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Usability of SAP ERP HCM and Workarounds: A Case Study on Payroll Productivity and Organizational Efficiency from an Employee Perspective

Information Systems Science

Master's thesis

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Abstract

Enterprise systems like SAP Payroll play a crucial role in streamlining organizational processes, yet their usability significantly impacts efficiency and user satisfaction. This study examines SAP Payroll's usability within Company X, focusing on how it influences payroll professionals' daily workflows and organizational productivity. By identifying key challenges, workarounds, and improvement opportunities in system usage, this research aims to enhance the understanding of how complex systems can be optimized to support expert work and improve organizational outcomes.

This research investigates the usability of the SAP Payroll system at Company X and its impact on organizational efficiency. The research focuses on understanding the factors that hinder the smooth use of the system and how these professionals adapt to overcome these limitations. Through qualitative interviews with payroll specialists, the study identifies common obstacles related to system complexity, user interface design, and data processing. The findings highlight the role of neutral workarounds, particularly the extensive use of Excel, in enhancing work efficiency. Despite the benefits of the SAP Payroll system, such as streamlined payroll processing and reporting capabilities, the complexity of the system and lack of adequate training and support lead to challenges and inefficiencies. The research aims to identify the most common challenges faced by payroll professionals in using the system and explores potential solutions to address these issues, such as improved training and support mechanisms. The study also underscores the importance of a structured onboarding process and continuous feedback loops in maintaining system usability and employee engagement.

The research identified several recurring challenges with SAP Payroll, including limited knowledge of mass tools, cumbersome reporting processes, and insufficient support for specific local requirements, such as tax automation. Many users have devised workarounds, such as utilizing Excel for advanced data analysis and automation tasks. These adaptations, while efficient in the short term, underscore gaps in system training and functionality. Additionally, user experience varied significantly based on individual technical expertise and familiarity with SAP's logic, highlighting the need for role-based training.

The findings suggest that addressing usability challenges in SAP Payroll requires a dual focus: improving technical training and enhancing system features. Organizations can benefit from structured onboarding programs tailored to various user roles, emphasizing practical scenarios and regular feedback. From a research perspective, this study contributes to the broader discourse on enterprise system adoption, suggesting avenues for future exploration into the long-term impacts of workarounds on data integrity and organizational performance. Additionally, the importance of fostering collaborative learning environments and cross-departmental knowledge sharing emerged as critical factors for maximizing the potential of complex systems like SAP Payroll.

Key words: SAP ERP HCM, SAP Payroll, usability, usability challenges, payroll professionals, workarounds, Excel, system complexity, employee training, organizational support

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Tiivistelmä

Yritysjärjestelmät, kuten SAP Payroll, ovat keskeisessä roolissa organisaation prosessien tehostamisessa, mutta niiden käytettävyydellä on merkittävä vaikutus tehokkuuteen ja käyttäjätyytyväisyyteen. Tämä tutkimus tarkastelee SAP Payroll -järjestelmän käytettävyyttä Yrityksessä X, keskittyen siihen, miten se vaikuttaa palkanlaskennan ammattilaisten päivittäisiin työtehtäviin ja organisaation tuottavuuteen. Tunnistamalla keskeiset haasteet, kiertoratkaisut ja kehitysmahdollisuudet järjestelmän käytössä, tutkimus pyrkii syventämään ymmärrystä siitä, kuinka monimutkaisia järjestelmiä voidaan optimoida tukemaan asiantuntijatyötä ja parantamaan organisaation tuloksia.

Tutkimus selvittää SAP Payroll -järjestelmän käytettävyyttä Yrityksessä X ja sen vaikutusta organisaation tehokkuuteen. Tutkimus keskittyy ymmärtämään tekijöitä, jotka vaikeuttavat järjestelmän sujuvaa käyttöä, sekä sitä, miten ammattilaiset sopeutuvat voittamaan nämä rajoitteet. Laadullisten haastattelujen avulla palkanlaskennan asiantuntijoiden kanssa tutkimus tunnistaa järjestelmän monimutkaisuuteen, käyttöliittymän suunnitteluun ja tietojen käsittelyyn liittyviä yleisiä esteitä. Tulokset korostavat neutraalien kiertoratkaisujen, erityisesti Excelin laajan käytön, merkitystä työn tehokkuuden parantamisessa. Vaikka SAP Payroll -järjestelmä tarjoaa etuja, kuten sujuvampaa palkanlaskentaprosessia ja raportointimahdollisuuksia, järjestelmän monimutkaisuus sekä riittämätön koulutus ja tuki aiheuttavat haasteita ja tehottomuutta. Tutkimus pyrkii tunnistamaan yleisimmät haasteet, joita palkanlaskennan ammattilaiset kohtaavat järjestelmää käyttäessään, ja ehdottamaan ratkaisuja, kuten parannettua koulutusta ja tukimekanismeja. Tutkimus painottaa myös strukturoitujen perehdytysohjelmien ja jatkuvien palautesilmukoiden tärkeyttä järjestelmän käytettävyyden ja työntekijöiden sitoutumisen ylläpitämisessä.

Tutkimuksessa tunnistettiin useita toistuvia haasteita SAP Payroll -järjestelmän käytössä, kuten rajallinen tietämys massatyökaluista, hankalat raportointiprosessit sekä puutteellinen tuki tietyille paikallisille vaatimuksille, kuten verotuksen automatisoinnille. Monet käyttäjät ovat kehittäneet kiertoratkaisuja, kuten Excelin hyödyntämisen, edistyneessä tietojen analysoinnissa ja automaatiotehtävissä. Vaikka nämä ratkaisut ovatkin lyhyellä aikavälillä tehokkaita, ne korostavat järjestelmäkoulutuksen ja toiminnallisuuden puutteita. Lisäksi käyttäjäkokemus vaihteli merkittävästi yksilön teknisen asiantuntemuksen ja SAP:in logiikan tuntemuksen mukaan, mikä korostaa roolipohjaisen koulutuksen tarvetta.

Tulokset viittaavat siihen, että SAP Payroll -järjestelmän käytettävyysongelmien ratkaiseminen edellyttää kaksisuuntaista lähestymistapaa: teknisen koulutuksen parantamista ja järjestelmän ominaisuuksien kehittämistä. Organisaatiot voivat hyötyä strukturoiduista perehdytysohjelmista, jotka on räätälöity eri käyttäjärooleille, painottaen käytännönläheisiä skenaarioita ja säännöllistä palautetta. Tutkimuksen näkökulmasta tämä työ edistää laajempaa keskustelua yritysjärjestelmien käyttöönotosta ja ehdottaa jatkotutkimusaiheita, kuten kiertoratkaisujen pitkän aikavälin vaikutuksia tietojen eheydelle ja organisaation suorituskyvylle. Lisäksi yhteisöllisen oppimisympäristön ja osastojen välisen tiedonjakamisen merkitys korostuu monimutkaisten järjestelmien, kuten SAP Payroll:in, potentiaalin maksimoimisessa.

Avainsanat: SAP ERP HCM, SAP Payroll, käytettävyys, käytettävyyshaasteet, palkanlaskennan ammattilaiset, kiertoratkaisut, Excel, järjestelmän monimutkaisuus, työntekijäkoulutus, organisaation tuki

TABLE OF CONTENTS

LIST OF TABLES

1 Introduction

The usability of information systems has become a critical area of focus, particularly in business-critical functions that impact organizational efficiency, productivity, and employee satisfaction (Salih et al., 2021; Bajgoric, 2006). As businesses increasingly rely on complex technological infrastructures to manage operations, the role of well-designed systems has become essential. Systems that are intuitive and user-friendly enable employees to perform tasks efficiently, reduce the likelihood of errors, and improve overall satisfaction (Salih et al., 2021; Karsh, 2004). Conversely, systems with poor usability often led to frustration, inefficiency, and higher error rates, negatively affecting both the individual user experience and the organization's operational performance (Ravichandran & Rai, 2000).

SAP HCM Payroll, one of SAP's payroll solutions, is designed to automate and streamline payroll processes. However, effective use depends on users having both technical skills and an understanding of the system's logic (SAP Company Information, n.d.). As highlighted by Nah and Delgado (2006), factors such as system analysis, project management, and change management are crucial for ERP success. Users must possess both technical skills and domain-specific knowledge to effectively manage payroll tasks, ensuring minimal errors and maximum efficiency. Moreover, timely training tailored to user needs, as well as proper system customization, are essential to prevent "misfit" scenarios that can arise from a lack of system and organizational alignment (Soh et al., 2000). The integration of system knowledge, job-specific expertise, and organizational support is key to realizing the full potential of payroll automation and ensuring its long-term success.

This study is based on interviews with payroll professionals at Company X, an international HR service provider that offers comprehensive services across various industries and relies on the SAP Payroll module for its processes. The study aims to identify the most common challenges payroll professionals face when using the system and analyze their impact on daily operations. While prior research highlights the complexity of SAP systems (Polancos, 2018; Holub & Bruckner, 2016; Shanneb, 2020), this study explores also the positive aspects of usability, especially when users are adequately trained and supported. Additionally, the study seeks to provide recommendations to improve the system's usability and enhance process efficiency at Company X by leveraging the potential of the work system in question.

1.1 Background of the Study

This study focuses on the usability of the SAP ERP Human Capital Management (HCM) payroll system, developed by SAP. SAP is a global technology company that, for over 50 years, has provided organizations with solutions to integrate critical business functions such as financial management, human resources, payroll, supply chain, and customer experience. With more than 26,000 partner companies and operations in 130 countries (SAP Company Information, n.d.), SAP services are utilized across various industries worldwide. SAP is widely recognized as a leading provider of Enterprise Resource Planning (ERP) systems (Wong et al., 2016). However, users of SAP's ERP systems often face usability challenges during the learning process, and numerous studies have indicated that these systems suffer from poor usability in their user interfaces (Polancos, 2018; Wong et al., 2016; Scholtz et al., 2013).

SAP Payroll system is perceived as complex and difficult to use among payroll professionals. Previous research has found that the complex user interface of ERP systems can negatively affect user experience and lead to user dissatisfaction (Polancos, 2018). Usability studies on ERP systems often highlight the complexity of these systems and the challenges in interpreting the data they generate. Usability issues can slow down work processes and increase the risk of errors, which in turn negatively impacts productivity (Wong et al., 2016). ERP systems like SAP Payroll are central to automating and standardizing human resources and payroll processes, but their effective utilization requires expertise and experience. Prior studies have shown that user experience and personal innovation are significant factors in the adoption of ERP systems; however, the relationship between these factors has not been extensively studied. Personal innovativeness in IT refers to an individual's tendency or willingness to adopt and experiment with new information technologies. It is considered a stable personal trait that does not significantly change based on specific situations. People with high personal innovativeness are more open to trying out and integrating new technologies into their workflows, which can play a critical role in how quickly and effectively they adapt to technological innovations. (Hwang, 2014.)

This study is based on interviews conducted with payroll professionals at Company X, an international HR service provider that offers payroll and human resources solutions across multiple industries. Company X uses the payroll module of the SAP ERP HCM system, known as SAP HCM Payroll (hereafter referred to as SAP Payroll), in its payroll processes. The study aims to identify the most common challenges payroll professionals at Company X face when using SAP Payroll,

providing insights into the system's usability issues and highlighting potential solutions to enhance its effectiveness in daily operations.

