded for further analysis, and the participants was allowed to refrain from answering any of the interview questions or proceeding with the entire interview at any time. The participant's identity will be anonymous.

4.3.1 Research Setting

The research setting for this study is the Kivra digital mailbox commonly used in Sweden, it was founded in 2011, now with over 6 million users (Kivra 2024). This idea of digital mailbox is to make it easier for individuals to use this technology to receive their mail on their mobiles and at the same time contribute to a more sustainable world. This mobile application has a variety of digital services, some of which are getting your digital letters, digital bills, digital receipts, and digital pay slips and you can also upload your documents on the application. With the Kivra digital mailbox, your mail is delivered digitally instead of a postman delivering a paper letter to your home address, the digital mail gives you the same information. This digital mailbox service is free of charge, and it is not affected by weather conditions or misplaced envelopes (as sometimes, paper letters are misplaced on the way), this is a good choice for the environment, and it is faster. Gefen et al. (2003) mentioned that free trials from digital innovation companies are tactics like free trials and demo versions, these are common strategies to encourage adoption.

Kivra is used by both private and public authorities to send digital information to individuals, they receive their digital posts, pay bills, and receive digital receipts when purchases are done in stores, this ensures that important documents like letters or receipts are kept safe without being lost compared to when received physically, users of this application have options to disable receiving digital receipts and start getting paper receipts depending on the users' preferences, as well as disabling their account on the application. According to Anders et.al (2021), Kivra continues to have the highest proportion of private individuals connected to it. Kivra has several features amongst others are: Inbox: where users receive all their letters both from private and public sectors, Payments: with this feature, bills can be paid, Receipts: users can receive their digital receipts when they buy from stores that use Kivra, but then they can enable this feature or disable it, Uploads: important documents can be uploaded in this feature to keep them safe and organized in one place. To set up an account on Kivra, users must either download the application or visit the Kivra website on the web browser. regardless of the method used, logging in always requires the Mobile Bank ID which is the primary method of user authentication. To utilize the Kivra service, users need a smartphone, a Bank ID, the Kivra app or access to an internet web browser. First, when the Kivra app is launched, the first interface is the landing page and the login page as shown in figure 2 below. Upon launching the Kivra app, users are directed to the login page as the initial interface. Clicking on the login option redirects users to the Mobile Bank ID app for authentication. After successful authentication, users are presented with various layouts within the Kivra app, such as Inbox, Payments, Receipts, Offers, Uploads and Folders. Accessing digital letters involves selecting the “Inbox” option, which displays letters from both private and public authorities.

Figure 2: Kivra interface image from ifdesign.com



4.3.2 The Interview Procedure

The interview took place on Zoom in April. A scheduled time was agreed upon by both the researcher and participants, and the duration of the interviews were about fifteen minutes. The interviews were conducted in English utilizing the interview guides (see Appendix 1) and were all recorded as the participants had consented to that. At the beginning of all the interviews, the researcher verifies again that the participants were aware of the aims and objectives of the research work. Additionally, the consent form was sent to the participants' email address before the day of the interview, they signed and sent back a copy of the consent form, the researcher also signed their part. The participants were assured that all information given during the interview will be confidential and would only be used for the research work, and they have the right to withdraw continuance during the interview process. Table 2 shows an overview of the participants, and each participant is identified with an alphanumeric identification code.

Table 2: Overview of the Participants.

Participants	Interview Date	Gender	Duration (minutes)	Year of adoption	Number in years
P1	22-04-2025	M	17	2016	9
P2	22-04-2025	M	14	2020	5
P3	22-04-2025	F	12	2018	7
P4	23-04-2025	M	11	2023	2
P5	23-04-2025	F	13	2019	6
P6	25-04-2025	F	14	2023	2
P7	25-04-2025	M	10	2021	4
P8	25-04-2025	M	11	2018	7

4.4 Method of Data Analysis

The data collected for this study was analyzed using NVivo as the tool used for qualitative data analysis, facilitating a thorough thematic analysis of the participant interviews. Lichtman (2013) noted that thematic analysis approach is used for finding meaning in collected data.

