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The Relationship and Benefits of Aligning Communication Management and Information System Management

Case: Tietokeskus Oy

Master's thesis
Information Systems Science

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Internal communication management has been rising in popularity in the communication management domain in recent years. Organizations have started seeing employees as one of the most important stakeholders to communicate effectively. In the modern business landscape, most managers find themselves conducting internal communications through some kind of communication technology, and in most cases through many at the same time. Virtual teams are becoming commonplace in organizations and have created the need for channels and networks through which communications can be done fast and easily. Even if virtual teams are not used, communication technology usage for internal communications brings many benefits. The goals of this research are to identify the relationship between communication management and information system management practices and to identify the drivers of internal communication success and use them in creating an effective internal communication strategy.

Qualitative case study research was conducted using the Gioia-method. The research data for this thesis was gathered by conducting semi-structured interviews within the case organization. Ten interviews were conducted with participants from every business unit within the case organization to obtain as much diversity of answers as possible. These interviews helped in understanding what are the drivers of effective internal communications and what are the allignment points between communication management and information system management. Additionally, a questionaire was held within the case organization, which helped in understanding the case organization's internal communication satisfaction. In addition a literature review was gathered from the subjects of communication management and information system management. From the communication management literature, an internal communication matrix was selected as the theoretical backbone for understanding organizations' internal communication aspects. Furthermore, from information system management literature, information technology system management is used as the framework for how the management of organizations' IT systems is conducted. The found research results were shown in two distinct data structures about: the key alignment points between communication management and information system management as well as the drivers of effective internal communication strategy. These data structures were created by first open-coding the gathered interview data to create 1st-order codes. From these codes 2nd-order categories were created, and ultimately three aggregate dimensions for both data structures were found.

The research found alignment points between communication management and information system management, which were: enhanced communication, change management, and crisis management. Furthermore, an internal communication strategy framework is created through which organizations can create a more effective internal communication strategy.

Key words: Communication management, Information system management, Internal communication strategy.

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Sisäisen viestinnän hallinta on viime vuosina kasvattanut suosiotaan viestinnän hallinnan alalla. Organisaatiot ovat alkaneet pitää työntekijöitä yhtenä tärkeimmistä sidosryhmistä, joille on viestittävä tehokkaasti. Nykyaikaisessa yritysmaailmassa useimmat johtajat toteuttavat sisäistä viestintää jonkin viestintäteknologian avulla, ja useimmiten useiden eri viestintäteknologioiden avulla samanaikaisesti. Virtuaalitiimit ovat yleistymässä organisaatioissa, ja ne ovat luoneet tarpeen kanaville ja verkostoille, joiden kautta viestintä voidaan hoitaa nopeasti ja helposti. Vaikka virtuaalitiimejä ei käytettäisikään, viestintäteknologian käyttö sisäisessä viestinnässä tuo monia etuja. Tämän tutkimuksen tavoitteina on selvittää viestinnän hallinnan ja tietojärjestelmien hallinta käytäntöjen välinen suhde sekä tunnistaa sisäisen viestinnän onnistumisen ajurit ja käyttää niitä tehokkaan sisäisen viestintästrategian luomisessa.

Laadullinen case-tutkimus toteutettiin Gioia-menetelmää käyttäen. Tämän tutkielman tutkimusaineisto kerättiin tekemällä puolistrukturoituja haastatteluja case-organisaatiossa. Kymmenen haastattelua suoritettiin, ja osallistujia oli kaikista case-organisaation liiketoimintayksiköistä, jotta saataisiin mahdollisimman monipuolisia vastauksia. Haastattelut auttoivat ymmärtämään, mitkä ovat tehokkaan sisäisen viestinnän taustatekijät ja mitkä ovat kommunikaation hallinnan ja tietojärjestelmien hallinnan liittymäkohdat. Lisäksi case-organisaatiossa järjestettiin kysely, joka auttoi ymmärtämään case-organisaation sisäisen viestinnän tyytyväisyyttä. Lisäksi kerättiin kirjallisuuskatsaus kommunikaatio hallinnan ja tietojärjestelmien hallinnan aiheista. Kommunikaatio hallinnan koskevasta kirjallisuudesta valittiin sisäisen viestinnän matriisi teoreettiseksi selkärangaksi organisaatioiden sisäisen kommunikaation näkökohtien ymmärtämiseksi. Lisäksi tietojärjestelmien hallintaa käsittelevästä kirjallisuudesta käytetään information technology system management:ia viitekehyksenä sille, miten organisaatioiden tietoteknisten järjestelmien hallintaa toteutetaan. Löydetyt tutkimustulokset esiteltiin kahdessa eri rakennemallissa, jotka koskivat seuraavia asioita: viestinnän johtamisen ja tietojärjestelmien johtamisen väliset keskeiset yhteensovittamispisteet sekä tehokkaan sisäisen kommunikaatiostrategian ajurit. Nämä tietorakenteet luotiin avoimesti koodaamalla kerätty haastatteluaineisto ensin 1. asteen käsitteiden luomiseksi. Näistä käsitteistä luotiin 2. asteen teemat, ja lopulta molemmille tietorakenteille löydettiin kolme kokonaisdimensiota.

Tutkimuksessa löydettiin kommunikaatio hallinnan ja tietojärjestelmien hallinnan välisiä yhtymäkohtia, jotka olivat: tehostettu viestintä, muutos hallinta ja kriisinhallinta. Lisäksi voitiin luoda sisäisen kommunikaation strategian viitekehys, jonka avulla organisaatiot voivat luoda tehokkaamman sisäisen kommunikaatiostrategian.

Avainsanat: Kommunikaatio hallinta, tietojärjestelmien hallinta, sisäinen kommunikaatiostrategia.

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1.1 Background

Internal communication management has been rising in popularity in the communication management domain in recent years. Seeing employees as one of the most important stakeholders to communicate effectively brings benefits for managers (Verčič & Špoljarić, 2020). In the modern business landscape, most managers find themselves conducting internal communications through some kind of communication technology, and in most cases through many at the same time. Virtual teams are becoming commonplace in organizations and have created the need for channels and networks through which communications can be done fast and easily (Aritz, 2017). Even if virtual teams are not used, communication technology usage for internal communications brings many benefits (Verčič & Špoljarić, 2020; Aritz, 2017).

According to Verčič & Špoljarić (2020), internal communications can be seen as a multidisciplinary area between public relations, human resource management, and marketing. Internal communication is a part of various organizational functions and not actually part of any. In academic literature, the subjects range from managerial and organizational studies to public relations, to organizational psychology, and many more.

Multiple studies have linked information technology and information system capabilities to organizations' performance (Bharadwaj, 2000; Devece & Martinez-Simarro, 2017; Devece et. al., 2017; Santhanam & Hartono, 2003). Information system management (ISM) can therefore be seen as an opportunity for performance gains in companies that rely on these systems as a big part of core business strategy (Aydiner et al., 2019). While organizational performance gains can be seen in different studies, the link between ISM and internal communications is unfamiliar. Understanding how IS and IT are used in internal communication efforts is the key to understanding how they can be managed specifically to improve communication efforts (Pérez & Alegre, 2012; Gu & Jung, 2013).

The case organization Tietokeskus Oy, that this study will be based on, operates as an IT service provider in Finland. The organization has adopted the use of virtual teams and utilizes digital communication technology for most internal communications. Information systems are used to conduct business operations, data collection, documentation, technical support, and many other business-oriented actions. In this research, the mangement of these systems as a part of internal communications management will be studied in detail. In adition, weaknesses are identified within the organization's internal communication practices. Internal communication can be divided into three sections within the case organization: 1. Management communication, 2. Ticket communication and 3. Human resource communications. This division will help us understand the organization's communication habits through different business sectors.

1.2 Research questions

This case study was an assignment from Tietokeskus Oy to conduct research on why the company is seemingly experiencing issues with internal communication efforts. The faced issues varied from important information not reaching key stakeholders who would be affected by this information to internal communication lacking real strategy or guidelines. From the meeting where this problem was pitched as an opportunity for conducting research, the design of the research was started. After searching the literature, an interesting gap in research was found. There has been minimal research done connecting internal communication management theories with the management of information systems. Since the case company communicates primarily through communication technology, an argument can be made that there lies a major opportunity for expanding the literature within this area of communication management. The following research questions were formed for this thesis:

1. What aspects should be considered when building an effective internal communication strategy?
2. How can information system management be aligned with communications management?

Research question 1 is aimed at identifying the operational aspects that affect internal communication and how this aspect can be used in forming an effective internal communication strategy. For research question 2, this research tries to identify and understand the relationship between communication management and information system management as well as what are the key alignment points.

1.3 Structure of the thesis

This research paper starts from the theoretical framework (chapters 2-4), which was created from previous literature on the subjects of communication management and information system management, as well as subjects that were seen as being connected to the researched topics. From there, we move on to the methodology chapter (chapter 5), where the research methodologies are discussed, i.e. research methods, data collection methods, and data analysis methods. In chapter 6, we focus on what was found from the thorough analysis of the gathered research data. In chapter 7, the key findings and implications are discussed, as well as, mentioning the perceived limitations of the research, and suggestions are given for future research. Finally, the thesis is summarized in the conclusion chapter (chapter 8).

2 Communication management

Communication efforts are affected by many sources, some of which are more controllable than others, for example, making efforts to guide communications within an organization can be done relatively simply, but changing the company's underlying communication culture might pose more difficulties (more on these later on this chapter). More broadly speaking, communication is part of every aspect of what everyone does. Communication might happen in person, through digital communication channels, or even through documentation. Communication management helps organizations manage how communication efforts are utilized, what issues arise from failed communications, and how these can be avoided.

2.1 Internal communication evaluation

For this thesis, the Internal Communication Matrix (see table 1) by Welch & Jackson (2007) was chosen as the theoretical backbone for the evaluation of internal communication efforts. The matrix was proposed as a tool which can be applied to different forms of stategic analysis, planing, and evaluation of internal communication, therefore, validating its usefulness on this thesis.