1.2 Research Problem

The SAP Payroll system is central to automating and standardizing payroll processes, yet its complexity often poses challenges for users. Usability issues, such as a steep learning curve and complex interfaces, can slow down processes, increase error rates, and reduce productivity (Wong et al., 2016). Addressing these challenges requires not only technical expertise but also strong organizational support through tailored training, effective onboarding, and accessible technical resources.

This study aims to identify the most common usability challenges payroll professionals face when using SAP Payroll at Company X and analyze their impact on efficiency and productivity. It also explores how organizational practices, such as motivation and training, can support users in overcoming these challenges. In doing so, the study contributes to understanding how usability and organizational factors intersect to influence the success of ERP systems like SAP Payroll.

1.3 Research Questions

The research questions are designed to identify the key challenges of using the SAP Payroll system from the perspective of payroll professionals. The questions aim to explore user experiences, the workarounds created by employees, and how this affects work efficiency. The study aims to provide insights into the system’s usability and identify opportunities for improvement.

Research Questions:

- What challenges do payroll professionals face when using the SAP Payroll system, and how do these challenges affect payroll efficiency?
- What kinds of workarounds have payroll professionals developed to overcome the system’s challenges?
- What is the role of organizational support and foundational training in the adoption of information systems?
- Based on the identified usability challenges and workarounds from the case study, what sustainable guidelines, if any, can be proposed for users of large software systems like SAP

Payroll and organizations to enhance usability, streamline processes, and improve overall efficiency?

1.4 Scope of the Study

This study primarily focuses on the usability of SAP Payroll and its impact on the efficiency and productivity of the payroll process at Company X. This research focuses solely on the usability of SAP Payroll and workarounds, as seen from the perspective of payroll professionals at Company X. Broader aspects of human resources management and HR processes in the system are thus outside the scope of this study.

The study is limited to the daily use of the system and does not delve into technical, architectural, or software development aspects related to the system. Only payroll professionals from Company X were selected as interviewees, so the results of this study are specific to this company. The study does not focus on the past implementation of SAP Payroll, but instead provides a comprehensive analysis of the current challenges faced by Company X employees in daily system use. The study also seeks to identify potential usability improvements for the future.

1.5 Structure of the Thesis

This thesis consists of eight main chapters, organized to systematically address the research objectives, methods, findings, and conclusions. This structure is designed to ensure a logical flow of information. Below is a summary of the structure:

Chapter 1 introduces the study by outlining the background, research problem, research questions, scope, and structure of the thesis. It sets the foundation for understanding the purpose and importance of the research.

Chapter 2 explores the SAP ERP HCM system in the context of payroll, providing an overview of relevant terminology, system structure, and functionality. It also discusses usability's impact on productivity and efficiency and examines the role of workarounds in payroll processes.

Chapter 3 focuses on the organization’s role in supporting system usability. It highlights the importance of organizational commitment, employee motivation, and effective onboarding in enhancing the usability of SAP Payroll.

Chapter 4 presents the research methods used in the study, detailing data collection and analysis techniques. It also considers research objectives, reliability, and ethical considerations.

Chapter 5 provides background information about Company X. It discusses the company's business objectives, the rationale for selecting SAP ERP HCM, and the internal support provided to employees. The chapter also introduces the interviewees, highlighting their roles and backgrounds, including their experiences with SAP Payroll implementation and training.

Chapter 6 examines user experiences with the SAP Payroll system. This chapter discusses the system's features, the challenges encountered by users, and solutions to these challenges. It also highlights how usability affects work efficiency.

Chapter 7 delves into strategies for optimizing SAP Payroll usability. It examines the workarounds users employ to improve efficiency, development suggestions to enhance system usability, and tips for new users. Additionally, it analyzes employees' experiences with Company X's support for SAP Payroll and provides suggestions for improving organizational support.

Chapter 8 concludes the thesis by discussing the key findings in detail, summarizing the research, and providing recommendations for future studies.

2 SAP ERP HCM in Payroll

2.1 Payroll Terminology

This chapter introduces key concepts and terms related to payroll and the SAP Payroll system, helping readers understand the topics discussed in the research. To enhance clarity, the terms are categorized into two distinct groups: **payroll-related terminology** and **core components of the SAP Payroll system**. By categorizing these terms, the study emphasizes the dual importance of understanding both the SAP system's structural components and the payroll-specific processes it supports.

Payroll-related terminology

- Retroactive accounting: The process of adjusting payroll calculations retroactively by reviewing and correcting data from previous payroll periods. Retroactive accounting updates changed payroll amounts to ensure that the correct sum is paid to the employee. (SAP, n.d.)

- Quota: In the SAP system, a quota refers to the number of leave days or other benefits allocated to an employee, which are tracked within the system. Quotas are the available balances of time that are deducted as used.

- Vero API: A service provided by the Finnish Tax Administration that enables real-time and case-specific data exchange between different systems. It is primarily designed for software developers and service providers who integrate the API into their software solutions. (Verohallinto, 2024.) The SAP Payroll system uses the Vero API to retrieve employee-specific tax withholding data from the tax authorities' systems for payroll purposes.

- Incomes Register (Tulorekisteri): An electronic database in Finland where comprehensive information on paid wages, pensions, and benefits is reported. (Suomi.fi, 2023.) The reports in the SAP system related to the Incomes Register ensure that all payroll data is correctly reported to the tax authorities.

Core components of the SAP Payroll system

- Infotype: A core data structure in the SAP HCM system that defines information related to an employee, such as personal details, employment start date, salary data, or absences. Each infotype has a unique four-digit identifier that defines the type of information it contains. For example, Infotype 0002 contains personal information, and Infotype 0006 stores the employee's home address. (SAP Educa, 2024).

- Transaction: A code linked to the SAP system's operations used to perform specific tasks, such as retrieving, modifying, or saving data. A transaction code consists of letters and/or numbers, allowing users to quickly access the desired operation. (SAP, n.d.)

- MyLearning platform: SAP's training platform, providing employees with opportunities to develop their skills and stay up to date with SAP solutions. The platform includes training materials, courses, and guides for using various parts of the SAP system. (SAP Learning, n.d.)

- Ad Hoc report: A customizable, on-demand report created in the SAP system. Ad Hoc reports enable fast data collection and analysis without extensive reporting configurations.

- CWTR (Wage Type Reporter): A payroll report in the SAP system used to track, record, and analyze employees' work hours. The CWTR report allows for the review and analysis of payroll results. (SAP, 2024.) The report can include information such as worked hours, overtime, and absences.

- Upload tool: A tool in the SAP system used to transfer large volumes of data, such as payroll or employee information, into the system in bulk. This mass operation saves time and reduces manual data entry.

- Client copy: A tool in the SAP system used to copy client environments, meaning entire SAP system databases and configurations, from one client to another. This is commonly used in creating test or development environments.

- Payroll period: The time frame during which employee wages are calculated and paid. It can be a weekly, monthly, or biweekly period, defined by specific start and end dates. (SAP, n.d.)

- PATAM list: A report or list containing payroll-related details and information, such as work time balances or absences.

2.2 Structure and Functionality of the SAP ERP HCM System

The SAP ERP HCM system offers a comprehensive solution for managing human resources. It is a versatile HR solution that meets the operational needs of the company, especially in payroll. The system's structure provides a broad platform that extends beyond HCM functions, allowing integration with other key company systems, such as financial management. This holistic structure enables seamless data transfer between different processes and departments, which is especially useful in payroll, where up-to-date and accurate information is critical. The system's payroll module

is strongly integrated with, among others, time tracking and personnel data management. This integration ensures that payroll needs are met with automatically updated information, minimizing manual work and reducing errors. SAP ERP HCM also provides comprehensive reporting tools that enable the tracking of payroll process efficiency and smoothness. (SAP Learning, n.d.)

In the SAP ERP HCM system, essential infotypes for payroll are used to ensure accurate payroll calculations and data correctness. The payroll area defines the timing of payroll, including the start and end dates for periods, as well as the option for retroactive calculations. The system also supports country-specific and general calculation models that SAP offers for localized needs. Additionally, the SAP ERP HCM system includes tools for payroll reporting, such as customizing pay slips. (Ganesh Karthik, 2014.)

SAP ERP HCM serves as a comprehensive human resources management system, while SAP Payroll is its internal module dedicated specifically to payroll processes. The structure of SAP ERP HCM supports SAP Payroll by providing up-to-date employee data that is essential for correct payroll calculation. In turn, SAP Payroll leverages SAP ERP HCM data and processes, such as time tracking and employee master data, allowing for efficient automation and reporting of payroll. SAP Payroll allows flexible implementation of payroll processes tailored to the company's specific needs and in compliance with each country's legal requirements. SAP Payroll covers the entire payroll process and includes employee salary components, statutory and voluntary deductions, which together make up the employee’s total gross salary. Payroll items and deductions are defined for each employee and stored as wage types in the system. SAP Payroll utilizes employee master data, which is critical for successful payroll processing, as accurate payroll data depends on the precision of this information. The system ensures that payroll aligns with globally defined, standardized processes while also considering country-specific requirements and practices, making it a flexible and efficient solution for multinational companies. (SAP Learning, n.d.)

2.3 Definition of Usability

The concept of usability gained formal recognition in the 1980s, driven largely by the rise of personal computers and the increasing prominence of user interfaces. During this period, researchers such as Jakob Nielsen and Don Norman emphasized the significance of user-centered design. Norman’s influential work, The Design of Everyday Things (1998), highlighted how design flaws could negatively affect user experience, positioning usability as a vital element in designing interactive systems. The publication of the ISO 9241-11 standard in 1998 further reinforced usability’s role as a measurable, essential component of system design (Bevan et al., 2015). This socio-technical approach

acknowledges that system design must consider both technical functionality and the users' roles, leading to better user interactions. Such insights have influenced modern usability approaches, especially in complex systems like enterprise resource planning (ERP) software, where user interaction is crucial for productivity and successful adoption.

Usability is a main concept in information systems science, as it largely determines how effectively a system supports its users in meeting their needs (Hevner et al., 2004; Gould et al., 1983). Good system usability promotes efficient use and enhances the user experience, ultimately leading to higher productivity and user satisfaction. Usability refers to the interaction between humans and computers, focusing on factors such as learnability, efficiency, memorability, error tolerance, and user satisfaction (Wong et al., 2016). Usability is tied to users' ability to achieve their goals effectively and satisfactorily using information systems. When evaluating usability, the quality of the system's interface and its overall user-friendliness are particularly important (Kruger et al., 2020).

In business systems, usability also pertains to how well the system has been implemented, how satisfied users are with it, and how effectively it meets their needs. Even if a system performs well, it may not be adopted if users are dissatisfied with it. For instance, the usability of SAP systems is significantly affected by insufficient training and challenges in system communication (Wong et al., 2016). Usability is not just a technical feature; it is closely intertwined with the user's experience and satisfaction in using the system. From an organizational perspective, improving usability can help reduce work errors and boost staff motivation, which contributes to the long-term adoption of the system. In complex systems like SAP, usability is not guaranteed; it requires careful design, an understanding of user needs, and continuous development.