Thematic analysis: is a "method of identifying, analyzing and reporting patterns within data collected" (Braun and Clarke, 2006). This method of analysis helps researchers to understand the participants' experiences through their attitude and body language. Thematic analysis is well known for its transparency and flexibility concerning the conduct of the results of qualitative researchers. According to Braun and Clarke (2016), there are six steps to be covered when conducting thematic analysis and those will be used in this study:

Step 1: Familiarize yourself with the data - This is the first step of the analysis. In this step, the researcher reads the interview transcript and listens to the audio recordings between the interviewer and the participant, transcribing the verbal data from the interview into written form, to get familiar with the data, understand it and align the study scope.

Step 2: Generating the initial codes - During this step, pattern identification and meaningful codes for future work will be generated.

Step 3: Explore the themes - The initial codes written in step 2 will now be reassessed to ensure they fit into the potential themes.

Step 4: Review themes - In this step, all the generated codes are assessed for consistency.

Step 5: Define and name the themes. The themes are further evaluated and tagged with names.

Step 6: Produce the report - This is the final step. A concise, coherent, and interesting report will be prepared.

4.5 Validity and Reliability

According to Creswell and Creswell (2017), qualitative research validity signifies the accuracy of the study's findings. In order to meet the validity criteria and be deemed valid, the research study must have been conducted meticulously, systematically, and correctly (Saunders et al., 2019). Based on Lewis and Ritchie (2003), the basic principles for research studies are "trustworthiness" of the data, which was followed during this research work. First in the selection of participants for the study, the author ensured that they were selected strategically in order to be representative and show a diverse aspect of the research topic. Secondly, the participants that were selected had a prior knowledge of and are presently using the digital mailbox - Kivra. Furthermore, both male and female were represented which is considered a balance in gender. All these mentioned enhanced getting useful and appropriate answers in accordance with the research aims and objectives, also carefully document the entire process and thoroughly analyze the data to ensure that all the details were captured.

4.6 Ethical Considerations

The consent form (as shown in Appendix 2) was duly signed by both the researcher and the participants which guarantees that the participants fully agreed to the interview and that the recordings can be used to complete the research study and bind the researcher to protect the participant's identity and integrity. Furthermore, the researcher ensured that all participants were treated respectfully, and no harmful or sensitive questions were considered, no disclosing of other information to the other respondents. All participants were informed ahead about this research and had the choice to either participate or not. Anonymity was promised to the participants of this research study by the researcher for privacy reasons, as Creswell & Creswell (2017) stated that it is crucial to keep anonymity of the participants if it is desired by them when presenting the findings, this is stated to be important due to the possible sensitive information that the participants are willing to share. Finally, the participants were informed on how the data from the study will be used and stored.

5. Empirical Findings

This chapter aims to provide a comprehensive and detailed analysis of the findings, highlighting the themes found during the analysis.

5.1 Interview Findings

Based on thematic analysis by Braun and Clarke (2016) this study explored how individuals in Sweden perceive the usability of Kivra as a digital mailbox system, paying by examining the experiences of individuals using the digital mailbox system. This study reveals important themes related to the efficiency, convenience, usability, security and user satisfaction that accompany the use of digital mailboxes. The findings reveal that Kivra significantly enhances document organization, facilitates paperless workflows, and improves personal communication management. Additionally, the study also delves into the motivations behind the adoption of digital mailboxes, examines the impact on daily routines, and their security features compared to traditional postal services. Overall, the findings present a comprehensive perspective of how digital mailboxes like Kivra are revolutionizing document management by offering a more secure, sustainable, and efficient alternative to conventional methods.
This research study employed NVivo as the primary tool for qualitative data analysis, conducting an in-depth thematic analysis of participant interviews on how they perceive the use of digital mailbox systems, with a focus on Kivra in Sweden. The analysis followed Braun and Clarke (2016) steps of conducting thematic analysis as mentioned in section 4.4 of this study, familiarize with data, generate initial codes, explore the themes, review themes, name the themes and then report. Initial codes were generated, and the codes were further categorized into five themes, which are as follows:

Theme 1: Convenience and Organization

Theme 2: Usability and Effectiveness

Theme 3: Environmental Impact

Theme 4: Privacy and Security

Theme 5: Recommendation

5.1.1 Theme 1: Convenience and Organization

Most participants of this research study discover that the use of digital mailboxes like Kivra is easy to use and quick access to mails have also been highlighted, the digital mailbox system have transformed their document management practices. A key factor contributing to a positive user experience is the platform's simplicity in checking messages and making payments. Additionally, participants value the notification and reminder features, participants also mentioned that the digital mailings are more convenient for managing important documents because it helps them stay organized and reduce the need for manual record keeping.

"*I no longer have to search through drawers for my mails, each mail I receive goes directly to the same place at the same time, I can even see which mail or bill is new and unread, everything is available with just few clicks". (P3)*

"I get instant notification on my phone whenever I get some new mails on my Kivra, which I like" (P1)

"I use Kivra to organize my mails, even some of my confidential documents are uploaded on Kivra as it has that feature, instead of using my gmail account". (P2)

According to P4's view, fast bill payment processes are readily available on the app, there is no need for paper bills or logging into your bank account.

"One of the things I actually loved about Kivra the most is that it makes my online payment much easier for me. I pay my bills on Kivra which has really helped me with my financial management, so I no longer forget or lose my bills". (P4)

5.1.2 Theme 2: Usability and Effectiveness

Participants engage with digital documents through Kivra, findings from this study shows that participants frequently use their digital mailboxes, the interface is simple, effective and easy to use from logging in to accessing your mail, this allows new users to learn and navigate the system with ease. It was also mentioned during the interview that the platform's intuitive design and straightforward interface made it usable and effective to even users with varying levels of technical proficiency. The Kivra's mobile app was also commended for its seamless integration with the desktop version, allowing users to manage their documents flexibly across devices.

"I find most of my information easily on it, well laid out and the simplicity of logging in using Mobile BankID on the go". (P7)

"*When I get on the Kivra app, it prompts me to log in with BankID with is done in a couple of seconds". (P3)*

"The user interface is good and also easy to navigate, that is user-friendly; I do not have any difficulty while using the app, even for someone who isn't a tech-savy". (P4)

5.1.3 Theme 3: Environmental Impact

The environmental impact also played a role in the use of digital mailbox system, these were highlighted by some of the participants during the interviews as some potential environmental benefits of using the Kivra, which are reduction in paper consumption, low carbon emissions, energy savings, waste reduction and conservation of natural resources etc.

"I like that I am not receiving unnecessary paper letters which is also beneficial to the environment". (P6)

"It really feels good to know that I am making my contribution to reducing paper waste". (P2)

"With digital mail systems, it simply means less papers, so that means more trees don't need to be cut down to print papers". (P3)

"I used to complain about having lots of paper mails, then I was introduced to Kivra, and my life have been much easier". (P4)

5.1.4 Theme 4: Privacy and Security

Privacy and Security were critical themes that significantly influenced user trust in Kivra, various participants emphasized feeling secure due to the use of BankID; which is the Sweden's national standard for secure digital identification, this enforces confidence in the system's authentication process.

"I feel much safer knowing that I am the only one that can access my documents and living in Sweden, I somehow trust the system, believing they are managing my data properly". (P5)

"My personal information is more secured with Kivra because my gmail account could be hacked but for you to access Kivra, you need to log in with my BankID and BankID can only be used by me no one else can use it". (P2)

Participants also expressed confidence in Kivra's encrypted data storage, particularly when handling sensitive documents.