Table 1 Internal communication matrix (Welch & Jackson, 2007)

Dimension	Level	Direction	Participants	Content
1. Internal line management communication	Line managers/ supervisors	Predominantly two-way	Line managers-employees	Employees' roles Personal impact, e.g. appraisal discussions, team briefings
2. Internal team peer communication	Team colleagues	Two-way	Employee-employee	Team information, e.g. team task discussions
3. Internal project peer communication	Project group colleagues	Two-way	Employee-employee	Project information, e.g. project issues
4. Internal corporate communication	Strategic managers/top management	Predominantly one-way	Strategic managers-all employees	Organisational/corporate issues, e.g. goals, objectives, new developments, activities and achievements

Welch and Jackson (2007, p. 183) wrote that: "*If internal communication is the strategic management of interactions and relationships between stakeholders at all levels within organisations, these stakeholders need to be identified*." L'Etang (2005) criticizes the tendency for internal communication writers to treat employees as a single entity. Instead, Freeman's (1984) stakeholder approach defines stakeholders as any group or individual who can affect or be affected by the achievement of the firm's objectives. This approach calls for organizations to become more responsive to external stakeholders. Freeman's research identified various internal stakeholder groups, including line management, team members, and other internal groups. The stakeholder approach emphasizes ethical management behaviors and ethical business practices such as the Potter Box approach (McElreath, 1996; Parsons, 2004), which emphasize the need to identify and prioritize stakeholders.

Internal stakeholder groups can be differentiated based on demographics, occupational classifications, or structural levels. Different sectors have different employee groupings depending on their purpose. Stakeholder theory encourages managers to consider different groups with different stakes in the organization. Internal communication involves managing interactions and relationships between stakeholders within organizations across different dimensions, including internal line manager communication, internal team peer communication, internal project peer communication, and internal corporate communication. These dimensions can be considered as interrelated elements of internal communication, and a matrix can be created by applying this typology to aspects of internal communication management (see table 1). (Welch & Jackson, 2007.)

Welch and Jackson (2007) propose that internal communication should be viewed as the strategic management of interactions and relationships between stakeholders within organizations across four interrelated dimensions: internal line manager communication, internal team peer communication, internal project peer communication, and internal corporate communication. The authors also discuss the importance of participation in communication, its direction and content. Welch and Jackson (2007, p. 185) focus on the four dimensions of internal communication and provide a detailed analysis of each and states that: "*The internal communication matrix includes examples of the content of internal communication associated with each dimension*."

Line management communication occurs at every level within organizations and involves methods such as target-setting discussions and appraisal meetings. This level is connected to daily managerial activities such as access to resources, financial management, and HR management (Van Riel, 1995). The second dimension, team peer level internal communication, involves employee-to-employee and peer-to-peer in a team situation and includes team task discussions (Welch & Jackson, 2007). The third dimension, project-level internal communication, revolves around project issues and involves colleagues working on specific projects (Welch & Jackson, 2007). Finally, the fourth dimension, internal corporate communication, focuses on communication between the organization and its stakeholders, such as shareholders, suppliers, and customers (Welch & Jackson, 2007). Welch and Jackson (2007) note that the direction of internal communication flow between participants has received attention in previous literature (White & Mazur, 1995; Stauss & Hoffmann, 2000). They also discussed the dominance of internal communication media classified as one-way or asymmetrical, vertical or downward at the expense of media classified as excellent, two-way symmetrical, lateral or horizontal, or upward communication. Welch and Jackson (2007) also describe content as an important dimension, distinguishing the content of employee communication as information about employees' roles, organizational issues, and personal contributions.

Overall, the internal communication matrix provides a useful framework for understanding the dimensions of internal communication in organizations. Welch and Jackson (2007) research of the four dimensions of internal communication and their associated content provides a helpful starting point for managers improving their organization's internal communication.

2.2 The Importance of Effective Communication

Effective communication is critical for effective management and is essential for the success of any organization. Some benefits of effective communication include (Christensen et al., 2008):

- Improved Decision Making: Effective communication enables individuals to exchange information and ideas, which can lead to better decision-making processes.
- Increased Productivity: Effective communication can increase productivity by reducing misunderstandings and increasing efficiency.
- Enhanced Relationships: Effective communication can improve relationships between individuals and groups within an organization, leading to a more positive work environment.
- Better Problem Solving: Effective communication enables individuals to work together to find solutions to problems, leading to improved problem-solving processes.
- Increased Motivation: Effective communication can increase motivation by keeping individuals informed about the goals and objectives of the organization and their role in achieving those goals.

Since communication happens between humans, there is a possibility that communication could fail, and because of this it is difficult to identify all of them. What can be seen though are some of the most common issues that can cause ineffective communications (Cervone, 2014).

Neglect: Organizations can neglect to consider the effect communication management has on an organization’s efficiency. While organizations can function without any effort put into communication strategy, they are leaving prospect operational gains unacquired.

Without any guidance or restrictions, communication within a company fails to have any meaningful purpose, and especially in a team's cooperation falls short of its potential. (Cervone, 2014.)

Inadequate planning: Creating a communication strategy without understanding how one's organization communicates is a recipe for failure. Creating a communication strategy should start from analyzing how the company's employees are currently conducting communications to see what aspects are working, what are not and how a new communication guideline could provide added value. A badly planned execution of a strategy of any kind may create a situation worse than what was at the start. (Cervone, 2014.)

Culture*:* Different cultures communicate differently, and this is also true within and between different organizations. Communications internally within a company can be vastly different from how stakeholders from outside the company prefer to communicate. Taking these differences into consideration is an important aspect, for example Human Resources (HR) and Public Relations (PR) management. (Cervone, 2014.)

2.3 Customer communications

2.3.1 Understanding Customer Needs and Preferences

Effective stakeholder communication influences the success of an organization's customer communication. One key stakeholder group that requires special attention is customers (Korkala et al., 2009). The communication strategies employed to engage and empower customers have a significant impact on the organization's brand reputation, customer loyalty, and profitability (de Torcy, 2002). This chapter presents an overview of the role of customer communication in communication management and outlines best practices for effective customer communication. Effective customer communication begins with a deep understanding of customer needs and preferences (Korkala et al., 2009). Organizations should conduct research to identify what their customers want, what they expect, and how they prefer to be communicated with (de Torcy, 2002). Organizations should also segment their customers based on their needs and preferences and develop targeted communication strategies for each segment. For instance, some customers may prefer to receive updates via email, while others may prefer text messages or phone calls (de Torcy, 2002). By understanding customer needs and preferences, organizations can tailor their communication strategies to meet the unique needs of each customer (de Torcy, 2002).

Trust and credibility are critical for effective customer communication. Organizations should build a positive brand reputation by delivering high-quality products and services, being transparent in their communications, and demonstrating a commitment to customer satisfaction (de Torcy, 2002). Organizations should also be responsive to customer complaints and feedback and take steps to address any issues promptly. By building trust and credibility, organizations can enhance customer loyalty and retention (Korkala et al., 2009).

2.3.2 Providing Accurate and Timely Information

Accurate and timely information is essential for effective customer communication. Organizations should promote that their customers have access to the information they need to make informed decisions (Korkala et al., 2009). This includes information about product features, pricing, availability, and delivery. Organizations should also provide regular updates to their customers, such as order status updates, product launches, and promotions. By providing accurate and timely information, organizations can enhance customer satisfaction and loyalty (de Torcy, 2002).

Two-way communication channels are essential for effective customer communication. Organizations should provide their customers with the opportunity to provide feedback, ask questions, and express their opinions. This can be done through various channels such as online forums, social media, email, and phone. Organizations should also be responsive to customer inquiries and feedback and take steps to address any issues promptly. By fostering two-way communication channels, organizations can enhance customer engagement, loyalty, and retention (Korkala et al., 2009; de Torcy, 2002).

Technology plays a role in enabling effective customer communication. Organizations can leverage various communication tools and platforms to engage and empower their customers. For instance, organizations can use social media platforms to interact with their customers, provide updates, and gather feedback (de Torcy, 2002). They can also use customer relationship management (CRM) software to manage customer inquiries and complaints, and track customer interactions. By leveraging technology, organizations can enhance their ability to communicate with customers, improve customer service, and build long-term customer relationships (Korkala et al., 2009).

3 Communication Management

3.1 Organization communication

Communication is one of the most important practices in business operations, which can yield major benefits if done right and on the other hand create huge difficulties if done poorly (Christensen et al., 2008). Since communication is wildly personal between individuals, managing communication practices within an organization can be quite challenging (Raupp & Hoffjann, 2012). On top of this challenge of individuality, organizations managing communications effectively need to consider differences between how managers should communicate with employees and then how employees should communicate with their colleagues (Christensen et al., 2008). The next chapters are going to take a closer look at how these two aspects differ from each other, what should be the same, and what literature on the subject shows. Later in this research, we will focus on how to make these communication practices part of the company strategy.

For this thesis, organizational aspects are derived from the case organization (Tietokeskus), which is an IT service provider in the Business-2-Business market. The case organization can be categorized as an expert organization, and the aspects discussed in this research can be generalized to other similarly structured organizations. Within the organization, we can identify three distinct communication dimensions, which are shown in Figure 1.

Figure 1 Tietokeskus communication type division

3.1.1 Expert communication

Experts make up the majority of employees within the organization and are the group most likely to benefit from successful communication, whether it be with each other or with customers. Communications among experts can happen either virtually, which in today's world is the most common form, or in person at the office or at customer facilities. For virtual communications, Tietokeskus uses multiple different channels:

- Microsoft Teams
    - Teams has been named the main channel of communications within all groups within the organization. In practice, this means that everything important should be communicated utilizing Teams.
- Mattermost
    - Mattermost is a channel dedicated to more lax communication among employees. While ultimately lax in some cases, it can become vague whether Mattermost is as important of a communication channel as Teams.
- Email
    - Outlook is the chosen email service within the case organization. While historically, email has dominated as the most used business communication channel, from the questionnaire conducted for this thesis (gathered

questionnaire data can be seen at Appendix 4), we can notice that email is not utilized extensively anymore. Rather, instant chat channels are more favored.