According to Moumane et al. (2016) the ISO 9241-11 framework defines usability as the degree to which a system allows specified users to achieve specific goals effectively, efficiently, and satisfactorily within a particular context of use. Effectiveness refers to how accurately and completely users can accomplish their tasks, ensuring that their intended outcomes are met. Efficiency focuses on the resources expended, such as time, effort, or cognitive load, in achieving these outcomes, highlighting the importance of minimizing unnecessary effort while maintaining productivity. Satisfaction emphasizes the user’s comfort, confidence, and overall experience, ensuring the system meets their expectations and is acceptable to both the users and other stakeholders involved. This context-driven definition acknowledges that usability is not a fixed property of the system but is influenced by the specific tasks, environments, and user needs. (Moumane et al., 2016.)

This study incorporates usability into the research framework by operationalizing it through interview questions designed to capture users' subjective experiences with the SAP Payroll system. The chosen approach aligns with the ISO 9241-11 framework, which emphasizes understanding usability in terms of users' perception of its ease of use and efficiency. The interview questions probe the following usability dimensions:

1. **Ease of Use:** Participants were asked to rate SAP Payroll's usability on a scale from 0 (very difficult to use) to 5 (very easy to use). This provides a quantitative measure of perceived usability.

2. **Task Support:** Open-ended questions explored how well the system supports daily tasks, including features that enhance productivity and reduce errors.

3. **Challenges:** Users were asked to identify specific challenges in daily usage, the frequency and duration of these challenges, and their potential impact on work efficiency.

4. **Workarounds and Efficiency:** Questions focused on users' adaptations (workarounds) to overcome system limitations and their effectiveness in improving task efficiency.

5. **Suggestions for Improvement:** Participants provided recommendations for enhancing usability and shared tips for onboarding new users.

The complete set of interview questions can be found in the appendices at the end of this thesis. The inclusion of these questions ensures a comprehensive exploration of usability, encompassing both objective challenges and subjective perceptions. The focus on real-world user experiences allows for actionable insights into how usability impacts productivity and satisfaction in the payroll context.

2.4 Impact of Usability on Productivity and Efficiency

The usability of an information system significantly impacts an organization's productivity and efficiency. Calisir and Calisir (2004) emphasize that user satisfaction is a key factor in the success of an information system. They state that the ERP system's interface directly impacts end-user satisfaction, which in turn affects productivity. A well-designed interface enhances user performance and efficiency by enabling tasks to be performed quickly and effortlessly. If the system's usability fails to meet users' needs, they may become frustrated and seek alternative solutions (Calisir & Calisir, 2004). Poor usability in an ERP system can lead to process management failures and inefficiencies, resulting in user frustration and resistance. Users often face difficulties in using ERP systems daily,

which slows down work and reduces productivity. Users may need more time to become familiar with the system (Scholtz et al., 2013).

As noted by Babaian et al. (2006), a study evaluating several ERP systems, including SAP, found that poor usability features and unintuitive interfaces negatively affect productivity, thus increasing business costs. According to the study, routine tasks required significant patience and expertise. Such difficulties can slow down employees' daily activities, ultimately reducing the organization's overall efficiency. (Babaian et al., 2006). Considering these points, it can be concluded that improving usability will significantly boost users' productivity and efficiency. A well-designed and user-friendly system enables smoother workflows and reduces training requirements, leading to cost savings and improved competitiveness for the organization.

2.5 Workarounds in Payroll

A workaround refers to situations where users develop unofficial methods for using an information system when it fails to meet task requirements or obstructs normal workflows. Workarounds are often used to address deficiencies or barriers in the data or functionality provided by the system. Although workarounds are often seen as temporary solutions to ease the challenges of adopting a new system, they may become standardized over time, leading to issues such as in governance control and data quality. (Drum et al., 2016.) In payroll, workarounds may arise when the system fails to fully meet business needs or when the system-defined processes do not align with organizational requirements. Workarounds can be either planned or unplanned responses to immediate payroll needs. However, using workarounds can negatively impact the system's operation, particularly the quality of financial and administrative data. (Drum et al., 2017.)

In SAP systems, Drum et al. (2017) has observed that payroll professionals often use Excel to support their work when the system does not meet all their needs. The use of Excel serves as a workaround that is important to the payroll professional, but it is not a system-defined practice. This can create problems at later stages, such as in data verification and reporting, as Excel files are often kept outside the system, complicating data integration. (Drum et al., 2017.) Excel is a neutral workaround intended to facilitate the user's work and does not affect other users or workflows. Excel is a commonly used neutral workaround that allows users to format data more clearly, making their work easier. For example, by using pivot tables, users can combine and organize data in ways that suit their needs. (Drum et al., 2016.)

3 The Organization’s Influence on System Effectiveness and User Experience

3.1 Organizational Commitment and Employee Motivation

The successful implementation of an information system requires both organizational and employee commitment. The organization's readiness to invest in resources such as training and technical support provides the foundation for the effective utilization of the system (Maryati & Kamisah, 2015). Without strong organizational commitment, employees may lack the motivation to use the system effectively.

Employee motivation plays a crucial role in system adoption, and it is influenced by both intrinsic and extrinsic factors. Intrinsic motivation refers to the user's own desire and interest in using the system. It arises, for example, from the perceived enjoyment or ease of use of the system. Extrinsic motivation, on the other hand, relates to how useful the user perceives the system to be in completing their tasks. An extrinsically motivated user focuses more on what the system can offer in performing their duties rather than the system's use itself. For example, ease of use may spark intrinsic interest, while the system's usefulness in task performance may increase extrinsic motivation. The connection between these motivational factors is significant in information system adoption. Intrinsic motivation can support user autonomy and the accumulation of tacit knowledge, while extrinsic motivation is more closely related to the system's practicality in supporting work tasks. (Hwang, 2005.)

The organization's commitment serves as the foundation for motivation, but success largely depends on how well employee motivation to use the system is supported. Understanding users' intrinsic and extrinsic motivations helps organizations adapt training strategies and tools to meet users' needs. Providing high-quality instructional materials and practical experience can also help overcome learning challenges, such as those arising from the complexity of the system (Rosemann et al., 2005). This ensures that both organizational and employee efforts lead to successful system adoption and usage.

3.2 Importance of Onboarding in System Usability

Effective onboarding is crucial for improving the usability of information systems for employees. Research shows that training can significantly increase users' confidence and competence, which in turn improves their ability to use information systems effectively (Cowan & Jack, 2011). Through onboarding, employees learn to navigate the system smoothly, reducing errors and frustration. This

is especially important in systems that require active user interaction, such as ERP or HR systems. Training also helps reduce users' reliance on workarounds, which in turn improves the system's functionality and reliability (Cowan & Jack, 2011).

The gap in system usage efficiency between experienced and new users is significant. Experienced users can optimize the use of systems because they understand the system's nuances, which novice users may not notice (Lawrence & Ashleigh, 2019). The practical exercises provided in training can assist new users in becoming familiar with the system’s operations and ensure they can utilize the system’s full potential as quickly as possible.

The value of onboarding extends beyond the use of information systems alone. Acevedo and Yancey (2011) note that many organizations fail to fully leverage the potential of onboarding programs because human resources are not seen as a sufficiently important strategic asset. Effective onboarding provides several short- and long-term benefits, such as better job satisfaction, higher retention rates, and faster time to productivity, all of which directly impact the usability and effectiveness of information systems (Acevedo & Yancey, 2011). Holton (2001), on the other hand, emphasizes that onboarding should offer new employees the opportunity to fully utilize their skills and abilities, which is often overlooked when organizations overly focus on administrative tasks and process control. When employees feel their contributions are valued and they are provided with the right tools and information, their commitment and productivity improve (Holton, 2001).

Training plays a crucial role in improving information system usability. It can foster employee engagement and ensure effective system use, which in turn increases productivity and reduces errors. This enables the organization to achieve better long-term success and commitment. (Walker-Schmidt et al., 2022.)

4 Research Methods

4.1 Data Collection Methods

The data collection method for this study was semi-structured interviews, in which ten payroll experts from Company X shared their experiences with using the SAP Payroll system. The interviews were conducted in Finnish via remote connections. Using the Teams platform allowed for flexible scheduling of interview times and eliminated the need for interviewees to be physically present. These remote interviews provided diverse insights into users' real experiences and needs.

Semi-structured interviews were chosen as the data collection method because they offer a flexible and comprehensive way to gather information. This method allows for an in-depth understanding of interviewees' individual perspectives, which is crucial when studying phenomena that aim to explore the meanings of personal experiences rather than generalizations (Adeoye-Olatunde et al., 2021).

Semi-structured interviews are particularly popular in qualitative research due to their flexibility. They allow the researcher to improvise and ask follow-up questions during the interview. This makes the method suitable for studies that aim to understand complex topics, such as the usability of information systems. (Kallio et al., 2016.) The interviews were conducted using a predefined interview guide while also allowing space for interviewees to present their own views, thereby enhancing the depth and authenticity of the collected data (Hirsjärvi et al., 2022).

A key advantage of using semi-structured interviews for this study is that they combine systematicity and interaction. The method helps build trust between the interviewer and the interviewee, which encourages interviewees to openly share their experiences. For example, in a study where establishing a communication connection was deemed critical, trust was built through prior communication and being fully present during the interview. According to this study, successful execution of the interview relied on thorough preparation, maintaining the interviewer's alertness, and a genuine interest in the interviewees' perspectives. (Buys et al., 2022.)

The question guide used in semi-structured interviews provides a clear structure for the interview but does not need to be strictly followed. This flexibility allows important topics to emerge during the conversation, helping the researcher gather comprehensive information on the research topic while ensuring the data is comparable. (Kallio et al., 2016.) At the same time, the open response structure of semi-structured interviews enables interviewees to express themselves freely, without the limitations that closed questions might impose (Hirsjärvi et al., 2022).

The semi-structured interview method was particularly suitable for this study because the aim was to explore a multi-dimensional theme, the usability of information systems and its relation to user experiences and the system efficiency. A carefully thought-out question guide was prepared for the interviews, but the interviewer had the freedom to delve deeper into specific topics and ask clarifying questions when necessary. This method allowed for exploring users' experiences with the SAP Payroll system's usability, efficiency, and challenges. The flexibility and in-depth nature of this interview method supported the research objectives and facilitated the collection of high-quality data.

4.2 Data Analysis Methods

Qualitative content analysis was used to analyze the research data, providing an opportunity to examine the challenges related to the system's usability and the users' experiences in detail. Initially, the interviews were transcribed, and then the data was coded using thematic analysis. Thematic analysis is a form of content analysis and one of the key methods in qualitative research (Tuomi & Sarajärvi, 2018). It involves identifying relevant topics, or themes, within the data based on the research problem (Eskola & Suoranta, 2008). Thematic analysis aimed to identify key recurring topics and trends, such as challenges related to SAP Payroll navigation, performance, and user interface clarity, as well as common workarounds that users had developed to improve workflow. This process revealed clear links between payroll efficiency and productivity. The purpose of the analysis was to gain an in-depth understanding of how usability challenges impact the daily processes of payroll professionals.