"My mind is at rest because with Kivra, my information is encrypted and protected with my BankID, so I believe there is less risk of documents being lost or intercepted". (P6)

"Security is important, but it shouldn't make things complicated. Kivra gets this balance right". (P8)

5.1.5 Theme 4: Recommendation

Participants of this research study highly recommend digital mailbox solutions such as Kivra. Citing its user-friendliness, ease of use, and robust security features, many expressed a strong willingness to advocate for the platform. Both new and experienced users reflected on how Kivra helped them stay organized and reduce physical clutter. The system's timeliness, ability to safeguard private information and long-term benefits it offers were consistently praised by the participants. These experiences contributed to an overall sense of satisfaction and motivated users to continue sharing favorable feedback with others.

"I have recommended Kivra to a couple of people because it is so convenient". (P8)

"Ofcourse, I do not hesitate to recommend Kivra to anyone that have just moved to Sweden, even though there are other ones, but Kivra is the easier". (P1)

"I recommended Kivra to my wife and some of my new employees, and they are really satisfied with it". (P2)

Overview of the themes and their category is shown in Table 3 below:

Table 3: Overview of the selected themes.

S/N	Themes	Findings
1	Convenience and Organization	- Easy bill payment process - Immediate access to documents - Staying organized - Increased productivity - Well-structured storage

2	Usability and Effectiveness	- Saves time - Easy to navigate - User-friendly - Easy setup - Access to mail on the go - Intuitive design
3	Privacy and Security	- BankID for login protection - Secure access - Trust in GDPR - No unauthorized access
4	Environmental Impact	- Eco-friendly - Reducing paper waste and consumption - Decrease reliance on physical mail - Deforestation
5	Recommendation	- Influence of others - Human communication - Highly recommended

5.2 Summary of Empirical Findings

Interview findings on the usability and user perceptions of digital mailbox systems-Kivra indicate that users generally view the platform as highly efficient, convenient and secure. One of the main elements raised by the participants is the system's ability to facilitate streamlined document and communication management through a well-organized digital interface. What stands out most for users is the secure and flexible file storage, which allows them to easily access and manage important documents from any device. Kivra's role in reducing paper usage and supporting the shift towards a paperless society was also a significant factor in its popularity. The integration of BankID security log in feature has strengthened user trust in the system's ability to safeguard personal information. Participants reported using the system regularly on a daily, for paying bills, getting receipts and retrieving important documents. The ease of use when navigating the digital mailbox was frequently mentioned as the most valued aspect, attributed to the system's clear layout and user-friendly functionality. Despite this positive feedback, some participants encountered challenges, which is technical issues with the BankID needed to log in to the application, as well as sometimes when they have no access to the internet in order to log in. Nevertheless, the platform's timely notification, usability, and convenience were widely appreciated.

6. Discussion

In this chapter the findings from the qualitative study, how they relate to the theoretical framework UTAUT2, and research questions will be discussed.

6.1 Findings Through the Lens of Theoretical Framework

This chapter discusses the findings of this study in relation to the Unified Theory of Acceptance and Use of Technology 2 (UTAUT2), exploring how users perceive and interact with the digital mailbox system -Kivra in Sweden. Based on thematic analysis, the discussion integrates empirical findings with the theoretical constructs of UTAUT2 to understand what motivates adoption, sustained use, and user satisfaction. The five themes that emerged from participant's interview are as follows: Convenience & Organization, Usability & Effectiveness, Environmental Impact, Privacy & Security and lastly Recommendation, they are interpreted through the relevant UTAUT2 dimensions, which includes Performance Expectancy, Effort Expectancy, Social Influence, Facilitating Conditions, Hedonic Motivation, Price Value, and Habit (Venkatesh et al., 2012). The UTAUT2 constructs that are relevant in this study are Performance Expectancy, Effort Expectancy, Social Influence and Facilitating Conditions, while the constructs that are not relevant are as follows: Hedonic Motivation (as this is related to the pleasure derived from using technology, Kivra use is driven by its functionality and effectiveness rather than pleasure or enjoyment), Price Value (cognitive trade-off between the perceived benefits of the application and the monetary cost for using it, this is not applicable to Kivra as this service is free of charge) and Habit (extent to which people tend to perform behaviors automatically, based on prior experience and learned behavior, Kivra use in this case is task-specific and necessity driven rather than routine). This study also aims to answer the research questions posed at the beginning of this study.