Communication habits between virtual channels differ according to how people conduct themselves. Organizations should create and implement guidelines on how communication should be conducted within the organization. Creating and managing employee communication culture requires understanding how communication is crucial to effective operations. For the case of expert communication, we can notice that the communication between expert to expert and expert to customer is at the core of every expert's job. Effective communication practices therefore create the opportunity for experts to succeed in their jobs. (Verčič & Špoljarić, 2020.)

A core part of experts' day to day job is to service customers, for which Tietokeskus uses the ITSM software ConnectWise (one of many in the market which are utilized by similar organizations for the management of customer tickets and database), where customer tickets are managed. A brief overview of how this workflow operates in practice can be seen in Figure 2.

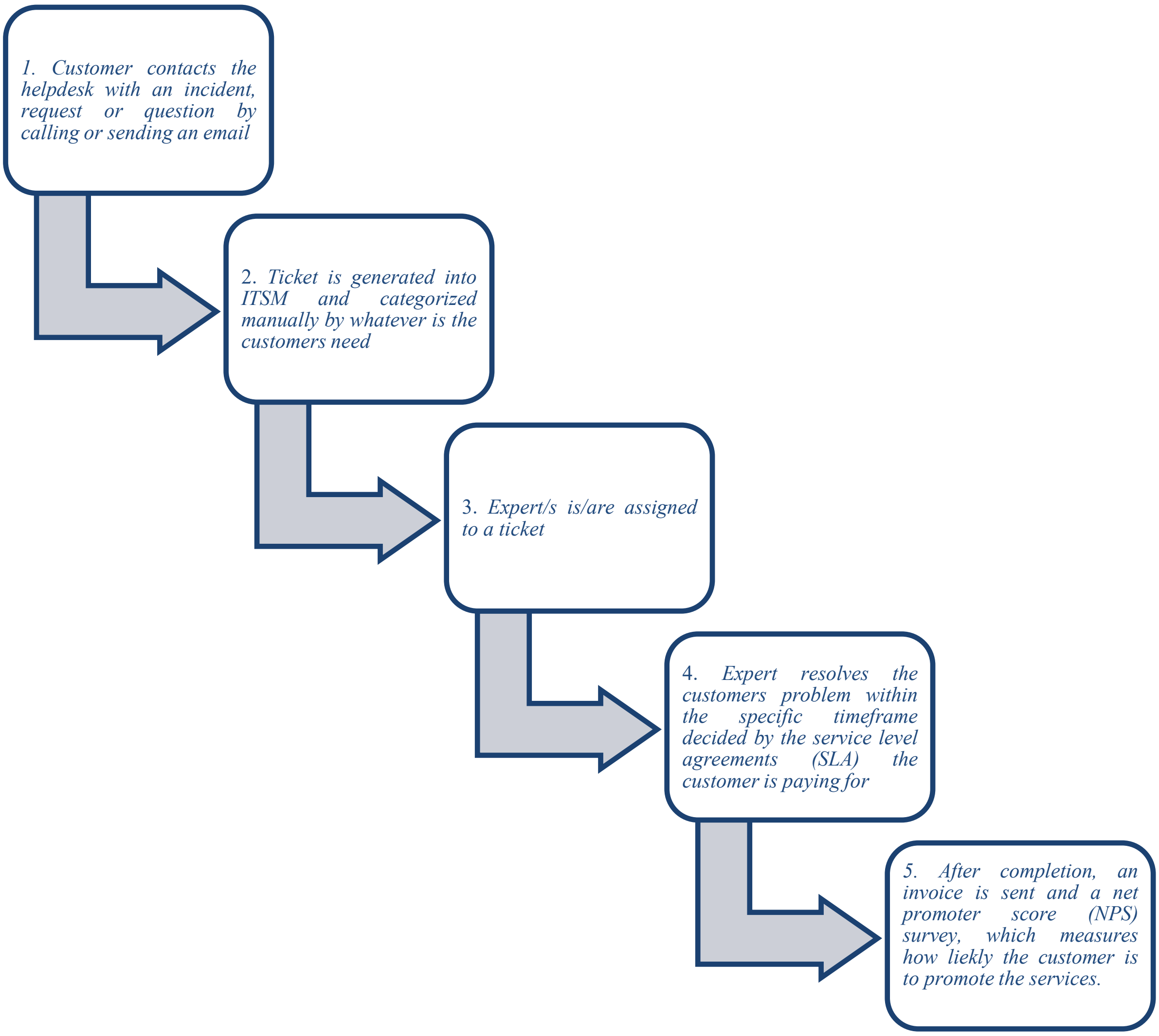

Figure 2 Customer service workflow process

The most impactful moments for experts, where communication is important in the above workflow, are sections 3 and 4. In section 3, communication revolves around understanding whether an expert can or cannon do the required job because of either time constraints (workload full) or skills (ticket job requires specific set of skills e.g., a network specialist). Failure in communication creates situations where jobs are assigned to experts with no time and causes inability to satisfy agreed SLA contracts; also assigning wrong experts to wrong jobs creates suboptimal workflow management. In section 4, communication includes the customer as well as internal communication with colleagues. This can be the only point of contact between the company and the customer, which makes understanding the importance of customer care apparent, and educating experts on how to properly conduct customer service is advised. Experts need to know when to communicate with their peers about assistance or when to hand off their work (which is referred to as *escalation*). The organization should facilitate channels by which experts communicate with each other about work and drive a culture of cooperation and helpfulness.

3.1.2 Management communication

More than anyone, managers hold more tangible accountability for how much their communication abilities reflect on the performance of the company. Managers' jobs revolve around communicating to their subordinates what is expected from them, how they are expected to reach company expectations, and providing timely feedback. They are also responsible for communicating fiscal reports to their peers, which provide the necessary information that helps the company stay on target. C-suits (referring to the chief officers at the organization, i.e., CEO, CFO, etc.) should communicate how the company is performing from the perspective of the company's strategy. For example, managers undervaluing the power and benefit of provided feedback create issues in employee satisfaction, performance, productivity, and employee turnover. (Ruck & Welch, 2012.)

Recurring themes in the communication literature include adequate information flow concerning key change issues, supervisory communication as a preferred communication source, communication as a foundation of teamwork and positive employee attitudes, face-to-face communication as a primary method of information transmission, and the benefits obtained from conceptualizing dissent as a source of useful feedback. In Table 2, we can observe how these themes could be handled within an organization (Ruck & Welch, 2012; Hargie & Tourish, 2009a; Hargie & Tourish, 2009b):

Table 2 Communication themes within an organization

Communication Theme	Operational practices
Information flow concerning key change issues	- Open communication practices are implemented from the strategic management of communications. - Avoiding communication barriers.
Supervisory communication as a preferred communication source	- Two-way communication hierarchy. - Communicating as well as listening and understanding.
Communication as a foundation of teamwork and positive employee attitudes	- Implementing theory into practice by cultivating a culture of communication. - Successful teamwork relies on communication between teammates. - Team leader/project manager nurtures an atmosphere of respect.
Face-to-face communication as a primary method of information transmission	- Communication channels should be managed and utilized according to the needs of the users. - In person communication enhances relationship creation, which makes it invaluable and should be part of communication management strategy.
Benefits obtained from conceptualizing dissent as a source of useful feedback	- Giving the opportunity to voice opinions, especially differing ones, promotes innovation. - Continuous feedback keeps employees engaged.

3.1.3 HR Communication

Human resources (HR) are an integral part of an organization's operations, as they are responsible for managing the most important asset: the employees. The HR department is responsible for various functions including recruitment and selection, training and development, compensation and benefits, employee relations, and compliance with laws and regulations. HR communicates about salary information, notice about new job positions, and events within the company. An important goal of HR communication is to keep employees informed about information that affects them. The information provided needs to be precise and timely, failing to do so inconveniences employees unnecessarily and negatively affects employee trust. For example, any topic considering salaries should always be informed with caution, since salary is the primary reason, anyone works at any given company. It is quite understandably also the topic that interests every single person within an organization when something goes wrong. When something does go wrong, it is important to be open and transparent. (Wood, 1999.)

Some key HR responsibilities where communication efficiency is important:

1. *Recruitment and Selection*

One of the most important roles of HR is to recruit and select the right employees for the organization. The HR department is responsible for attracting and identifying the most suitable candidates for the vacant positions in the organization. This function is important in assuring that the organization has the right people in the right positions. HR professionals use various recruitment strategies, including job postings, job fairs, and referrals, to attract potential candidates. Once the applicants have been identified, the HR team then evaluates them based on their qualifications, skills, and experience, and selects the most suitable candidates for the job. Effective recruitment and selection processes help promote that organizations have the necessary human capital to achieve their objectives. (Okolie & Irabor, 2017.)

2. *Training and Development*

HR is also responsible for providing employees with the necessary training and development to help them grow and achieve their potential. Through various training programs, HR professionals help employees develop new skills, acquire knowledge and experience, and enhance their capabilities, which in turn increases employee productivity, reduces turnover rates, and improves job satisfaction. Training and development programs also help employees adapt to new technologies, which are essential for organizations to remain competitive in today's fast-changing business environment. (Messersmith & Wales, 2013.)

3. *Compensation and Benefits*

HR is responsible for assuring that employees are compensated fairly and competitively. HR professionals use various methods to determine employee compensation, including job evaluations, market surveys, and individual performance assessments. The HR team also manages employee benefits such as health insurance, retirement plans, and paid time off. Fair and competitive compensation and benefit packages help attract and retain talented employees, improve employee morale and motivation, and enhance overall job satisfaction. (Adeoye & Fields, 2014.)

4. *Employee Relations*

HR also plays a crucial role in managing employee relations. The HR department promotes that the organization complies with labor laws and regulations, handles employee grievances and complaints, and provides support to employees when they face personal or professional challenges. Effective employee relations programs help create a positive work environment, foster employee engagement, and enhance organizational culture. (Strohmeier, 2013.)