Qualitative content analysis was chosen as the data analysis method for this study because it offers flexibility in analyzing text-based data, such as interview transcripts. This method allows for a concise and broad description of the phenomenon, enabling the identification of key themes and categories within the data (Elo et al., 2022). The applicability of content analysis to various types of data makes it particularly useful for studies investigating people's experiences (Elo & Kyngäs, 2008).

This study employs a data-driven, or inductive, content analysis approach because the phenomenon being investigated, the usability of the SAP Payroll system from the perspective of payroll professionals, is a relatively under-researched topic. The inductive approach allows for the formation of categories directly from the data without relying on predefined classification frameworks (Elo et al., 2022). In inductive analysis, categories are formed based on meanings that emerge from the data, making this method particularly suitable for generating new insights (Elo & Kyngäs, 2008). The choice of inductive content analysis supports the objectives of this study, as it allows for the

generation of new perspectives and enhances understanding of a phenomenon that has not been extensively addressed in prior research.

The use of content analysis is justified due to its naturalistic paradigm, which allows for the interpretation of the meanings of text data within its context. The inductive approach helps minimize threats to the reliability of the analysis, as coding and classification are based directly on the data rather than external structures. (Hsieh & Shannon, 2005.) Additionally, a benefit of qualitative content analysis is its multi-method approach. It combines qualitative and quantitative elements, enabling a multidimensional examination of the data. This is especially important when studying complex phenomena, such as user experiences and the efficiency of work processes. (Mayring, 2014.) The chosen analysis method provides a theoretically and practically sound way to examine the data and utilize the insights gained. Content analysis allows for a systematic exploration of SAP Payroll users' experiences, organizing the data into themes and identifying recurring phenomena, such as usability challenges and workarounds.

4.3 Research Objectives

The main objective of the study is to identify the most common challenges faced by payroll professionals in their daily use of the SAP Payroll system and to map the workarounds developed by employees to overcome these challenges. Additionally, the study aims to assess how these challenges and workarounds impact work efficiency. The research provides concrete recommendations tailored specifically to improving the usability of the SAP Payroll system used by employees at Company X. These recommendations are based on the identified usability issues within the system, focusing on practical solutions that enhance the user experience and streamline processes for payroll professionals. More broadly, the study contributes to a deeper understanding of how complex information systems like SAP Payroll, impact expert work and the management of organizational processes. The insights from this research offer strategies for improving the quality of payroll operations and optimizing the management of enterprise systems, helping organizations better support their users and achieve greater operational efficiency.

The main goal of content analysis is to summarize the research data in a way that meaningful observations emerging from the data can be described in a generalized form. This method supports the systematic examination of research questions and helps highlight the key features of the phenomenon being analyzed. This approach enables the production of reliable and repeatable results, providing a clear direction for the study’s conclusions (Elo et al., 2022).

The general aim of qualitative research is to allow interviewees to express their own experiences. This approach emphasizes the authenticity of the research, which is particularly important when studying subjective experiences with the use of a complex system. Qualitative research can help identify challenges encountered in system use that may not be revealed through quantitative studies (Fossey et al., 2002).

The societal and scientific significance of the study is substantial, as the usability of information systems is directly related to both organizational and individual efficiency. System usability significantly influences how well professionals can perform their tasks and manage processes without unnecessary delays or errors. (Kruger et al., 2020.) Mapping the challenges and workarounds within an organization is important because it can uncover areas for improvement in system usage that affect both employee productivity and the organization’s competitiveness.

4.4 Reliability and Ethical Considerations

The reliability and ethical considerations of the study are crucial for its quality and credibility. In qualitative research, reliability refers to the study's credibility, transferability, dependability, and confirmability (Shenton, 2004). In this study, reliability was ensured through careful data collection and analysis, with the aim of ensuring that the data collected was comprehensive and diverse. The interview questions were carefully planned to elicit in-depth and varied responses to the key themes of the study. A systematic approach was followed in data processing to ensure both consistency and objectivity, guaranteeing that the analysis results were comparable.

Ethical considerations are also central, as the study directly relates to the interviewees' lives and experiences. Ethical principles, such as informed consent and minimizing harm, are essential in all research. (Fossey et al., 2002.) In this study, ethical considerations were addressed by providing interviewees with comprehensive information about the study's purpose and data handling before obtaining their consent to participate. Interviewees were also informed of their right to withdraw from the study, which was part of the ethical approach. Additionally, the study adhered to strict confidentiality and data protection protocols. The interview data was handled anonymously to ensure that individual interviewees or the company could not be identified from the research results. The study’s data will be kept for one year for scientific transparency, after which the interview data will be destroyed.

To enhance reliability, Table 1 "Overview of the Challenges", is included to visually categorize and illustrate the identified challenges. The purpose of this is to demonstrate to the reader that the research

results are based on systematic analysis, rather than the researcher's subjective interpretations. Since qualitative research requires abstraction and interpretation of the data, this approach helps make the process transparent and shows the justified nature of the analysis (Elo et al., 2022).

5 Background Information of the Study

5.1 Business Objectives of Company X and the Choice of SAP ERP HCM

This section is based on a thematic interview conducted with a senior executive at Company X. The purpose of this interview was to understand the rationale behind the adoption of the SAP Payroll system and to provide context about the company's business operations. Unlike the interviews conducted with employees, which focused on user experiences and system usability, this interview was designed to offer background information about the company's strategic objectives and technological choices. Understanding the business drivers and decision-making process behind the selection of SAP Payroll is crucial. It helps contextualize the system's implementation within the broader goals of Company X and highlights how the system aligns with the company's mission to optimize payroll processes. By examining these factors, the study provides a foundation for assessing how organizational strategies influence system usability and adoption.

Company X is an international HR service provider focused on offering solutions for human resources processes and payroll management across various industries. The company's services include payroll, reporting, and strategic human resource management solutions. Company X utilizes SAP's ERP system in its operations, with the goal of enhancing its clients' HR functions by improving process accuracy, transparency, and cost-effectiveness. The company's operations are supported by strong technological expertise and local expert teams in different markets.

Company X's business objectives have been centered around international payroll and process harmonization, which made the SAP Payroll system an attractive option as early as the late 1990s. From the company's perspective, successful implementation of multinational payroll management requires a unified system capable of meeting the legal requirements of various countries while providing a clear operational framework. The selection of SAP Payroll was part of the company's business strategy to create a centralized payroll model, eliminating the need to rely on different service providers in various countries. With SAP Payroll, Company X can consolidate its payroll services under one system, reducing the complexity of operating in a global environment and enabling the cost-effective management of larger volumes of data.

Although SAP Payroll offers customization options, its maintenance is demanding and requires both technical expertise and resources. The complexity of SAP also brings usability and maintenance challenges, necessitating continuous investment from the company. Nonetheless, SAP provides a

stable and reliable platform that the company can use to market its services as a trusted and secure partner.

5.2 Internal Support and Training at Company X

This section continues to build on insights from the background interview conducted with a senior executive at Company X. The aim of this thematic discussion was to delve deeper into the company's role in ensuring the successful implementation and ongoing use of the SAP Payroll system. Understanding how Company X supports its employees in navigating this complex system is critical for identifying the challenges and opportunities tied to internal processes and resource allocation.

According to the executive, the SAP Payroll system has a significant impact on employees' daily tasks, but user experiences with the system vary. Some employees appreciate the opportunities the system provides for managing processes, which streamline daily operations and improve task coordination. Others find the system's complexity to be a challenge, which can reduce work efficiency and lower motivation. The executive believes that the main issues do not stem from the SAP system itself, but from internal support structures and resource shortages in system maintenance. He emphasizes that the implementation and utilization of the SAP system have not been adequately supported through internal communication and marketing. Improving these areas could increase employee engagement and motivation.

At Company X, users are primarily trained on the SAP system through practical learning. However, the lack of basic SAP training and the suboptimal quality of training materials can slow down the learning process. To support more effective learning, the company could invest in providing basic SAP training and improving the content and availability of training materials. Although SAP offers some training and certification programs to develop users' skills, Company X should take a more active role in supporting high-quality system onboarding for its staff. This could ensure that employees can fully leverage the benefits of the SAP Payroll system.

5.3 Roles and Backgrounds of Employees

5.3.1 Employees' Roles in the Organization

The study interviewed ten employees from Company X. The interviewees were selected from various roles, including experts from the AMS (Application Management Service) team, the company's Competence Center (CC) team, payroll specialists, and team leaders. The diverse roles of the interviewees cover a wide range of tasks related to the SAP Payroll system.

The study included both newer employees of Company X and those with long tenures at the company. The interviewees' work experience at the company ranges from 1.5 years to 13 years, with an average of approximately 4.8 years. Sixty percent of the interviewees have worked at the company for less than 3 years, while 20% have been with the company for more than ten years.

Both new and more experienced SAP users were chosen for the study to provide a comprehensive picture of the system's usability. Newer users can offer fresh insights into the effectiveness of onboarding and a comparative perspective on other systems they may be familiar with. They also have more current knowledge of how well the system supports smooth task adoption from the start. On the other hand, more experienced users provide deeper insights into the long-term use of the SAP system and its impact on work efficiency and daily processes. In this way, the study benefits from various perspectives that support a thorough analysis of the SAP system's usability and its development needs.

5.3.2 Employees' Experience in Payroll Before SAP Payroll

The backgrounds of the employees in payroll vary significantly. Some joined Company X without prior experience in payroll, while others have worked for several years with various payroll systems such as MepCo, CGI, or Lemonsoft. None of the employees had experience with the SAP Payroll system prior to joining Company X.

5.3.3 Employees' Experiences with SAP Payroll Implementation and Training

Most of the employees have learned to use SAP Payroll on the job, without comprehensive and systematic training. The training provided by Company X is often limited to support from more experienced colleagues and on-the-job learning. Although some employees have participated in deployment projects or internal training sessions, the general observation is that formal and ongoing training is insufficient, which can affect the efficiency of system usage and increase the likelihood of errors. Support from colleagues has played a key role in onboarding new employees and helping them adopt the system. According to Guldbergs study, peer-to-peer learning can facilitate knowledge construction, enhance reflective skills, and foster a sense of group cohesion, particularly through online interactions. Peer learning in online discussions also promotes community building and strengthens critical thinking. (Guldberg, 2008.) Organizations have a growing need to enhance their employees' skills and knowledge management, particularly in knowledge-based organizations. Peer-to-peer learning can serve as a cost-effective method for fostering continuous learning in environments where knowledge sharing and collaboration are critical to operations. (Hara, 2009.)

6 User Experience with SAP Payroll: Features, Challenges, and Solutions

6.1 General User Experience

Although previous research has often highlighted the poor usability of SAP ERP systems (Wong et al., 2016), this study reveals that many users at Company X found the system at least somewhat user-friendly. Based on the ratings provided by the users, more than two-thirds of the employees find the system at least somewhat user-friendly, while one-third find it challenging. The user experience is particularly influenced by the user's technical expertise and familiarity with the logic of the SAP system. Many technically oriented individuals consider SAP Payroll to be logical and relatively straightforward, while less technical users often find it complex and unintuitive. Users' technical skills and understanding of SAP system logic significantly influence their experiences, and this study highlights the challenges encountered in daily system use.