- Performance Expectancy refers to the degree to which using a technology will provide benefits in performing certain activities (Venkatesh et al., 2012). In the context of this study, it translates to how beneficial and effective Kivra is in supporting users with managing their personal and administrative communications. The theme: Convenience and Organization directly align with this construct. Participants consistently mentioned that Kivra enhanced their efficiency by centralizing document management, simplifying bill payments, and providing instant notifications for new mail. Dimcheva (2016) noted that electronic services are driven by the convenience and speed to which it operates, which is highly attractive to consumers. P1, P2 and P3 amongst others mentioned this aspect during the interviews about the convenience of receiving immediate mails and notifications for their various transactions through the Kivra, which also help with document organization in different sections in the digital mail system. Carter & Belanger (2005) stated that improved organization tools and automation features can drive continued use of e-government services.
- Effort Expectancy which is the level of ease associated with the use of technology or system. The theme Usability and Effectiveness is relevant to this construct. Across participants Kivra is perceived as "easy to use", "intuitive", particularly even for those with limited technical skills. Furthermore, Lewandowski et al. (2019), mentioned that digital mailboxes have high accessibility, as they can be accessed from anywhere as long as there is internet access. The platform's interface, seamless mobile-desktop

integration, and use of BankID for authentication was often cited as a positive experience, allowing for quick and seamless login.

- Social Influence refers to the extent to which individuals perceive that others believe they should use a particular technology. The theme Recommendation reflected in the findings from the interview, where participants shared that they actively recommend Kivra to others, including colleagues, friends and family. P1 and P2 noted that they were introduced to the digital mailbox and have not stopped recommending it to others, especially new residents in Sweden. The word-of-mouth advocacy acts as a form of social proof, signaling the legitimacy and utility of the service.
- Facilitating Conditions is the users' perceptions of the resources and support available to use the system effectively. This construct directly maps with the theme Privacy and Security found in the interviews in this study. Blagojević et al. (2022) stated that a digital mailbox has high rate of security and privacy than sending physical mails that can be lost or stolen. Participants mentioned thy are assured that their mails are secured and the integration of BankID which is a government standard identification tool, this also helps increase the user's confidence in the platform's security. P2 noted that "I am the only one that can log in to my BankID, no one else can". Carter & Belanger (2005) highlighted that trust in digital platforms particularly those handling personal data is a critical facilitator of e-service adoption. Trust in Kivra's encryption and authentication mechanisms strengthens its legitimacy as a platform for storing sensitive documents.

Moderating Effects of Age, Gender, and Experience

In addition to the core constructs, UTAUT2 highlights the role of moderators such as age, gender, and experience in shaping the strength of relationships between determinants and user behaviour (Venkatesh et al., 2012). Assessing their relevance to the present study is important to ensure theoretical alignment.

Age is often considered a significant moderator in technology adoption studies, with younger users typically placing more emphasis on effort expectancy and hedonic motivation, while older users depend more on facilitating conditions (Venkatesh et al., 2003). However, in this study, participants fall within a relatively narrow age range of adult users (see Table 2). As such, there is insufficient variation to detect meaningful age-related differences. Therefore, age is not a relevant moderator in this research context.