5. *Compliance with Laws and Regulations*

HR plays a vital role in assuring that the organization complies with all relevant laws and regulations related to employment. HR professionals must stay up to date with changes in labor laws and regulations, including those related to wage and hour laws, discrimination, and employee safety. HR must also promote that the organization follows best practices and ethical standards, including promoting diversity and inclusion, providing a safe work environment, and promoting employee health and wellness. (Guest, 2017.)

4 IT system management

Information system management (ISM) is the practice of creating, developing, understanding, maintaining, and utilizing an organization's IT systems in a way through which it provides value by its usage. Literature surrounding this area revolves around organizational performance from technology-changing business operations (Aydiner et al., 2019). For this research, the widely adopted ISM framework Information technology system management (ITSM) is used as the framework for how management of organizations' IT systems are conducted. This framework was chosen because it is a mature and well-researched method in the ISM paradigm.

ITSM is a framework that helps organizations manage their IT services to meet their business needs. ITSM originated from the Information Technology Infrastructure Library (ITIL), which was developed in the UK in the 1980s by the government's Central Computer and Telecommunications Agency (CCTA) (Gacenga et al., 2010). ITIL was designed to provide a set of best practices for ISM. Over the years, ITIL has evolved into a comprehensive framework of processes and procedures for managing IT services. ITSM is a set of policies, processes, and procedures that enable organizations to manage their IT infrastructure and services effectively (Barafort et al., 2002). It involves the implementation of best practices in ITIL, such as incident management, problem management, change management, and service level management (Barafort et al., 2002). The goal of ITSM is to provide IT services that are reliable, efficient, and cost-effective while meeting the needs of the business (Hochstein et al., 2005). ITSM helps organizations manage their IT services from end to end, including service design, transition, operation, and continual improvement (Hochstein et al., 2005).

4.1 Information system management frameworks

ISM is a field of study that focuses on the efficient and effective use of information systems to support organizational goals (Aydiner et al., 2019). The history of ISM dates back to the 1960s, when computer systems were first introduced to organizations (Serrano et al., 2021). Since then, ISM has evolved and grown as a discipline, with new theories and frameworks being developed to help organizations manage their information systems. Serrano et al. (2021) note in their research that IT services have a significant impact on a company's competitive advantage, and therefore, effective management is important. To achieve this, organizations invest in ISM frameworks such as ITIL, PRINCE2, ISO/IEC 20000, and COBIT, to name a few. ISM focuses on IT operations, specifically on service delivery and support (Serrano et al., 2021). Serrano et al. (2021) mention in their research that these frameworks can bring several benefits to IT organizations by helping them create strategies and impelling them to continuous improvement. They also emphasize the importance of effective IT management, and the use of ISM frameworks highlights the significance of IT in modern organizations and its impact on business operations.

One of the most prominent frameworks in ISM isITIL. As mentioned ealier it is a set of best practices for managing IT services. Furthermore, it is based on a service-oriented approach and consists of a set of processes and procedures that aim to align IT services with the needs of the business. (Gacenga et al., 2010.)

Another vastly adopted framework in ISM is Control Objectives for Information and Related Technology (COBIT), which is a set of best practices for IT governance. COBIT was developed in the 1990s and is now used by organizations worldwide to manage their IT governance. It provides a framework for IT governance, risk management, and compliance and helps organizations achieve their strategic objectives through the effective use of IT. (Serrano et al., 2021.)

PRINCE2, which stands for Projects in Controlled Environments, is a project management methodology that provides a framework for managing projects in a consistent and systematic way. It was originally developed by the UK government in 1989 as a response to the high failure rates of IT projects. PRINCE2 is a process-based approach to project management, with a focus on dividing the project into manageable stages and ensuring that each stage has a clear set of objectives and deliverables. It provides guidance on key project management areas such as planning, risk management, change management, and quality management, and includes templates and tools to support the project team in implementing the methodology. (Zubon & Taher, 2022.)

The ISO/IEC 20000 framework is a set of international standards for ISM. It was first published in 2005 by the International Organization for Standardization (ISO) and the International Electrotechnical Commission (IEC). The framework was developed in response to the increasing importance of IT in organizations and the need for a standardized approach to ISM. It was also designed to align with other international standards such as ISO 9001 (quality management) and ISO/IEC 27001 (information security management). ISO/IEC 20000 consists of two main parts: Part 1 specifies the requirements for an IT service management system (SMS), while Part 2 provides guidance on the implementation of an SMS. The standard covers a range of ITSM processes, including service delivery, incident management, problem management, and change management. ISO/IEC 20000 is widely used by organizations around the world, particularly in the public sector and in industries such as finance, healthcare, and telecommunications. It helps organizations improve the quality and efficiency of their IT services while also reducing costs and risks. Certification to ISO/IEC 20000 can also provide a competitive advantage by demonstrating an organization's commitment to best practice in ITSM. (Cots et al., 2016.)

Overall, ISM is a diverse field with different schools of thought and frameworks. Each framework has its own strengths and weaknesses, and organizations can choose the framework that best suits their needs and goals. The key to success in ISM is to align information systems with the needs of the business and to continually improve and optimize IT services and governance.

4.2 Benefits of ITSM Frameworks

In today's digital world, IT system management has become an essential component of most organizations. IT Service Management (ITSM) frameworks are widely used to support organizations in the effective management of their IT services. ITSM frameworks are defined as a set of best practices and guidelines for the management of IT services (Barafort et al., 2002). When implemented correctly, ITSM frameworks can provide a range of organizational benefits (Hochstein et al., 2005).

The following benefits (see table 3) of ITSM frameworks have been identified through the analysis of selected research (Maclean & Titah, 2023; Berdik et al., 2021; Ahmad & Shamsudin, 2013; Francis et al., 2010).

Table 3 Perceived ITSM benefits

Proper management strategy
ITSM frameworks support organizations in developing a proper management strategy. They help management in developing better process documentation and monitoring, allowing for more detailed audits and IT process reports. The enhancement of documentation and monitoring brings higher transparency and comparability for the organization, producing an increase in processes maturity and allowing management to have greater control of the processes, supporting organizations situated in environments of uncertainty.
Operational improvements
Most IT organizations implement ITSM frameworks because of the most perceivable improvements that such “tools” produce in the organization. Many of these observable improvements occur at an operational level, where processes metric improvements captured by the organization are easily perceptible. It is also argued that this type of benefit improved infrastructure predictability and reduced server or application faults. Additionally, incidents and error volume are drastically decreased, given that with processes implemented, problems that may arise during normal operations can be dealt with proactively.
Increase in service quality
ITSM frameworks help increase the quality of IT services provided. By using a continuous improvement method, ITSM frameworks increase IT service flexibility and adaptability. As the quality of the framework’s activities is improved, customer satisfaction is enhanced, satisfying the present and future demands of customers. These frameworks also support customers with higher availability, responsiveness, and expertise.
Decrease in operation and maintenance costs
The proactivity of dealing with adverse and unfavorable events that may appear might prevent the waste of money. The articles affirm that applying ITSM principles can lead to a substantial decrease in operation and maintenance costs, such as in service provision costs, being intrinsically connected with the increment of the infrastructure and operational efficiency.
Alignment with the organization’s vision and strategy
ITSM frameworks align IS with the vision and strategy of the organization. Such alignment further contributes to improving the effectiveness of the company.
Enhanced communication
By adopting ITSM frameworks and having the processes well established and defined, communication is enhanced through all organizational layers, providing a “common language”. This type of approach improves the consultation between groups within an organization and increases the effectiveness and service quality of IT providers.
Improved organizational competitiveness
It is important for companies not only to be a mere support for the business but also to demonstrate attentiveness to new opportunities and needs of the “global” market. With the implementation of ITSM frameworks and standards, organizations recognize opportunities to improve organizational competitiveness in terms of client confidence and/or reputation or even in relation to international competition advantage.
Increased productivity
ITSM frameworks make organizations’ processes more mature and consequently improve productivity. By having internal guidelines provided by these frameworks, it is possible to develop and automate standard processes, helping to establish and enable higher maturity toward a better vision of the processes and their global understanding.
Increased revenue
Most companies implement ITSM frameworks not only to help them in having better service management but also to increase revenue The reduction in operational costs and increase of service quality translate into new customers, which subsequently converts into the increment of organizational revenue. Posteriorly, it is defended that companies can easily return the investment made and have greater financial control.

In Section 4.1, we identified other ISM frameworks that organizations utilize in managing their respective IT operations. These frameworks could also provide useful theoretical backing for this research, but ultimately, ITSM from ITIL was chosen. This is because the case organization has been operating by following ITIL practices for many years at the time of this research, which validates the usefulness of ITSM as a part of the theoretical framework in this case study. Therefore, for the sake of this thesis and finding reliable and trustworthy answers to the research questions, ITSM is found to be appropriate.

4.3 Digital communication technology

For this research, *digital communications technology* are defined as the digital channels and systems through which an organization's employees can communicate with each other. There is a large catalogue of different software choices for which to choose from and select the ones most suitable for the organization's needs. Digital communication technology is a core component of modern-day organizations (Hazlehurst, 2022). It enables real-time and seamless communication between employees, teams, and departments, regardless of their physical location. Digital communication technology can take the form of email, instant messaging, video conferencing, collaboration tools, and social media (Krogh, 2012). It allows for easy sharing of information, documents, and resources, thus enabling more efficient and effective workflows (Krogh, 2012). Furthermore, digital communication technology enhances transparency, accountability, and collaboration, making it easier for teams to work together and achieve their objectives. By utilizing digital communication technology, organizations can improve their productivity, reduce costs, and better serve their customers (Hazlehurst, 2022).

There is an ongoing discussion in the literature about the strategic management of digital communication technology within organizations (Jarzabkowski & Kaplan, 2015). According to Jarzabkowski and Kaplan (2015), effective management of these technologies is important for organizations to remain competitive in today's digital landscape, and a well-designed digital communication strategy can help organizations achieve their business objectives. Wooldridge et al. (2008) suggest that organizations should be cautious in their adoption of new digital communication technologies because they can be costly to implement and maintain and may not always lead to the desired outcomes. Ultimately, the decision of how to strategically manage digital communication technology will depend on a variety of factors unique to each organization, including their industry, size, and goals.