6.1.1 Daily Use of the System in Work Tasks

Most employees use the SAP Payroll system for almost all their working hours, approximately 60–90% of their work time. For the majority, the system is constantly open, and they rely on it as their primary tool for daily tasks. Exceptions include a few individuals, such as team leaders, whose roles do not require active use of the system. Even so, their workweeks involve checks and data retrieval related to the system.

The employees use SAP Payroll across a wide range of functions, which vary according to their role. Payroll processing and reporting are key tasks, including payroll execution, error correction, and master data management. Additionally, monitoring external interfaces is an important aspect, especially in outsourced payroll services. Development and testing of SAP Payroll are also essential tasks for individuals in technical roles. In addition to SAP, the employees use various tools daily, with Excel emerging as the most significant. Excel is particularly necessary when SAP's reporting features do not meet all needs or when there is a desire to automate and simplify reporting within Excel.

The intensive use of SAP Payroll supports the smoothness of payroll processing but also highlights areas for improvement. Enhancing reporting capabilities and creating more efficient guidelines could make usage even easier. Additionally, skill gaps, such as a lack of proficiency in using the Upload tool, can hinder workflow and increase inefficiency.

6.1.2 Employees' Evaluation of SAP Payroll's Usability

Usability was assessed on a scale of 0 to 5, where 0 represents "very difficult to use" and 5 represents "very easy to use." One interviewee did not provide a rating due to their leadership role, as they do not use the system much in their daily work. There was some variation in the ratings, but two-thirds of the employees consider SAP to be easy to use.

- **Ratings 3–5 (6 people):** Users who gave these ratings generally find SAP functional and logical, especially if they understand the system's logic.
- **Ratings 0–2 (3 people):** Those who gave lower ratings find SAP complex and difficult to use without prior experience with SAP or a similar system.

User ratings were also compared by role.

- **Payroll Specialists (4 people):**
    - Three out of four rated SAP Payroll as quite easy to use, with scores of 2.5, 3, 3.5, and 4. Payroll specialists generally find SAP Payroll moderately easy to use.
    - Group average for usability: 3.25
    - Standard deviation of ratings: 0.56
- **CC and AMS Specialists (4 people):**
    - Half of the CC and AMS specialists found the system easy to use, giving ratings of 4 and 4.5. The others gave a rating of 2, indicating they find it somewhat difficult to use.
    - Group average for usability: 3.13
    - Standard deviation of ratings: 1.14

The specialists' ratings of SAP Payroll's usability are very close to each other, indicating a consistent user experience with little variation between individual ratings. This consistency may be due to similar training, experience, or similar roles, which reduce differences in evaluations between users. The higher standard deviation in the AMS and CC specialists' ratings suggests that there is more variation in their assessments, which could be attributed to different backgrounds, SAP expertise, or varying role requirements.

6.1.3 Well-Functioning Features and the System's Impact on Work Efficiency

According to the employees, SAP Payroll is particularly efficient in its calculation features. The versatility of retroactive calculations and reporting features was mentioned as the most significant benefits, as they make work easier and save time.

Here is a list of aspects mentioned by the interviewees in this context:

- **Retroactive calculation:** SAP's ability to manage retroactive changes was considered extremely useful. It reduces the need for manual calculations and saves a lot of time.
- **Reporting:** SAP's reporting capabilities are diverse and highly customizable, allowing for effective use of data across different time periods and historical information.
- **Automation and mass uploads:** Automated functions, particularly the mass Upload tool, significantly enhance work efficiency, although its use is not yet fully established across the organization.
- **Scalability and calculation capacity:** SAP can handle large volumes of data and support complex payroll scenarios, which helps manage work more effectively.
- **Interface color coding:** The color coding of different databases, such as test and production databases, enhances system usability and helps prevent errors.

6.2 Challenges in Using SAP Payroll

This section discusses the challenges employees face in the daily use of the SAP system. These challenges often result in employees spending time on manual corrections, searching for data, troubleshooting errors, and maintaining the smoothness of work processes. At the end of this section, a summary table of the key observations (Table 1) is presented.

6.2.1 Challenges and Their Impact on Work Efficiency

Observation 1 - Lack of Familiarity with Mass Functions: Interviews revealed that employees have limited awareness of the availability and functionality of mass tools. While SAP provides tools for performing mass actions, employees are often unaware of their existence. For example, one interviewee shared a situation where a date change needed to be made for a large group of employees, but payroll staff had to make the changes manually, one by one. It wasn't until two years later that an employee discovered the transaction that would have allowed this change to be made in bulk. Another

interviewee mentioned that not all SAP functions can be performed in bulk, which significantly slows down work. For instance, when there's an error in payroll data, it cannot be corrected using the SAP tool, but instead it requires manual correction. However, such situations are becoming less common, as many tasks can now be performed in bulk—provided employees are sufficiently familiar with the tools available.

Observation 2 - Access Rights Issues: Several employees found access restrictions frustrating. For some SAP transactions that would be useful and speed up tasks, because access requires a lengthy approval process, which does not always guarantee that access will be granted. Additionally, some necessary rights have been removed, further complicating the employees' work. In such cases, team members cannot independently check the reasons for errors, which delays problem-solving and increases the need for consultants. In some situations, the absence of confirmation that all tasks have been completed correctly due to access restrictions limits the user's control over their work. This challenge was especially evident in reporting transactions, where access rights are sometimes not granted for reasons unknown. For example, the SA38 transaction, which would be extremely helpful and significantly ease the work, was mentioned. Another example was the LSMW transaction, which was replaced with the Upload tool for users without a transition period. The time spent learning the Upload tool during the transition phase was significant, and it was considered somewhat clunkier to use.

Observation 3 - Complex and Time-Consuming Processes: In the SAP Payroll system, editing data, such as correcting personal information or leaving quotas, requires multi-step processes. Employees must know what they are doing and proceed correctly through the multi-step process. One interviewee described how complex vacation correction steps can take a considerable amount of time if the procedures are not fully mastered. This requires employees to remember and manage multiple functions, which can slow performance and increase the risk of errors.

Observation 4 - Difficulty in Accessing Calculation Rules: The availability of calculation rules in the SAP system is challenging, which slows down work. Checking some payroll calculation rules often requires the help of a consultant, as the logic behind the rules is not directly available to users. For example, if a user wants to check the calculation rule for a specific pay component, they must rely on a consultant or search for information in the system's deep structures. This challenge is particularly pronounced in situations where clients want detailed clarifications on payroll calculations and their underlying logic.

Observation 5 - Insufficient Technical Skills and Training Needs:

- **Observation 5.1 - Report Handling:** Several employees pointed out that the complex functions of the SAP system, such as searching and modifying reports, require technical skills that not all users possess. Company X offers various report templates, but applying and modifying them takes time and technical understanding. Employees are often unclear about where and how to obtain the desired information efficiently. Many employees mentioned having to run multiple reports and combine the results in Excel because the internal SAP tools do not always provide sufficient flexibility or clear filtering options. This leads to time-consuming data searches and error corrections, which negatively impact work efficiency. Training is particularly needed for Ad Hoc and CWTR reports.

- **Observation 5.2 - Incorrect Use and Infotypes:** One interviewee mentioned that the system is often used incorrectly, leading to errors and increased workload. Particularly, there are misunderstandings related to specific infotypes, such as those related to dates (e.g., IT3 and IT41), which result in recurring errors. The correction of these errors often falls to consultants, further burdening them.

- **Observation 5.3 - Record Locking in Maintenance Mode:** Interviews also revealed issues with record locking caused by forgetting to switch off maintenance mode. When a record is accidentally left in maintenance mode, other employees cannot process the data, causing delays. Although employees have been instructed to view data in display mode, maintenance mode usage is so routine for many that the guidance is easily forgotten. This highlights the need for reminders and additional training to ensure users remember to use the correct mode and minimize unnecessary locking.

- **Observation 5.4 - Challenges with Language Versions:** Using the SAP Payroll system in multiple languages presents occasional challenges. Not all transactions may work in local language, even though some users prefer to use the system in local language. Incomplete or faulty translations lead to a recommendation to use the system in English instead.

Observation 6 - Creating Error Situations in the Test Environment: Consultants cannot make changes in the production environment, which means they must create specific error scenarios from scratch in the test environment. The scenario cannot be copied from production, which increases workload and makes the process more cumbersome. Especially when the client copy in the test environment is very old, it takes a considerable amount of time to create an error situation. This slows down problem-solving and increases the need for resources, as each situation must be built separately in the test environment before potential solutions can be tested.

Observation 7 - System Slowness: The SAP Payroll system is slow, particularly when saving large reports. For example, saving reports in Excel format can take a significant amount of time, increasing workload and negatively impacting efficiency. This slowness is especially problematic in situations requiring fast analysis of large data sets. The system does not support efficient data storage and processing, making it difficult for employees to complete tasks smoothly and on time.

Observation 8 - Tax Information Automation Deficiencies: The automation of tax information through the Vero API does not function as expected. Employees reported having to make manual corrections because the Vero API cannot update tax card effective dates correctly in SAP. This adds manual work and undermines the benefits of automation, which was intended to improve efficiency.

Observation 9 - Challenges in the Incomes Register Process: According to employees, there are many challenges in Incomes Register reporting, and Incomes Register errors are common. SAP does not account for all situations, such as unjustified benefits or recovery events, meaning that information related to these situations cannot be properly transferred to the Incomes Register without manual input. Correcting Incomes Register data can be very challenging, and the process must be verified multiple times during the payroll run.

Observation 10 - Special Needs for Payroll Periods: In the SAP system, processing two-week payroll periods is not as smooth as with monthly payroll cycles, leading to the need for extra checks. Particularly when processing garnishments, where the portion of vacation pay to be withheld must be considered, the system lacks sufficient flexibility. As a result, employees must perform manual checks, which consumes time and resources.

6.2.2 Time Spent Addressing Challenges

In this section, we examine how much time the employees report spending on resolving different challenges in the SAP system. The time required to address these challenges varies, and understanding this is crucial for assessing work efficiency and productivity.

Observation 1 - Lack of Familiarity with Mass Functions: Employees report that the lack of mass processing tools or their unfamiliarity with them significantly slows down work. Manual processes can take an entire workday. For example, manually processing quotas for a specific group of employees can be time-consuming, as precise information is needed about which employees have been working during a specific period. The time cost is entirely dependent on the type of work and whether the employee is aware of mass tools.

Observation 2 - Access Rights Issues: Challenges related to access rights have slowed down processes, especially when familiar transactions have suddenly been disabled. For example, during the transition from LSMW to the Upload tool, tasks took twice as long to complete with the new tool. A lot of time was spent learning the new tool due to its significant differences in functionality compared to LSMW. Due to tight schedules, employees had to request "firefighter" access to use the old LSMW tool to complete tasks on time. It is still unclear who will make changes to the Upload tool if any are needed. Employees might feel their needs and concerns may not have been taken seriously and may never be addressed. The Upload tool has now become familiar, and time spent working with it is the same as with the previous LSMW tool. The work in the Upload tool now takes around 30 minutes, depending on the task.

Observation 3 - Complex and Time-Consuming Processes: Editing data in the SAP Payroll system is time-consuming. According to one interviewee, a simple quota correction can take anywhere from 15 to 60 minutes, depending on how well the employee knows the process. In more complex situations, such as making leave corrections, the time costs can rise to one hour or more, especially if the employee is not entirely sure of the required steps. This challenge occurs weekly.