Gender has been shown to moderate adoption drivers, where men are often more strongly influenced by performance expectancy, and women by effort expectancy and social influence (Venkatesh et al., 2003; Venkatesh et al., 2012). In the present study, both male and female participants were included (five males and three females). However, given the small sample size and qualitative orientation of the research, it is not possible to establish systematic gender differences. Accordingly, gender is not emphasized as a meaningful moderator in interpreting the findings, though its descriptive presence in the sample is acknowledged.

Experience, however, emerges as the most relevant moderator. According to UTAUT2, as individuals gain more experience with a technology, their reliance on effort expectancy and facilitating conditions tends to decrease, while habit exerts a stronger influence on continued use (Venkatesh et al., 2012). This pattern is visible in the findings of this study. Participants with several years of experience using Kivra emphasized efficiency, organization, and integration into daily routines, while newer users reflected more on the learning process, login requirements with BankID, and initial usability challenges. Hence, experience is a meaningful moderator in this study and provides additional explanatory value in understanding adoption and sustained use of Kivra.

With further observations the UTAUT2 moderators also align with the thematic findings of this study. For example, the relevance of experience resonates strongly with themes such as Convenience and Organization and Usability and Effectiveness, where long-term users described seamless integration of Kivra into their daily routines, while newer users emphasized initial learning processes.

In contrast, the relative irrelevance of age and gender is consistent with the uniformity of perspectives across participants in themes such as Privacy and Security and Environmental Impact. This reinforces the conclusion that, within the Swedish context of digital mailbox usage, experience is the key moderating factor shaping user perceptions, while age and gender contribute little explanatory value.

6.2 Connection of Findings to Research Questions

The research question 1 for this study is ***"How do users perceive the use of digital mailbox system?"***

To answer the research question, this research work has shown that convenience & organization as well as usability & effectiveness were identified as how users of this digital mailbox app perceive the use of Kivra in Sweden. Kivra was identified to be very useful in terms of the services it offers like bill payment, salary slips, mails, hospital appointment notifications, digital receipt. It was also noted that it is fast, easy to use and convenient. From this study, users noted that they have quick access to the Kivra app without any interference, not difficult to set up as well as non-requirement of any special technical skill in order to set the system up for use. Mails are received immediately digitally without waiting for days compared to the traditional mail system. Research study by Carter & Belanger (2005) found out from their study that perceived ease of use, easy access are one of the important determinants of citizen's willingness to use an e-government service. In addition, Dimcheva (2016), also mentioned that both consumers and businesses have accelerated beyond the traditional postal services and have moved into the electronic processes which are more convenient and faster. Blagojevic et.al (2022) defined digital mailbox systems as a straightforward and secure way for consumers to manage, view and organize their digital communications from multiple providers in one place.

The research question 2 for this study is ***"What factors influence users' satisfaction and challenges when interacting with digital mailbox system?"***

This study found also that convenience & organization, usability & effectiveness, environmental Impact, privacy & security as well as recommendation were also attributed to the factors that influence users' satisfaction of the Kivra app. Participants highlighted the minimal effort required to use the system, no frustration at all when using the digital mailbox system. Availability of secure infrastructure and the feeling of being a part of the paperless sustainability significantly contributes to user satisfaction. A study by Sundqvist-Andberg and Åkerman (2018) highlights the environmental benefits of digital communication, noting the substantial reductions in paper use and associated environmental impacts. According to the findings from this study, users mentioned that the Kivra app is contributing to the sustainability of the environment, as it minimizes carbon emissions from postal services, reduces the number of trees that are being cut down to produce paper for mails, and reduces energy usage. Users receive their mails electronically and no paper mails are in use in this process. Participants of this study could not particularly state their challenges when interacting with the digital mailbox system, but it was mentioned along the line that a few times the mobile BankID used for secure authentication into the Kivra system had some technical issues, this is not a problem from the digital mailbox system.