Further on this thesis, the case company Tietokeskus is being researched with regard to how they manage their digital communication technology. The aim is to compare their management practices with existing literature on the strategic management of communication technology, which is stated in this chapter. The findings from this research could contribute to a better understanding of effective strategies for managing digital communication technology within organizations. It is important for companies to stay up to date with the latest management techniques and practices to maintain that they can effectively utilize their digital communication technology and remain competitive in their respective markets.

5 Methodology

The subject of this thesis is, in summary, how internal communication efforts could be improved within an organization by better utilization of communication management, and the main research question is whether communication management could be a useful addition to the information system management paradigm.

Communication as a subject is quite vast and subject to subjectivity, as communication is affected by multiple different aspects, most notably culture, upbringing, and individual preferences. These all make finding a catch-all cure for all communication issues rather difficult, but finding best practices for differing situations is quite researchable. This is where pragmatism comes useful as it is mostly used in research about topics such as communication, subjective and world view being individual specific (Stroud, 2009).

The methodology chapter shows how the research questions can be answered with the help of empirical data and the chosen theoretical framework. Starting with describing which research philosophies is the research seen through, and explaining the chosen research methods and why the qualitative research approach was seen as the most fitting for conducting case study research. After, we will go through the data collection methods chosen, which in this research, were a questionnaire and a semi-structured interview.

5.1 Research methods

5.1.1 Research philosophy and qualitative approach

For this research on finding internal communication efficiency through the relationship between information system management practices and communication management practices, empiricism and pragmatism will be used. The mixture of these two philosophical science isms helps ground the gathered theory from previous academic literature to the practical empirical data that will be gathered through a questionnaire and semi-structured expert interviews. Pragmatism most notably will be suitable because literature about social science methodologies tends to note that applying theories into practice is lacking and requires more emphasis (Stroud, 2009). Empiricism will work great for analyzing and gathering trustworthy data (Psillos et al., 2010).

Empiricism in philosophy is an epistemological theory in which knowledge and how knowledge is gathered are based on experiences (Tieteen termipankki 19.1.2023: Filosofia:empirismi). According to Psillos et al. (2010), in empiricism, empirical evidence is understood to be one of the most important ways of formulating ideas. Empiricism is associated with the idea that humans are born blank and through experiences thoughts are created (Forrest & Kaufmann, 2008).

Because empiricism emphasizes the importance of acquiring new knowledge through gathering experiences and evidence rather than prior knowledge, it is an important aspect of the scientific method (Tieteen termipankki 19.1.2023). Empiricism is useful to research where new knowledge or ideas about how some phenomenon works or arguing for a change in already known knowledge are studied. Gathering evidence is an important part of research, but at the same time so is understanding what has already been found. Not having to always experience everything ourselves is an important reason why empiricism is not used solely by itself, but rather in modern research theory empiricism is used as part of a mixture of other theories to create a better functioning theoretical framework (Scheibe, 2001).

Social and natural sciences both use hypotheses that can be tested via observation and experimentation. The core principle of scientific method is that any conclusion must be empirically derived by the evidence of the senses. Empiricists believe that the attainment of concepts must involve learning rather than triggering innate knowledge. Popular argument against the utilization of empiricism is that it fails to accommodate the concepts that are highly abstract. Empiricism in its purest form might be too radical for most use cases, but as stated earlier, semi-empirical theory provides more flexibility. (Jesse, 2005.)

Pragmatism is based on the notion that all observations of what is around us are shaped by our own prior assumptions and perceptions. Therefore, learning something new, for example, starts from the observation of some flaws around us that disprove these previously held assumptions about reality. When confronted with a flaw, the observer should undertake an investigation, whether it be an extensive empirical survey or a quick review of everyday life, which results in a new, more accurate picture of reality. By repeating this line of thought, one gets closer and closer to the most accurate perception of reality. (Pihlström, 2007.)

Pragmatism takes a subjective approach to reality, with the assumptions of the observer as a prerequisite. For this ism, when dealing with reality, it is also important to consider areas of reality that are more difficult to study with pure science and objectivity, such as questions of religion and morality (Pihlström, 2007). The reality of this ism is therefore very dependent on the observer, and the past experiences of the observers have a great influence on the way reality is seen. Pragmatism also sees the source of reality as essentially the world around them, but in the mind of each observer, a final perception is formed of, for example, how strong the different things are perceived to be. This can lead to people from different backgrounds finding it difficult to come to a common understanding if they are not open to reforming their own preconceived assumptions about the world (Sarkki et al., 2017).

Pragmatism being a rather practical and experience-based ism, the sciences to which it can best be applied are also fields that include people's different views, rather than just one factual truth. These include, for example, various social sciences. Pragmatism is also suitable as a tool for studying a field that focuses on human action (Watson, 2013). Muurinen in her PhD thesis (2019) for example highlights pragmatism as a tool for social work development. He argues that in such a practical field, it is useful to look at things through pragmatism, because even in practice, development is achieved through trial and error, which is the essence of pragmatism.

5.1.2 Qualitative case study research method

Case study research has been utilized throughout academic disciplines such as psychology, medicine, law, political sciences, anthropology, sociology, social psychology and education, case study research has been utilized (David, 2006). According to Eriksson and Kovalainen (2008), constructing 'the case' or several 'cases' is a fundamental aspect of all case study research. Therefore, the formed research questions are always focused on understanding and resolving the case, including its background and what can be learned from studying it. The primary objective is to investigate the case in relation to its historical, economic, technological, social, and cultural contexts.

Eriksson and Kovalainen (2008) wrote that for a beginner business researcher, a readily defined 'case' could be a single economic actor, usually an individual like an employee, manager, or customer. In this type of case study, you would seek insights into the economic sphere of operations from the viewpoint of this individual. These insights would be presented as a narrative of the individual's lived experience in a specific business and economic setting and as an analysis and interpretation of the intertwined actors, actions, events and processes.

Qualitative case study research method was chosen considering the original research questions and limitations of prior research with little theoretical literature available, and the case study research approach was selected as the basic design of the present study. The single-case research design approach allows for observation of the case organization's activities in an information systems context, the designing and operations of communication management and ISM practices (Yin, 2014; Mills et al., 2010). The case study approach is seen as relatively flexible because it allows a researcher to develop a hypothesis in a contemporary context and choose either a qualitative or quantitative perspective in analysis (Yin, 2014). In both qualitative and quantitative case studies, the collection, categorization, and analysis are often done by utilizing multiple data sources (Yin, 2014). However, while the data sources can be documents, archived data, or interviews, observations are normally presented in a numerical format using statistical methods in the quantitative case studies (Benbasat, 1987; Mills et al., 2010; Kaplan & Duchon, 1988; Yin, 2014).

To be more precise, this research design follows the embedded single-case design as suggested by (Yin, 2009), where the case is Tietokeskus Oy, and the units of analysis are internal communication aspects as well as IT system management aspects. Following this logic, in this case study, perceived communication management and ISM practices are considered the main unit of analysis. Focusing on a single case organization can aid in revealing access to naturally occurring internal communication and ISM data, since naturally occurring data were assumed to be a necessity for successful empirical testing. Putting the focus on a single case organization may also improve the research reliability and validity, e.g., chain of evidence (Yin, 2009).

For this research, the grounded theory is utilized not as a methodological instrument but as a tool for coding the gathered data in the analysis section of this thesis. The data analysis for this case study revolves around 'coding' the gathered data, namely the semi-structured expert interviews. What is meant by coding is that the gathered data is segmented and labeled under other concepts. For this research, the Gioia-method is utilized as the main analysis method, which in itself utilizes the coding practices of grounded theory, more precisely open-coding and axial-coding. (Gioia et al., 2013; Urquhart, 2012). The grounded theory provides a way for researchers to analyze data more systematically (Urquhart, 2012). In the data analysis Chapter (5.3), the chosen analysis methods are explained more in detail.

5.2 Data collection

An internal communication performance survey/questionnaire was conducted within the case company. The survey was directed at every employee inside Tietokeskus. Since the purpose was to get a holistic view of internal communication success within the case company, the choice to open the survey to everyone was necessary. The questionnaire questions and answers can be seen in Appendix 4. The survey included ten questions about perceived internal communication success. The purpose of the survey was to outline the present feelings toward the company's internal communication success and ultimately help in forming the questions for the semi-structured interviews. The survey was not used to gain answers to the research questions; rather, the survey purpose for this research was to better understand the case company and to gain access to more case company-specific interview questions. SurveyMonkey was utilized in gathering and holding the answers and later imported to Excel for analysis of the data. The full gathered data can be read in Appendix 4.

As stated in the previous chapter (5.1), semi-structured expert interviews were chosen as the main data gathering method. The interview questions were built around the theoretical framework chosen for this thesis, with the author's own understanding of the company structure and operations. The interview questions can be seen in Appendix 1 and 2 (translated to English as they were originally in Finnish). The questions were divided into three categories based on the topic in question. These categories were the present situation and communication channels, communication strategy and communication management, and information system management (more specifically ITSM). All these categories coincide with the theoretical framework, which creates trustworthy data. Since the chosen methodology was semi-structured, the interview questions could be re-shaped on the fly to create a better flowing interview while still keeping the discussion on the topic.

Before the interviews possible candidates were screened with the following criteria in mind: 1. Suitability – How well would the candidate be able to answer the questions considering their rank and area of expertise. 2. Rank – Since the topic revolves around management and strategic aspects of the company, it was chosen that the interviewees would need to have at least middle manager status or higher. Lastly, 3. Position in the company – What is meant by position in this context is the branch of the company, as utilizing the knowledge from all possible perspectives is quite beneficial for the validity of the findings. All these criteria were considered with the topic and research questions in mind. The interviewees were all from within the case company Tietokeskus Oy.