Observation 4 - Difficulty in Accessing Calculation Rules: One interviewee mentioned that they spend about one workday per week clarifying calculation rules. This depends on the employee's role. In this case, the employee's role involves handling clarifications, so they spend more time on this than others. If the calculation rules were visible in SAP, they estimate that the clarification work would take around 2 hours per week, saving 6 hours weekly. Payroll type listings can be requested from consultants to facilitate the work, but this always requires asking for an updated listing.

Observation 5 - Insufficient Technical Skills and Training Needs:

- **Observation 5.1 - Report Handling:** Due to a lack of expertise in reporting, employees may spend several hours per week searching for and processing reports, which reduces efficiency.
- **Observation 5.2 - Incorrect Use and Infotypes:** Fixing errors caused by system misuse takes considerable time and often creates a backlog for consultants.
- **Observation 5.3 - Record Locking in Maintenance Mode:** The duration for which records remain locked in maintenance mode depends on how long the mode is active. If the employee who set the lock forgets to remove it, it may take a long time before another user can access the necessary information.

- **Observation 5.4 - Challenges with Language Versions:** Different language settings in the SAP system can slow down communication between employees if they are not using the system in the same language. Also, not all transactions may function in local language, which could lead to some issues with work quality and efficiency. Although this challenge does not significantly impact efficiency, it is in everyone's best interest to use the system in the same language: English.

Observation 6 - Creating Error Situations in the Test Environment: The time required to recreate an error situation in the test environment depends on the specific case and the age of the client copy. Generally, creating an error situation takes a few hours. The challenge becomes especially prominent when there is a serious error or one that requires urgent fixing, which can take several hours just to recreate the situation in the test environment. This challenge occurs at least monthly, if not weekly.

Observation 7 - System Slowness: Employees reported that SAP runs can take several hours, especially if the system freezes or gets queued. This directly affects daily productivity.

Observation 8 - Tax Information Automation Deficiencies: Employees report that manually updating tax card effective dates in SAP takes one workday per month, depending on the month.

Observation 9 - Challenges in the Incomes Register Process: Incomes Register errors occur frequently, and manual corrections are time-consuming, especially for larger companies where retroactive changes are more common. This challenge requires about one day per month. It also slows down the payroll process because several correction runs might be required due to the Incomes Register.

Observation 10 - Special Needs for Payroll Periods: In the SAP system, additional checks for bi-weekly pay periods take up to one workday per week. This challenge repeats weekly because the bi-weekly payroll cycles alternate and apply to two payroll groups, whose payroll runs alternate every other week.

6.2.3 Potential Solutions for Avoiding Challenges

The interviews revealed the employees' own views on whether there might be a solution to the challenges mentioned.

Observation 1 - Lack of Familiarity with Mass Functions: The proposed solution is to create easily accessible instructions or an information page on mass tools. These could explain how different transactions work and where they should be used. This would improve the usability of the tools and

save time, especially when working with mass functions. For example, an information page for an infotype: “Through this transaction, you can create X items in bulk.” The employees did not mention any publicly available memo or list of mass tools; instead, employees generally create their own memos. Although the Upload tool's mass function is in use, it is currently only suitable for specific tasks, such as exporting bonuses. This tool could possibly be developed to handle other tasks in bulk.

Observation 2 - Access Rights Issues: The suggested solution is to clarify which transactions are essential for workflow efficiency and ensure seamless access to them. It is also recommended to ensure a smooth transition for employees when a familiar tool is replaced by a new one.

Observation 3 - Complex and Time-Consuming Processes: For each complex and time-consuming process, it is recommended to create clear, step-by-step instructions that are easily accessible to all employees. Providing clear work instructions helps users understand complex tasks. Additionally, employees should be offered regular targeted training to improve process efficiency and deepen their understanding of system logic. Efficiency could also be improved by organizing workshops where employees share their tips and best practices. One interviewee mentioned that training and experience help with understanding processes. However, this interviewee emphasized that the client's understanding is also crucial. It is important that clients understand the basics of SAP so that the processes run more smoothly. Another interviewee suggests that in cases of errors in vacation calculations, issues should be escalated to a consultant for correction and testing. These suggestions, including the peer-to-peer approach and sharing best practices, demonstrate the application of Workaround Development, where employees collaboratively identify and implement solutions to improve system usability and efficiency.

Observation 4 - Difficulty in Accessing Calculation Rules: Better visibility of calculation rules in SAP would ease and speed up work, as users could check for themselves where specific system values come from without needing to rely on a consultant’s help. Calculation rules should show which figures have been processed, which report is being used, and which payroll type is involved. However, implementing this solution may be challenging due to the complexity and cost associated with modifying SAP systems. Adjusting calculation rules requires extensive development resources and technical expertise, whether done internally or through external consultants. Additionally, even if the technical implementation is successful, the intended improvements in usability and efficiency may not be fully realized if users do not adapt to the new feature or find it difficult to use effectively in practice. These factors make the development of such functionality a significant investment for the organization.

Observation 5 - Insufficient Technical Skills and Training Needs: Creating instructions for Company X has been perceived as a challenge, and the responsibility for this has been shifted to the user level. Many employees expressed a desire for more concise and targeted instructions, as well as clearer, shorter videos or training materials (e.g., on the MyLearning platform). While the need for such resources is likely not new to the organization, the volume and significance of this need, as highlighted in the interviews, emphasize its crucial role in improving workflow efficiency in a sustainable and cost-effective manner. Addressing this need systematically could not only enhance day-to-day operations but also reduce long-term training costs and dependency on external support.

- **Observation 5.1 - Report Handling**: Enhancing technical skills through various training/workshops or instructions, particularly in areas where employees have identified skill gaps, such as reporting (especially Ad Hoc and CWTR).

- **Observation 5.2 - Incorrect Use and Infotypes:** It is recommended to create clear instructions for those infotypes that users often misuse. Infotypes related to dates (e.g., IT3 and IT41) are particularly misunderstood in SAP.

- **Observation 5.3 - Record Locking in Maintenance Mode:** A solution could be regular reminders that data should be checked in "Display" mode when no edits are necessary. This would reduce delays, ensuring that data is immediately available to everyone. The user interface could possibly warn when maintenance mode is still active if no changes have been made.

- **Observation 5.4 - Challenges with Language Versions:** It would be beneficial to make it company policy that SAP language settings be in English. This should be emphasized, particularly for new employees, so they learn to use the system in the correct language from the start. For long-term users of the local version of SAP, switching the language on the fly can be challenging and can slow down work momentarily.

Observation 6 - Creating Error Situations in the Test Environment: One interviewee mentions the possibility of using an external service to copy error situations from the production environment to the test environment but doubts the cost and usability of the service. This indicates that the challenge could potentially be solved, but there are uncertainties around its feasibility.

Observation 7 - System Slowness: It needs to be investigated why the slowness occurs. Some employees have roles for specific long-term clients that allow them to switch servers, which speeds up the process for those clients, but these situations are exceptions.

Observation 8 - Tax Information Automation Deficiencies: It should be determined whether Company X's practices should be changed, or if there is a need to alter SAP's logic to correctly handle tax card effective dates. This indicates that the challenge could be solved but requires further analysis and development work.

Observation 9 - Challenges in the Incomes Register Process: The cause of Incomes Register errors seems to be SAP's logic, as SAP does not consider all situations, such as cases involving unjustified benefits and recoveries. To get the related information into the Incomes Register correctly without significant manual effort, SAP's logic would need to be modified. This suggests that the challenge may not be easily solvable.

Observation 10 - Special Needs for Payroll Periods: One interviewee feels that the special needs for payroll periods cannot be fully avoided, but some improvements may be possible. Another interviewee believes that the challenge could be avoided if it could be built into SAP, but doubts that it would be an easy task.

Table 1 presents a summary of the interview findings. The first column identifies each challenge, while the second column outlines the amount of time employees spend addressing it. The third column considers whether the challenge could potentially be resolved, and the fourth column offers recommendations for addressing the issue. The final column, 'Frequency,' indicates how many interviewees mentioned each challenge during the interviews.

Table 1. Overview of the challenges

Challenge	Duration / 1 employee	Can it be resolved?	Suggestions	Frequency
Observation 1 Lack of Familiarity with Mass Functions	Depends on the situation, several hours/week	Partially	Training in the use of mass tools and their capabilities; improving the availability of guides and tools. Developing the Upload tool to cover more mass functions.	20% (2 mentions)
Observation 2 Access Rights Issues	Varies, hours/week	Requires investigation	Faster and clearer access rights process; instructions and a plan for user-specific access rights.	30% (3 mentions)
Observation 3 Complex and Time-Consuming Processes	About 15 min – 1 hour per task	Partially	Clear process instructions and training on performing steps; simplifying processes where possible.	50% (5 mentions)
Observation 4 Difficulty in Accessing Calculation Rules	About one working day/week	Requires investigation	Increase the visibility of calculation rules to users or create a knowledge base for the most common calculation rules.	20% (2 mentions)
Observation 5.1 Report Handling	Several hours/week	Partially	Increase technical skills through training, workshops, and guidelines, particularly in using Ad Hoc and CWTR reports.	30% (3 mentions)
Observation 5.2 Incorrect Use and Infotypes	Causes bottlenecks for consultants	Partially	Create clear instructions for commonly misused infotypes like IT3 and IT41.	20% (2 mentions)
Observation 5.3 Record Locking in Maintenance Mode	Varies	Yes	Regular reminders about using the Display mode when no edits are required, and possibly an interface warning when maintenance mode is left on.	10% (1 mention)
Observation 5.4 Challenges with Language Versions	Occasional slowness	Yes	Implementing English as the default SAP language setting for company practices.	10% (1 mention)
Observation 6 Creating Error Situations in the Test Environment	Several hours/week	Requires investigation	Use of external services to copy error situations or automatic client copies.	20% (2 mentions)
Observation 7 System Slowness	Several hours/week	Requires investigation	System optimization or improving server performance for large workloads.	40% (4 mentions)
Observation 8 Tax Information Automation Deficiencies	1 working day/month	No / Requires investigation	Potential change in practices or development of SAP logic. Review and update the Vero API to handle effective dates automatically.	10% (1 mention)
Observation 9 Challenges in the Incomes Register Process	1 working day/month	No / Requires investigation	Potential change in practices or development of SAP logic. Reducing manual correction processes and adapting the system to meet Incomes Register requirements.	20% (2 mentions)

Challenge	Duration / 1 employee	Can it be resolved?	Suggestions	Frequency
Observation 10 Special Needs for Payroll Periods	1 working day/week	Requires investigation	System updates to better support two-week payroll periods; automating manual checks.	20% (2 mentions)

7 Optimizing SAP Payroll Usability: Workarounds, Development Suggestions and Support Strategies

7.1 Workarounds and Improving Efficiency

The employees have sought to alleviate challenges in the SAP Payroll system through various workaround solutions, with the use of Excel particularly emphasized as an enabler for quick and efficient data processing. Excel is often used as a workaround tool when data generated by the SAP system exists but is not readily accessible in its current form (Drum et al., 2016).