7. Conclusion

7.1 Conclusions

The research study set out to explore how users perceive the use of digital mailbox systems (Kivra) in Sweden through the lens of the UTAUT2. The findings demonstrate that users generally view Kivra as convenient, effective, and secure, with strong contributions to efficiency, organization, and environmental sustainability. For this purpose, two research questions were formulated: *"How do users perceive the use of Kivra digital mailbox?*" and *"What factors influence users' satisfaction and challenges when interacting with digital mailbox system?"* The findings were achieved by performing semi-structured interviews, after the interviews were performed and empirical data were analyzed using thematic analysis. The five themes that emerged are as follows: Convenience & Organization, Usability & Effectiveness, Privacy & Security, Recommendation and Environmental Impact which illustrate the diverse ways in which the system supports users' daily activities while also presenting occasional challenges such as BankID authentication and internet connectivity.

In applying the UTAUT2 framework, this study confirmed the relevance of key constructs such as performance expectancy, effort expectancy, social influence, and facilitating conditions, while also establishing that hedonic motivation, price value, and habit were less applicable in this context due to the functional and task-oriented nature of Kivra's use. With regard to moderators, the data analysis found that experience was the most meaningful moderator, shaping differences in how participants perceived usability, efficiency, and integration into their routines. In contrast, age and gender were not highly relevant in this study due to the narrow age range of participants and the small, balanced sample. This suggests that within the Swedish context, users' prior experience with digital mailbox systems plays a far more critical role in influencing perceptions and adoption than demographic factors.

Overall, the study contributes to the understanding of digital mailbox adoption by demonstrating how user perceptions are shaped primarily by usability, convenience, and security, and moderated significantly by experience.

7.2 Contribution

This study contributes both theoretically and practically. From a theoretical perspective, it extends the application of UTAUT2 by showing that not all moderators are equally relevant across contexts. Specifically, the findings demonstrate that while experience is a critical moderator shaping user perceptions of digital mailbox systems, age and gender exert minimal influence in contexts where participants fall within a narrow demographic range and where adoption is largely driven by necessity and functionality. This provides evidence that in certain consumer technology settings, experiential factors outweigh demographic ones in shaping adoption and sustained use.

Practically, the study offers insights for designers and providers of digital mailbox systems such as Kivra. By recognizing that user experience plays a central role in shaping satisfaction and adoption, providers can focus on improving onboarding processes for new users, simplifying authentication procedures, and ensuring intuitive usability to encourage adoption across different levels of experience.

7.3 Future Research

While this study has highlighted the user perceptions of digital mailbox systems, it also revealed that age and gender were not highly relevant within the current sample. Future research could expand the scope by including a larger and more demographically diverse population, both within and outside Sweden. Such an approach would help determine whether age and gender become more influential moderators in contexts where there is wider variation in digital literacy, technological familiarity, or cultural norms. Moreover, a comparative study across countries could provide deeper insights into whether the relevance of moderators differs between societies with varying levels of digital maturity. Quantitative or mixed-method studies could also be employed to statistically test the moderating effects identified in UTAUT2, complementing the qualitative findings of this research. In this way, future studies could strengthen the generalizability of the conclusion that experience outweighs demographic factors in the adoption and sustained use of consumer digital technologies such as digital mailbox systems.

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Appendix 1: Interview Guide

Pre-interview:

-Introduction of the research student

-Introduction of the interviewee

-Discussion around the research study, the purpose of the interview, and the process

-Discussion around voluntary consent, showing the signed consent form, agreement to being anonymous and also agreeing to use statements from the interview as in text quotes in the thesis if needed.

Interview:
Interview Questions:

1. Are you presently using any digital mailbox system? If yes, which one?

2. How long have you been using this digital mailbox system?

3. What motivated you to start using digital mailbox? (That is If the answer of No.1 is Kivra).

4. Can you describe your experience using a digital mailbox?

5. How easy or difficult do you find the digital mailbox system to use?

6. How frequently do you use the digital mailbox system?

7. In what ways has the digital mailbox system impacted your information and document management?

8. How do you feel about the security and privacy of your information when using a digital mailbox system compared to traditional mail?