Once the prospect interviewees were selected an invitation was sent out, with explanation to what the purpose of the interviews are, how the interviews are going to be conducted, anonymity statement that only rank titles are going to become visible and no names, data protection statement that all recordings are destroyed once the thesis is reviewed and published (the full data management plan can be found in appendix 3), and schedule for last possible time to answer. After the interviewee had agreed and a date and time was chosen, the interview questions were sent out to the participants for prior reading. In the end ten invitations were sent out and fortunately all prospect interviewees accepted. Table 4 shows the branch, job title/focus, and interview lengths of the interviews held.

Table 4 Information about the interviews

Participant	Branch	Job title/focus	Interview Length
P1	Production – Network Services and Operations	Manager	41 min
P2	Sales and Administration	CFO	27 min
P3	Production – Expert Services	Director	23 min
P4	Production – Expert Services and operations	Director	26 min
P5	Production – Customer production	Director	49 min
P6	Sales and Administration	CHRO/CPO	38 min
P7	Production – Customer production	Production Supervisor	36 min
P8	Production	COO	25 min
P9	Production – Development and Service processes	Director of Development	28 min
P10	Production – Customer production	Director	29 min

5.3 Data analysis

The gathered interviews were recorded using either Microsoft Teams meeting recording function or the recording function in the author's phone. Later, the recordings were transcribed onto Word documents. For the analysis of the research data, the Gioia method was chosen as it enables an in-depth look into the themes that can be noticed from the gathered semi-structured interviews (Gioia et al., 2012). The Gioia method makes the analysis process transparent and structured. With this method, new concepts or relationships between the phenomenon enabling the researched topic are created. The gathered data is systematically screened, and a data structure is created, which enables transparency through the analysis process. The data structure helps visualize the connection and relationship between the gathered data and the formed research theory (Gehman et al., 2017).

According to Gioia et al. (2013), during the 1st-order analysis, researchers may feel overwhelmed by the large number of categories and may even feel lost. However, they argue that this is a natural part of the analysis process and that sometimes one must get lost before they can find their way. In the 2nd-order phase of analysis, the number of categories is greatly reduced, and "phrasal descriptors" are given. At this stage, the researcher should engage in parallel analysis, which involves using both the informants' terms and the 2nd-order theoretical level, also known as the "theoretical realm." The goal is to identify any emerging theoretical concepts that could help define and provide a deeper understanding of the observed phenomena. Gioia et al. (2013), wrote that coding activities and theory tweaking should continue until theoretical saturation is achieved, which occurs when further data fail to provide significant insights into the key concepts.

After a clear structure of themes and concepts are found and further data does not produce marginal changes in categorization, the so forementioned "theoretical saturation" has been achieved and the formed concepts are consolidated into 2nd-order aggregate dimensions. Finally, after 1st-order concepts and 2nd-order themes and aggregate dimensions have been established, a data structure can be formed. The formed data structure provides a visual depiction of the analysis process and how raw data was transformed into more elaborate terms and themes (Gioia et al., 2013). Table 5 depicts the analysis steps.

Table 5 Analysis steps

Analysis Steps	*Description*
Step 1: 1st-order analysis	In the 1st-order analysis step, the gathered and transcribed interviews are read line-by-line and very useful and interesting terms are identified. Over 100 terms were listed using the Nvivo software.
Step 2: 2nd-order analysis	In the 2nd-order analysis step, more concrete concepts from the terms found in 1st-order step are identified and categorized into new categories.
Step 3: Aggregate dimension analysis	In the third step, aggregate dimension analysis, the new categories identified in 2nd-order analysis are analyzed and linked with a higher level of abstraction. The found connections are formed intuitively.

6 Findings

6.1 Building an internal communication strategy

The first research question is aimed at finding answers to what aspects should be considered when building an effective internal communication strategy within an IT organization. After systematic analysis of the data, three dimensions were identified: 1. *Communication error recognition*, 2. *Communication guidelines and frameworks*, and 3. *Defining core process owners*. These dimensions comprise eight categories: 1. Information volume control, 2. Employee satisfaction and wellbeing, 3. Quality control and assurance, 4. Ease of access to communicated information, 5. Remote work management, 6. Strategic thinking, 7. Information system catalogue management, and 8. Management of communication. These dimensions are a result of the held expert interviews within the case company. The created data structure in Figure 3 shows 1st-order codes, 2nd-order categories, and aggregate dimensions and shows their connections. The data structure for drivers of effective internal communication strategy is discussed in more detail in Sections 6.2, 6.3, and 6.4.

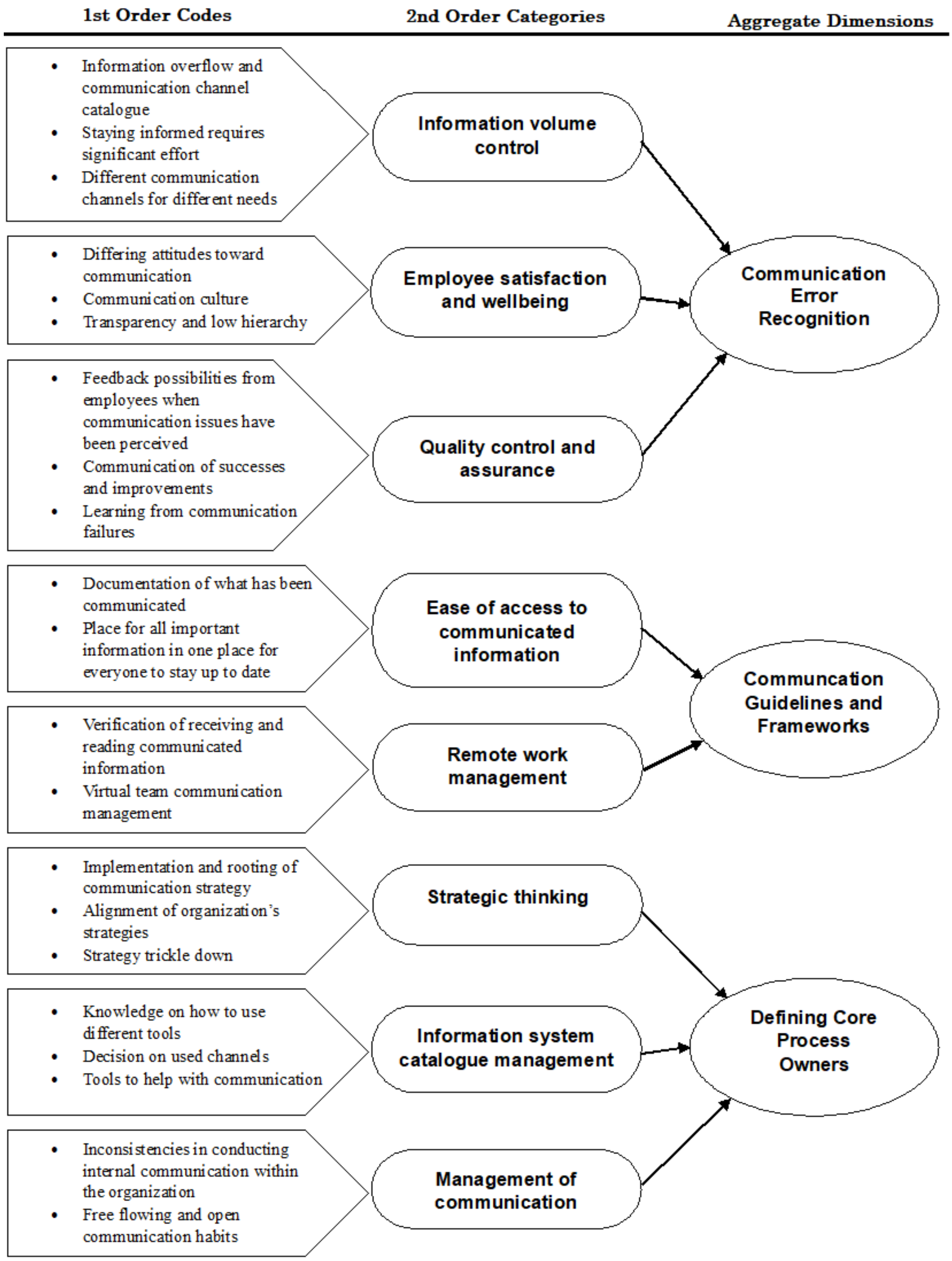

Figure 3 Data Structure – Drivers of effective Internal Communication Strategy

6.2 Communication Error Recognition

The first dimension shown in Figure 3 is communication error recognition. The identified categories in 2nd order show the drivers that influence this dimension, which are: *information volume control, employee satisfaction and wellbeing*, and *quality control and assurance*. This dimension revolves around what aspects influence the ability of an organization to better handle communication failures and minimize their effects.

6.2.1 Information-volume control

From the expert interviews, it became clear that perceivable issues are caused by the constant information overflow, especially for managers.

> *"So, one thing is so when the attitude that people have especially brought with Teams* [referring to different channels within MS Teams] *that there are now so many that I do not have time to follow, and I have so many emails that I cannot control them... and people have that kind of... flood with notification then they somewhat give up with them." (P1)*

> *"The IT world offers an insane number of different possibilities how one is able to communicate… the other weakness that there is that communication is lost in the mass… there is an ungodly amount of it* [communication*]… too much 'pinging'* [refers to the feature in Teams where anyone can get the attention of someone by 'pinging' their name in any given chat] *there are 100s of different channels and someone pings the whole channel then it means that all the other pings are drowned out." (P3)*

A common theme seen is the constant bombardment of communication from multiple different places (P1, P3, P4, P8, P10), where there are so many people reaching out at once that some messages might get drowned out. This overflow problem can create quite far-reaching effects in the success of internal communication, since managers must rely on prioritization of received communication, which means that important messages and information can be caught in the filter and cause a domino effect of issues. This constant flow of information requires a lot of effort from managers to stay up to date.