7.1.1 Workarounds Used to Alleviate Challenges

Many employees (9/10) emphasized that while SAP's reporting capabilities are good, they often end up transferring data to Excel due to the practical benefits of using it. For example, one of these nine interviewees mentioned that while it is possible to filter reports in SAP, they find it easier to perform more detailed filtering and analysis in Excel. This is partly due to their lack of familiarity with SAP's reporting tools, making Excel seem like a more reliable option.

Excel emerged as a central tool in the workaround solutions. Employees highlighted (7/10) that Excel provides a flexible and efficient way to handle large amounts of data. For instance, one of these seven interviewees mentioned the need to manually save data during tax card updates using the Upload tool due to limitations in SAP. This demonstrates that the system's constraints push employees to develop their own solutions.

The complexity of SAP's user interface has posed additional challenges. Several employees (6/10) pointed out that transferring data from SAP to Excel is often faster and easier, especially when the data needs to be combined from multiple sources. This necessitates the development of additional workaround solutions to enable employees to perform tasks more efficiently.

Out of all the interviewees, one specifically shared that they had developed a macro for a regularly run active list that speeds up report generation. Before creating the macro, the task took about two hours per month, but after its implementation, the same task now takes only five minutes per month. Although the active list is no longer run, the interviewee suggested that a similar solution could be developed for other tasks, such as running the PATAM list. This tool was developed by an individual, demonstrating how personal initiatives can contribute to improving workflows.

7.1.2 Time Savings Achieved Through Workarounds

The implementation of workaround solutions has led to significant time savings. For example, the interviewee who created the macro reported saving over 13 hours of work time during a seven-month period with this solution. Another interviewee estimated that by using Excel, they can complete their tasks up to twice as quickly, allowing them to focus on more important tasks.

It is important to note that Excel has transitioned from being seen purely as a workaround to an accepted tool used to address exceptions in the workflow. While SAP handles routine tasks, Excel is used to manage non-standard situations, ensuring tasks are completed efficiently. The time savings achieved through these methods not only improve individual efficiency but also have a broader impact on the organization's overall operations. By catching errors early, multiple teams are spared extra work, which in turn improves collaboration between departments.

7.2 Development Suggestions and Tips

The employees shared several concrete suggestions for improving the usability and efficiency of the SAP Payroll system. According to them, the current interfaces and functions of the system do not always fully meet the needs of users, which slows down work and increases the risk of errors. The employees believed that small, targeted improvements could significantly ease daily use of the system and speed up processes, particularly those involving multi-step data retrieval or testing.

7.2.1 Suggestions for Smoother Use of SAP Payroll

- One key development suggestion was to improve the search functions in SAP Payroll. According to the employees, certain functions and transactions require either long menu navigation or the use of a search field that does not anticipate the user's needs. The employees believed that a more efficient search function, one that learns from the user's actions, would make it easier to find relevant information and reduce unnecessary navigation. This would particularly improve the work of users who perform multiple similar tasks daily.

- Another significant suggestion for improvement related to strengthening roles in the testing environment. According to the employees, it would be important to add stronger roles in the testing environment, including client roles, so that processes could be planned and tested more effectively. Stronger roles in the testing environment could reduce delays and ensure higher-quality results in production.

- The employees also suggested enhancing training and onboarding. They believed that more focus should be placed on training for system usage to support efficient use of the system. The employees felt that training during the early stages of employment has a significant impact on system adoption, and it could help new employees more effectively transition to practical work tasks.

7.2.2 Tips for New Users to Ease System Adoption

Several practical tips were provided to ease the start of using the SAP Payroll system for new users. First, many employees emphasized that taking screenshots of the work done in the system is helpful, as it aids in remembering and understanding various functions. New users should also be given time to learn the system's complex structure, as it requires familiarization and self-learning. It is important for users not to rely solely on onboarding materials, but to actively explore the system. Additionally, employees recommended using the test environment, where new users can practice and experiment without the risk of damaging data. The SE16 transaction is particularly useful for reporting and data mining, and its use should be taught to new users.

The onboarding process for new employees could be improved by offering mentorship and support from multiple colleagues, which could facilitate learning and help avoid isolation. It is also important to encourage seeking help from outside the team, as collaboration between teams could improve knowledge sharing and problem-solving. Finally, employees suggested creating a small handbook that covers the basics and practical guidelines, such as how to navigate or open a new window in the system. Such material could ease the work of new users and speed up the learning process, making them feel that using the system is less challenging.

7.3 Employees' Experiences with Company X's Support and Resources for SAP Payroll

Most interviewees (8/10) felt that they received support from their colleagues when needed, which served as their primary problem-solving method. Some employees (4/10) noted that collaboration extends beyond team boundaries, facilitating the sharing of expertise and experiences across the organization. The organization has also provided guidance and training materials to support the use of SAP, although their availability and accessibility have been problematic. Many interviewees (7/10) expressed a desire for more concise and focused instructions, as well as clear, short training videos, such as those available on the MyLearning platform.

Additionally, tools related to reporting, such as CWTR and Ad Hoc reports, were mentioned as important in daily work, and there is a call for more training and materials on these tools. Many employees (6/10) felt that a unified SAP onboarding process, which would introduce the most common tools and basic usage tips, could ease system use, particularly for new employees. Interviewees had varying experiences with the quality and content of the onboarding process, which at Company X largely depends on the trainer assigned. However, many employees (6/10) felt that their own "tutor" was an excellent support during the initial phase of their work.

7.4 Suggestions for Improving Organizational Support by Company X

Employees suggested creating targeted, concise training videos and clear instructions on the most common SAP functions, which could reduce the need for assistance and increase self-sufficiency. Additionally, clarifying SAP’s basic training and overall structure would help users better understand task dependencies, which could reduce the need to search for information and improve SAP usage efficiency, particularly for new employees.

Another suggestion for improvement was better management of the consultant teams' workload to ensure that support teams can provide consistent and high-quality assistance during busy periods. It is important to manage the workload of consultant teams to maintain accessibility and quality of support. Targeted instructions could alleviate the burden on support teams by enabling some users to find the help they need directly from the guidance materials, without needing to contact support.

8 Conclusions

8.1 Discussion

The data analysis offers valuable insights that support the research hypothesis regarding the impact of SAP Payroll system's usability on work efficiency and productivity. Wong et al. (2016) and Calisir & Calisir (2004) highlight that usability is a key factor determining user satisfaction and system success. According to the interviews, the system is generally considered user-friendly, particularly among technically skilled employees, which supports the theory that technical expertise improves the user experience. Challenges such as access issues and process complexity, on the other hand, indicate that the system's potential is not being fully utilized. This further strengthens the view that poor usability can directly decrease work efficiency and increase the likelihood of errors. Considering these findings, it can be concluded that the quality of training and onboarding emerges as a key factor in system adoption, as suggested by the research. This supports previous studies showing that user experience and effective onboarding can significantly enhance system usage.

The widespread use of workarounds, particularly Excel, within Company X highlights the importance of neutral workarounds, as discussed by Drum et al. (2016). Excel's use offers clear benefits, such as increased efficiency in reporting, but it also underscores the limitations of the SAP system, particularly in mass operations and reporting tools. Rather than viewing Excel as a temporary workaround, it could be integrated into the defined work processes, legitimizing its role in the workflow. This would enable the development of a more cohesive system that acknowledges the current system's limitations while enhancing overall efficiency. Adopting such a solution could lead to the comprehensive and sustainable development of the workflow, ensuring that the system evolves to meet the users' needs more effectively. The need, identified in the interviews, to develop the system to better meet user needs further reinforces Drum et al.'s (2017) observation that system limitations can drive employees to create their own solutions. While these workarounds may highlight the system's weaknesses, they also reflect the employees' expertise and commitment, suggesting that such initiatives could contribute to a more adaptable and effective system in the long term.

Organizational commitment and employee motivation are particularly evident in the interviews, with an emphasis on the importance of support and collaboration. Previous studies (Maryati & Kamisah, 2015; Rosemann et al., 2005) emphasize that employee motivation – both intrinsic and extrinsic – and the allocation of organizational resources to training are essential factors for a successful system implementation. According to the interviews, employees feel they receive good peer support, but the

training materials provided by the organization do not always meet their needs. This suggests that it is important for the organization to invest in resources tailored to users' needs, such as clear, concise instructions and videos.

Onboarding for the use of the SAP system was a major topic in the interviews. Studies by Cowan & Jack (2011) and Lawrence & Ashleigh (2019) demonstrate that effective onboarding improves user confidence and competence, reducing the usage gap between new and experienced employees. The interviews at Company X revealed some gaps in system usage between users. At Company X, learning to use the system and onboarding is largely the responsibility of individual trainers and the employees themselves, which leads to varied experiences with the SAP Payroll system. In addition to providing targeted and easily accessible onboarding materials, enhancing peer-to-peer collaboration and systematizing workaround strategies could significantly improve new employees' experiences and accelerate their adaptation. This would foster a more supportive learning environment, leveraging the collective expertise within the organization to bridge the gap between new and experienced users.

Although the study focuses on a single organization, the findings have broader implications, especially for companies using SAP ERP systems. However, it should be noted that generalizability is limited. Different organizational cultures, usage patterns, and resources can influence how well the proposed solutions work in other contexts. Therefore, while the study provides practical recommendations, improving usability requires not only tailored adjustments to the system itself but also continuous monitoring and adaptation of the entire work system to ensure sustainable solutions to emerging challenges.

8.2 Summary of Key Findings

The main objective of this study was to identify the most common usability issues of the SAP Payroll system and examine their impact on work efficiency and productivity at Company X. The study shows that the effective use of the SAP Payroll system depends on a strong focus on training, organizational commitment, and well-designed system onboarding. While the system offers significant benefits, such as efficient processing and versatile reporting features, its complexity and certain limitations may hinder the user experience. Usability of the SAP Payroll system plays a key role, but its full potential remains unachieved without adequate support and resources from the organization. Based on the interview responses, several key challenges were identified regarding the use of SAP Payroll, with a focus on system inefficiencies and limitations. These challenges can be categorized as follows:

Observation 3 - Complex and Time-Consuming Processes (50%): A recurring theme was the complexity of processes within SAP Payroll, particularly when dealing with multiple-step procedures or modifications. Payroll specialists often cited the cumbersome nature of tasks such as editing personal information, correcting leave allocations, and troubleshooting errors. These tasks were frequently described as time-consuming and requiring extensive knowledge of the system to execute efficiently.

Observation 7 - System Slowness (40%): Several participants reported performance issues with the system, particularly with long-running jobs or actions that take several hours to complete. The slowness was seen as an obstacle to workflow, leading to frustration and delays. For instance, specific payroll runs or data retrieval processes were noted as being unusually slow, with no clear explanations even from SAP consultants. This slowness often disrupts the workflow and significantly delays task completion.

Observation 2 - Access Rights Issues (30%): Access control limitations were another challenge frequently mentioned by respondents. Restrictions on transaction permissions and the need to request elevated access for specific tasks were cited as hindrances to efficient work. Employees expressed frustration with delays in obtaining the necessary permissions, particularly for high-priority tasks, which often led to slowdowns in daily operations.