9. Have you encountered any challenges or issues while using the digital mailbox system? If so, can you elaborate?

10. Have you ever recommended the digital mailbox to others? Why or why not?

Linnæus University
Sweden

Appendix 2: Informed Consent Form

Researcher:
Shakirat Omotayo Akande
Masters in information systems

Department of Informatics

Linnaeus University Växjö

I am currently running a masters degree programme in information systems at Linnaeus University, and I wish to seek your consent to voluntarily participate in my research thesis "A qualitative study of users' perception and usability of digital mailbox". The interview questions were designed to collect data for my research study, which will be used towards a thesis to fulfill the requirement to complete my masters degree in Information Systems.

In order to proceed with this interview, kindly read the information below and attest your signature if you are willing to participate in this research study, so we can schedule an agreed time.

Information about the research
The purpose of this study is to delve into the users' perceptions and usability of the digital mailbox platform in Sweden (Kivra).

Participation and Confidentiality
The interview will be recorded, and you will be anonymous which means that your identity will not be disclosed for this study. Your participation is voluntary; therefore, you are not compelled to participate, and you may withdraw your participation anytime during the interview process. A total of eight participants will be interviewed for this study, and your answers will be evaluated together with all other participants to draw up a conclusion for this study. The interview is semi-structure thereby allowing participants to express themselves. In addition, the session will take approximately 30 minutes via Zoom to complete.

By signing this document, I understand the purpose of this interview, and I agree to participate in this study.

Name of Participant:	Name of Researcher:
…………………….	Shakirat Omotayo Akande

Signature of Participant:

…………………….

Appendix 3: Table of Codes and Findings

Table 1: Table showing the themes and categories

S/N	Themes	Categories
1	Convenience and Organization	Digital mailbox usage 40 Ongoing use 8 Seamless experience 23 Ease of Use 19 Reliability 18
2	Usability and Effectiveness	Ease of Use 19 Instant notification 18
3	Recommendation	Highly recommend 22
4	Environmental Impact	Sustainability 7
5	Privacy and Security	Secure Authentication 23 Authorized access 19 Trust in GDPR 19

Table 2: Table showing the codes from the interviewees and their categories

S/N	Codes from Interviewees	Categories
1	It saves time	Advantages of digital mailbox system
2	Easier bill payment	Ease of use
3	It is easy to navigate through	Ease of use
4	It makes me stay organized with my documents	Advantages of digital mailbox system
5	Easy to setup at first installation	Ease of use
6	I feel secure using Kivra	Security
7	Reducing paper waste and consumption	Sustainability
8	It saves me from junk mails	Advantages of digital mailbox system
9	I now manage my mails very well	Advantages of digital mailbox system
10	I have access to my mail even when abroad	Accessibility
11	No need to go to my physical postbox to get my mails	Advantages of digital mailbox system
12	I get immediate access to my documents on the go	Advantages of digital mailbox system
13	I receive even my digital receipts on Kivra	Advantages of digital mailbox system
14	It helps reduce carbon emission	Sustainability

15	It is dependent on BankID to login, anyone without BankID can not use it	Usability/Accessibility
16	It is user & eco-friendly	Usability/Sustainability
17	Secure login authentication	Privacy/Security
18	I no longer worry about my mails getting lost or delayed	Reliability
19	Kivra is convenient to use	Ease of use
20	Now I do not loose receipts	Documentation

Linnæus University
Sweden

Lnu.se

Linnæus University
Sweden

Faculty of Technology
SE-391 82 Kalmar | SE-351 95 Växjö Phone +46 (0)772-28 80 00
teknik@lnu.se
Lnu.se/fakulteten-for-teknik