> *"- - but it is also pretty broad and it takes quite a lot of working time when you follow the flood of messages that is pretty big there… it's pretty stressful for someone when messages are constantly banging there…" (P4)*

> *"- - there are people like me, myself, in managerial positions where communication is the most relevant aspect of the job, almost the most essential thing. I spend more time communicating with my own team, with stakeholders, with manager colleagues, and others than really in any other*

> *job that requires concentration for a very long time, so it's quite commonplace for me to follow all these channels all the time…" (P1)*

While stakeholder communication can be seen as one of the most important aspects of a manager's job, getting overwhelmed by the volume can have a negative effect on the quality of manager communication. For example, employees need constant feedback from their managers about how they are performing compared to what the company is expecting from them. Managers feeling that they cannot keep up with communications can lead to their team feeling neglected and without guidance (P4 and P1). Managers (and other personnel) should try and identify when they are feeling overwhelmed by the volume of information and inform this perceived issue with their supervisors so that the deeper cause of the overwhelming amount of information can be identified. Understanding why this has become an issue can lead to finding the root cause of deeper issues or phenomena within organizations.

The case organization has multiple communication channels, and they are all used in different ways. The differences in usage can be seen from branch to branch, where some use specific channels for different needs. From the interviews, we can notice that the case company handles communication channel management quite loosely. Some interviewees note that there can be some overlap of use cases between communication channels, and this can lead to issues with staying informed.

> *"-- maybe we have too many overlapping systems for internal communication. For example, for example, Teams and matteri* [Mattermost]*… the same thing can be done in the same way , i.e., chat here and such. But it's a bit dependent on the person / even dependent on the city, and team dependent. What tool who ever likes to use… and in that I've experienced kind of difficulties, and also our team members, in that… well… in which system do I contact person X, for example." (P6)*

> *"-- there are a lot of channels… we had a project where like this communication was attempted to be streamlined… we did like an internal channel rework where we went through all the channels and that there would be a clear place for everything… Even still there exists a lot of different channels and it didn't quite materialize completely, that everything* [internal communication] *would be in their official places… so for me to stay on top of things I need to go through all the channels every day… reading them… and it's really time-consuming and exhausting, but like I have to do it in order to stay on top of the operations." (P9)*

Virtual teams and remote work are prominent aspects of the case company's day-to-day operations, as most workers work most of the year remotely. This fact raises the importance of the management of communication channels even higher. Communication channel management should drive the identification and satisfaction of the needs of the companies' different stakeholders, and which are the most crucial tools the company needs for well-functioning communication. Understanding how and what communication channels are used within an organization's environment creates the possibility to better manage them. To help with coherence and unity thought out the organization, clear written guidelines should be made. We can see from the data structure in Figure 3, that communication guidelines and frameworks are a major proponent of effective internal communication strategy (this is explained more in detail in Section 6.3).

6.2.2 Employee satisfaction and wellbeing

Organizations may comprise hundreds of individuals trying to create cohesive cooperations. The successful management of employee satisfaction and wellbeing has an impact on the communication habits and attitudes towards internal communication. While it can be difficult to satisfy everyone, making efforts to understand the feelings of masses is beneficial in shaping the communication culture within any organization.

> *"It's* [practicing internal communication] *like a golden mean, so to speak... it's so individual… how one handles communication… someone can experience it differently and interpret it differently than someone else might… because it is so reliant on the individual." (P6)*

> *"--And the fact that we are all so different… In autumn, a lot was spoken amongst the supervisors about this diversity, and how managers should communicate in as many different ways as possible so that they can reach all the different types of people. Some are such that they really don't have the energy to read an A4 to the end, and only read the upper parts and maybe the bottom. Some people read everything incredibly thoroughly, and you should, as a supervisor, be able to reach everyone. So, it is not an easy thing..." (P5)*

> *"--well now we were already talking about what kinds of communication tools and their kind of stipulation and a bit of confusion… but I will say that one of the main reasons are* [referring to interview question 2] *we the humans ourselves… there are so many different kinds of us, and sometimes like a simple message… it disappears somewhere or is lost or it is told a little wrong or in the wrong tones so it is not understood correctly… one of the biggest reasons are us the communicators." (P10)*

Discrepancies in how different people practice communications and how they want to be communicated to creates the need for managers to conduct many different styles of communication. As stated by P5, people react differently to communicated information;

some might be keen on reading everything while others might only read the first few sentences of any given information. As shown in Section 6.2.1, information overflow has a negative effect on information flow, and as a byproduct creates a communication culture which makes employees choose which communicated information is worth their time. Prioritization of what messages are worth one's time can lead to them missing actually important information that they would need to effectively succeed at their work, such as project information. Missing valuable information leads to the person feeling that communication has failed, which in turn affects work satisfaction.

Another aspect of internal communication that influences employee satisfaction is how easily internal communication can be conducted across the organization (P6). Having a low hierarchy and practicing transparency in internal communications facilitates trust (P5). Getting your voice heard positively affects communication willingness, while if an individual feels that they are either left in the dark on important information, or they feel that it takes significant effort to get their ideas or concerns to the right people has the opposite effect.

> *"--Probably that the information doesn't flow downwards to normal employees… I myself am in the middle of our hierarchy, so sometimes there are situations where I haven't heard of previous about the topic that is asked, for example, that is something that also happens to us in this organization in the middle stages… Well, that's probably up to the person. Some of them have the will to drum* [keep on trying] *and bring up the fact that 'hey, this doesn't work', for example, that something should be done about it. Some might say once, that 'this doesn't work' and then they stop trying with the taught that maybe someone grabs it* [take the concern into action] ... *they might just bite the bullet, 'well nothing has ever changed here', so its useless to start nagging about it." (P6)*

> *"--We have an absolute consensus and a view that in Tietokeskus that* [internal communication] *should be as transparent and active as possible, and rather be a low-threshold communication than something, that you would think that once every six months there would be some great opportunity or info, that you would rather like to do it more often and at a low level. And communication that is easy to internalize..." (P5)*

Employee satisfaction and wellbeing should be seen as an asset that should be considered when analyzing an organization's internal communication functionality. Since communication always happens between two or more humans, their wants and needs can differ massively from one another, which forces organizations to manage diversity. The case company utilizes *Pulssi* surveys twice a year (*Pulssi* survey is an employee wellbeing and satisfaction data gathering survey provided by a third-party provider) in which the satisfaction and wellbeing of the employees are measured. Surveys such as Pulse provide invaluable data for staying connected with the people within the organization. It enables the organization to see possible issues rising, which can then be more in detail researched and ultimately fixed.

6.2.3 Quality control and assurance

As with every other organizational function, quality control should be practiced for internal communication. Communication management strives to create an environment within an organization that promotes good communication. However, to know whether communication standards are met, the company should define what is considered good communication within their organization. With this definition in place, the organization has a way to identify errors or failure points in communication practices. Defining the baseline for good practices creates the possibility to control quality more effectively.

> *"--So maybe it* ['It' referring to learning from communication failures] *would require getting feedback… there would be some channel, some common practice on that… How could people bring up these thoughts. I think that these common failures of this kind. They might be left in the dark, that they are talked about in the corridors and among the teams, and probably not to the one bringing the message." (P9)*

> *"--if you see that something has gone wrong and it's confirmed, then you need to act and go through the issue ... what went wrong and why... then once it's understood, then obviously changes need to be made to the actions in terms of not repeating them and monitor the situation. We have MIM-process* [Major Incident Management, refers to guidelines created to make major incident situations more streamlined and efficient, with the purpose of enabling better customer satisfaction in handling abrupt issues]*, these have now been rethought in international customer communications, so when in these cases we have gone through them and thought about the messages, what and who and when to send… And it's a pretty good process, but just the fact that someone notices that something didn't work, then let's not be like: it didn't work this time and hope it works next time. Let's take it into review, and see where we can improve again, we have this continually improvement model* [derived from the ITIL 4 school of thought], *where it fits in well with that." (P10)*

P10 provides valuable insight into how identifying failures and taking them under investigation immediately after they happen enables continuous improvement. Organizations should always keep their eyes forward and not get stuck in their ways, with proper methods in place, there are always improvements to be made. Taking action when failure has occurred is an important step into managing the quality of communication within any organization. However, as stated by P8, taking action and finding a fix to one problem does not necessarily prevent the next one from accruing. While finding temporary fixes can be beneficial in the short term, finding the possible root cause for the occurred issues is needed to shape the communication to function more efficiently in the long term. Therefore, continuous improvement of communication should be done by continuously managing and analyzing faced issues and obstacles.

> *”-- Personally, of course, I have tried to see that if we have somehow, and we have often failed to communicate internally, then we have gone through it with the group that has been involved in it… how are we going to act next time… we can’t do this anymore in the future and... And we have always tried to learn from it and try to be smarter next time. But then again. On the other hand, our communication is almost like... It's always somewhat its own thing so, then we can learn generic things from it. But then, in the end if we fail, particularly, at the technical part… then the next technical part is already quite different, and it doesn’t necessarily help with the next issue.” (P8)*

Managing the quality of internal communication requires effort from the organization. Understanding how the organization wants their internal communication to function enables them to create a baseline for quality assurance to which conducted communication can be compared to. Knowing what is considered good communication is specific to the organization, which means that the definition of ‘*good’* might vary massively between organizations. With this knowledge, organizations can create guidelines and frameworks which guide their internal communication habits to a better shape. In Section 6.3, the strategic importance of communication guidelines and frameworks is discussed in detail.

6.3 Communication Guidelines and Frameworks

In this section, we discuss the importance of communication guidelines and framework in the strategic management of internal communications within an organization. Without written communication guidelines, the organization is solely relying on reactive management of communication, that is, they are picking on faced issues as they are identified. This form of management is inefficient and taxing for those managers responsible for fixing these communication issues. Creating communication guidelines shows the employees of the organization what and how they are expecting their employees to conduct communications and how to identify issues. Frameworks are a useful way of keeping guidelines coherent and help streamline, for example: how to fix faced issues, how to identify improvement opportunities, and how communication management should be handled within an organization.

In this section, we look at how the data structure dimension for guidelines and frameworks is created (see Figure 3) and what important aspects should be considered while creating an internal communication guideline and framework strategy.

6.3.1 Ease of access to communicated information

An issue that came up from the interviews was the notion that when something was communicated, whether it be crucial or not, was quite difficult to find later for later inspection (P1, P2, P3, P4, P6, P7, P8). Documentation of important information is beneficial in keeping the communicated information coherent. If the communicated information is relied upon being moved forward based on people's memory alone, it can lead to miss-information and the possibility of communication failures raises.