Observation 5.1 - Report Handling (30%): Handling reports within SAP Payroll was highlighted as another area of difficulty. Participants indicated that the system's reporting capabilities were not always intuitive, and generating accurate reports required significant time and effort. This included both the inability to easily find the right data and the complexities involved in customizing reports to meet specific needs. Lack of sufficient training and experience also contributed to these challenges, as users struggled to navigate the system's reporting features effectively.

Observation 4 - Difficulty in Accessing Calculation Rules (20%): An additional significant finding relates to the time payroll professionals spend addressing specific challenges, such as clarifying calculation rules. One interviewee estimated that they dedicate approximately one workday per week to these tasks, which could be reduced to just two hours per week if the calculation rules were more accessible within SAP Payroll. This improvement would result in saving six hours weekly, representing a clear example of how usability enhancements can have a measurable impact on efficiency. The study highlights this as a concrete case of Workaround Development, where employees adapt and propose potential solutions to mitigate inefficiencies. Integrating user feedback into system development could address such issues more systematically, thereby enhancing

productivity and reducing the reliance on external consultants to obtain updated listings for payroll type information.

Overall, the main challenges identified by the interviewees revolved around SAP Payroll's inefficiencies, system slowness, complexity, and inflexibility, all of which affected users' productivity and efficiency. These issues were compounded by access rights and report-handling limitations, as well as the lack of sufficient training and customization options.

The concept of **Workaround Development** emerged in this research as an example of how employees adapt system limitations creatively to achieve their work goals. According to Wibisono et al. (2022), workarounds are intentional, situational adaptations that arise when formal system processes do not align with user needs or expectations. They often stem from individual mental models, with or without formal scripts guiding them, and are crucial for overcoming system rigidity or gaps (Wibisono et al., 2022). In this study, one of the interviewees reported developing a macro to automate the active list report generation, reducing the time required for the task from two hours per month to just five minutes. This innovation was a personal workaround but highlights the potential for broader implementation of similar solutions within the organization. Encouraging employees to innovate within their roles could result in continuous system improvements and efficiencies. This approach should be integrated as a natural part of the organization's way of working, where employee-driven innovations are not only supported but also systematically managed and aligned with the overall organizational framework. This ensures that systems remain adaptive and capable of evolving in response to real-world needs, recognizing the human-centric and dynamic nature of knowledge work.

Based on the interviews, the development of the SAP system should focus on both enhancing the SAP tool itself and optimizing the broader HR work system that supports it. Improving training for mass operations and refining reporting tools can increase work efficiency while better integrating SAP into HR processes. Many of the workarounds identified in the interviews were such that an alternative implementation (for example, enabling tasks to be completed directly within SAP) could likely improve workflow and efficiency. That said, there were also workarounds that played a crucial role in maintaining the overall functioning of the HR work system. These workarounds may not always be replaceable, as they serve to facilitate tasks that the current SAP system cannot fully support. In such cases, finding a balance between system enhancements and the strategic use of workarounds will be key to optimizing both system efficiency and operational continuity.

Improving the support materials provided by the organization and creating a unified onboarding program could help employees adopt the system more effectively. Basic training specifically for new users of the SAP Payroll system could speed up their transition to practical tasks and help them better understand the system's processes. Additionally, a stronger focus on internal collaboration and utilizing user feedback could promote smoother usage of SAP Payroll and help maintain employee motivation.

8.3 Recommendations for Future Research and Limitations

The successful use of the SAP Payroll system depends on both technical resources and human factors. Continued investment in these factors enables the effective utilization of the system and increases productivity within the organization. However, it should be noted that the generalizability of the findings is limited due to the small number of interviews conducted. Future research with a larger sample size across multiple organizations could be necessary to assess how universal these usability issues and workarounds are across different SAP user groups. Additionally, the study could explore in greater depth how comparing SAP with other HR systems could help identify best practices and areas for development. Future research could also investigate how system optimization and development may influence long-term employee motivation and commitment to using the system. Furthermore, the proposed Workaround Development concept requires additional validation to ensure its reliability and applicability in different organizational contexts. Addressing the issues of reliability and validity in future studies will be crucial for confirming the robustness of the results and recommendations.

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Appendices

Appendix 1 Interview Questions in Finnish

1. Rooli, palkkahallinnon kokemus ja tausta

- Mikä on roolisi yrityksessä?
- Kauanko olet ollut yrityksessä?
- Kuinka kauan olet käyttänyt SAP Payroll -järjestelmää?
- Millainen on taustasi ja kokemuksesi palkanlaskennassa ennen SAP Payroll -järjestelmään tutustumista?
- Oletko ollut mukana SAP Payroll -järjestelmän käyttöönotossa tai koulutuksessa?

2. Käytön tiheys ja monipuolisuus

- Kuinka monta tuntia viikossa käytät SAP Payroll -järjestelmää keskimäärin?
- Miten/missä tehtävissä käytät järjestelmää? Kuvaile omaa päivittäistä järjestelmän käyttöä.
- Mitä toimintoja käytät työssäsi eniten? Kauanko niihin kuluu aikaa?

3. Organisaatiotuki ja resurssit

- Millaisia resursseja ja tukea saat organisaatioltasi SAP Payroll -järjestelmän käyttöön? Onko tämä tuki ollut riittävää?
- Mitä tukea toivoisit lisää / toisin?

4. SAP Payroll -järjestelmän yleinen käyttökokemus

- Kuinka helppokäyttöisenä koet SAP Payroll -järjestelmän?
    - 0 = erittäin vaikeakäyttöinen
    - 1 = vaikeakäyttöinen
    - 2 = jokseenkin vaikeakäyttöinen
    - 3 = jokseenkin helppokäyttöinen
    - 4 = helppokäyttöinen
    - 5 = erittäin helppokäyttöinen
- Mikä toimii hyvin? Miten koet järjestelmän auttavan työn tehokkuutta?

5. Työn tehokkuus ja tuottavuus

- Minkälaisia haasteita tunnistat päivittäisessä käytössä? (Miten koet järjestelmän haittaavan työn tehokkuutta?)
- Jos on konkreettinen esimerkki työn tehokkuuteen vaikuttavasta haasteesta niin:
    - Kuinka kauan aikaa käytät tähän haasteeseen?
    - Kuinka usein haaste toistuu?
    - Olisiko haaste vältettävissä? Jos, niin miten?

6. Työn esteet ja ongelmat

- Onko SAP Payroll -järjestelmän käytössä jotain muita esteitä, jotka hidastavat työskentelyäsi? Mitä nämä esteet ovat?
- Miten näiden esteiden ratkaiseminen voisi nopeuttaa prosesseja?
- Oletko kokenut, että SAP Payrollin käyttö on aiheuttanut virheitä tai epäselvyyksiä prosessissa?

7. Kiertoratkaisut ja työskentelyn tehostaminen

- Oletko käyttänyt kiertoratkaisuja (tapoja, joilla olet helpottanut/nopeuttanut omaa työntekoa) SAP Payroll -järjestelmän käytössä ilmeneviin haasteisiin? Jos olet, millaisia nämä ratkaisut ovat?
- Paljonko nämä kiertoratkaisut ovat säästäneet aikaa?

8. Kehitysehdotukset ja vinkit

- Tuleeko mieleen jotain muuta, jolla SAP Payroll -järjestelmän käyttöä voisi sujuvoittaa / helpottaa?
- Millaisia vinkkejä antaisit uusille käyttäjille SAP Payroll -järjestelmän käytön aloituksen helpottamiseksi?

Appendix 2 Interview Questions in English

1. Role, Payroll Experience, and Background

- What is your role in the company?
- How long have you been with the company?
- How long have you been using the SAP Payroll system?
- What was your background and experience in payroll before getting acquainted with the SAP Payroll system?
- Have you been involved in the implementation or training of the SAP Payroll system?

2. Frequency and Versatility of Use

- On average, how many hours per week do you use the SAP Payroll system?
- How/for what tasks do you use the system? Please describe your daily use of the system.
- What functions do you use most frequently in your work? How much time do you spend on them?

3. Organizational Support and Resources

- What resources and support do you receive from your organization for using the SAP Payroll system? Has this support been sufficient?
- What additional support would you wish for?

4. General User Experience with SAP Payroll System

- How easy is it to use the SAP Payroll system?
    - 0 = very difficult to use
    - 1 = difficult to use
    - 2 = somewhat difficult to use
    - 3 = somewhat easy to use
    - 4 = easy to use
    - 5 = very easy to use
- What works well? How do you feel the system helps improve work efficiency?

5. Work Efficiency and Productivity

- What challenges do you encounter in daily use? (How does the system hinder work efficiency?)
- If you have a concrete example of a challenge affecting work efficiency:
    - How much time do you spend on this challenge?
    - How often does this challenge occur?
    - Could this challenge be avoided? If so, how?

6. Obstacles and Problems in Work

- Are there any other obstacles in using the SAP Payroll system that slow down your work? What are these obstacles?
- How could solving these obstacles speed up the processes?
- Have you experienced that using SAP Payroll has caused mistakes or uncertainties in the process?

7. Workarounds and Improving Work Efficiency

- Have you used workarounds (ways in which you have facilitated/speeded up your work) for challenges in using the SAP Payroll system? If so, what are these workarounds?
- How much time have these workarounds saved?

8. Development Suggestions and Tips

- Do you have any suggestions for improving or simplifying the use of SAP Payroll?
- What tips would you give to new users to help them get started with using SAP Payroll?

Appendix 3 Usage of AI

This thesis makes use of the generative AI tool ChatGPT. The tool has primarily been used as a translation aid throughout the thesis to ensure clarity and consistency in sentence structure. ChatGPT has been used to improve the fluency of self-written texts and correct any grammatical errors. This appendix offers a more detailed explanation of how ChatGPT was used.

The thesis topic was formulated in collaboration with Company X. ChatGPT was used in arranging the structure of the pre-determined research questions to effectively cover all desired aspects. The tool was also used to improve sentence structures and correct grammatical errors. Examples of questions include: “Rewrite the Research Problem and Objectives section: {…}”, “Translate this text into English: {…}”, and “Formulate suitable research questions that cover the entire topic area: {…}.” These questions guided the direction of the research and made the writing process and exploration of research topics smoother and more efficient.

ChatGPT has been used to assist in understanding the literature by helping the researcher explain the content of sources when a certain part was unclear. In such cases, the tool provided a brief explanation of what the paragraph was about. ChatGPT was also used to suggest the key content of sources and to improve the structure of certain self-written sentences: “Write this sentence more clearly: {..}.”

ChatGPT assisted in research methods by ensuring that the data collection and analysis methods were correctly defined: “Is the data collection method correctly defined in this context: {..}?” The tool was also used to justify the importance of ethical aspects to the researcher: “Why are reliability and ethical perspectives important in scientific research?” ChatGPT provided creative assistance in structuring the text and improving sentences in the same way as in other sections of the thesis.

ChatGPT assisted in summarizing the interviews and identifying connections between the results. The interview summaries are based on the transcription material manually written by the researcher. The use of AI in creating the summaries significantly improved the time efficiency of processing the interview results.

In the latter part of the thesis, in the Discussion and Conclusion section, ChatGPT provided suggestions for improving sentences and paragraph structures: “Write more clearly: {..}” and “What should be included in the Discussion and Conclusion chapters of the thesis?”