> *" Teams is good. We have learned a bit to use it better, but at the moment it's the channel structure and how they are created. There is no actual rule so all teams have their own style of operating. I guess I have 50 to 60 channels…maybe even more? Every one of them is little differently done, so it has its own challenges. Even this one lacks the kind of thing that has been set out to be done, but it is not planned to the end, like 'how we want you to use it'." (P4)*

> *"My difficulties are usually associated with the fact that I can not remember which damn Teams channel something has been 'rejoiced to'* [=where it has been communicated to]. *I just can not find it there. Someone else can think that Confluence-search is bad and like that. But the fact is that what is the biggest problem and what should be solved first." (P7)*

> *"--I don't know if it's because of my own laziness or because I just can't find the right information, but sometimes things get past me, which would have been found somewhere in teams, for example… But some things have clearly got past me. Sometimes we have wondered 'where on earth is it?'. I had finally found it somewhere when I had searched for it little longer." (P8)*

Creating communication guidelines for organizations' internal communication, it should have: 1. Clearly named where any specific type of communication should be practiced, i.e., important communication that is targeted at the whole organization in one easily accessible place/channel. 2. A naming policy for message groups, channels etc., which promotes easy findability for future use. The names should hold the main subject of the creation of the group/channel and the agenda. For example, a project group chat channel could be named: Project-*X*: *Agenda of the project*. 3. If the communicated information is considered important, the information should be documented into the organization's documentation system in addition to the original communication place (P7 and P8). In the case of the case organization, the documentation should be written into Confluence, which is the main documentation system where anything from customer information to work-processes are writen and stored.

P1 states:" The message should be short and well targeted.", which can be seen as being directly linked with the previously noticed notion of information overflow. Having the skill to communicate enough but not too much is a fine line to balance, and between different people the line fluctuates vastly. As stated earlier by P5, some read every message without caring how long the message is, while some might tab-out as soon as they see a message longer than a sentence. As a part of communication management, the organization should provide education to its employees on how to be an effective communicator. For some communication skills come naturally, but some need to be thought specifically how, why, and what communication should look like. This aspect should also be a part of the written internal communication guidelines. Writing them down officially is beneficial in two ways, 1. it unifies communication within the organization, and 2. in the process of new employees coming in, they can internalize the communication culture easier.

> *"*--[Answering interview question 5] *First of all, because it keeps the communication 'under control', and thereis a clear tone as to how it is going to be conducted in our house, for example. So, it is not such a ball of fuss, so to speak." (P6)*
>
> *"That is a difficult topic* [Answering interview question 3] *what are the obstacles? Or what are the enablers? ... for example, the tool in many cases when discussing this topic… Teams is considered a difficult tool. But then what would be a better tool? And in a way, I may not consider the tool itself as an obstacle to it. Of course, there are other options other than Teams… If you think about in Tietokeskus, if you chop it up, and start from the management and then kind of, is there a unified line? Is everyone trying and all? starting from the management team, to do everything you can to make it work." (P9)*
>
> *"*[Answering to interview question 7] *Well, it's probably not due to the information systems and regarding Teams it's a powerful tool, but it's also easy to use incorrectly in many ways, that it's a bit confusing, the way we use it at the moment." (P7)*

P9 and P7 bring forth an interesting point of communication tools and their utilization. Communication tools are only as effective as the people using them, which illustrates the need for training the users in how they should use them to harness their full potential. No matter what the chosen tool/s are, there should be written guidelines on their use purposes. As stated by P9 and P7, many employees consider the organization's chosen digital communication tool to be difficult to use. Understanding why it is perceived this way would help understanding whether the tool is possibly not a fit for the organization's needs or whether their guidelines for how they should be used are lacking. As discussed in Section 6.2, recognizing issues that cause internal communication problems are important for the strategic management of internal communications. Issues with the chosen tools are also part of the error recognition and should also be addressed. This will be discussed further in the next Section (6.4).

> "[Answering to interview question 5] *Well, I think it would create all the bases for communication and other activities in this house and it certainly would bring equality and minimize the misunderstandings and the amounts and possibilities of misunderstandings, which usually always happens to happen even if it is not voluntary. In other words, it is a prerequisite for doing something that works, so that we have clear rules and framework of what we do, and with what do we do it, and how we do, and when is it done?" (P10)*

> *"*[Answering to interview question 1] *Well, if it is described with one word, then it's probably kind of 'evolving'. That is. We have introduced new platforms and then on the other hand. We do not have guidelines of all the old ones, about what to use for what, that maybe it's a bit confusing situation in my opinion that. Then there are a lot of channels around like that. The situation at the moment and their roles are unclear. At least unclear at times." (P7)*

When creating guidelines for internal communication, organizations should strive for simplicity (P1). Communication channels/tools, like other aspects of internal communication, require knowledge of how they should be utilized. The organization should first understand what problem or aspect the tool is trying to solve or make more efficient, and then educate the users properly and create unified and simple guidelines on their utilization. Making overly complex guidelines can create confusion and cause more harm than good. Also, finding important information should be made as easy as possible and documented properly. As stated earlier in this chapter, the guidelines should note how, when, and where any given type of information should be communicated as well as where and how documentation should be handled. Documentation is an important part of the continuity of knowledge and creates the invaluable possibility of everyone not having to research this knowledge themselves. Easy to access and well-written documentation are an easy source of work efficiency, but poorly handled a headache for those that need it.

6.3.2 Remote work management

Remote work’s prevalence cannot be overlooked in today's and future business as it has exploded in popularity mostly as an answer to Covid’s restrictions. Remote work and virtual teams are not a new concept but the possibilities to utilize it as a practical working method have become vastly easier with the advancements of technology. The case organization has adopted the use of virtual teams quite extensively, which brings forth different possibilities and issues in internal communication. The most obvious difference is the fact that virtual team members might see each other in person once a week or maybe never, depending on how remote work is regulated in the organization.

Organizations should consider the differences that remote work brings to the table when it comes to internal communication strategy, understanding and identifying the differences enable the creation of more beneficial remote work guidelines.

> *“-- we've always been many localities organization, so the fact that there were coronas and stuff like that didn't really mean anything to us, like a dramatic change… But I do feel that a sense of community has suffered quite clearly in the fact that people don’t... It has become normal to be at home and not, and perhaps it is in the discomfort zone. It is not natural. For example, to put on the camera or something like that, then it passivates. People are somehow then maybe a little stuck there in their own circles and in their own comfort zone, that yes, it is, it is such a big challenge these days… exactly that reciprocity. There is a work community and experienced as part of it, or as if you feel that you belong to a group, is really important and it is really important for the wellbeing of mental health as it is you never see your co-workers that way and it’s sad in a way.” (P5)*

> *“Face-to-Face? Yes.* [Answering whether the interviewee has perceived a difference in bonding with their peers differently, remotely and in person] *So, in practice it is a bit forcibly easier that you get acquainted when you are in person. Our team when this team was formed in 2020. It took a really long time for all the team members to see each other. So, you could notice it, like, at first it was harder to group up and, of course it is, it is quite understandable when you have new guys that have never seen face to face, so talking to the team members was a bit unwieldy at first. But then when we got the first ‘team-day’* [refreshment day] *like we got the group together and we workshopped a little bit. After that I noticed that kind of when they got to know each other, and when talking face-to-face that discussion would flourish. And as it would bring a face to the voice, so to speak.” (P6)*

A sense of community and belonging creates tighter bonds between teammates as well as between the organization and its employees. According to P5, this bond is more difficult to create with virtual teams. Social aspects that humans use to understand and be understood are more difficult to utilize remotely, most notably: body language reading.

For example, while holding meetings in person, presenters can more easily see whether the attendees are internalizing what is being said and if attention is being held by reading body language cues. In remote working environments to mimic being in the same room as others, the use of video calls should be utilized. Visually seeing the person, you are communicating with creates a better platform for understanding each other. Writing a remote meeting policy should be included in the internal communication guidelines.

Managing a virtual team, P6 had noticed a clear difference in how people bond with each other in person compared to virtually, stating that before the team had got together in person for the first time that communication between team members where unwieldy. After the team had held their first refreshment day together and spent time with each other face- to-face, discussion and communication between team members flourished. This stark difference in bonding shows us the power that social interaction in person has, which is quite difficult to replicate virtually.

> *"It is just like this.* [Answering to the notion that the change to remote work has unveiled how important communication is] *When, like, at the corona times we have distanced ourselves in the sense that there are not really those 'coffee table conversations' and such. And we do not see the expressions of others nor direction when talking about it… So, when the same thing is thrown into Teams or some other channel, the understanding might just be completely wrong in things. That communication was left a bit optional. So yes, it reinforces the fact that what is done with these communication channels and what is written or spoken. So yes, you have to be careful about that." (P10)*

> *"There is really a kind of thing in these weekly meetings when you're working remotely, and that meeting lasts for an hour and there is a minute after 10 minutes of discussing something. It doesn't stick in people's minds, because people, especially remotely, when they have a weekly meeting in which situation they frankly feel like they don't really listen to the meeting. They are filling the dishwasher or throwing darts or something while they're on the line… And then it's like, the focus is at times in that meeting sometimes not. If we were in the same room so the speaker of the meeting would see a little bit whether he has people's attention." (P1)*

The risk of miss-information and misunderstandings is higher when communication is done virtually through digital communication tools. The meanings behind messages can be understood incorrectly when communication is done through digital communication channels and cause unwanted issues with the spread of misinformation (P10). This amplifies the need for practicing carefulness while communicating, especially if the information is important. As stated earlier in this chapter, educating employees on how to be a better communicator should be made a key goal of internal communication strategy.

P1 also brings up an important aspect of virtual team management, which is how we can keep the attention of those working remotely. We get back to the fact brought up many times throughout this research which is that every employee is an individual who operates differently. Some hyperfocus during meetings and some drift away. This aspect of communication in meetings is not only a remote problem, and people not paying attention can as easily happen while in person. A good example would be some school classes, which might resonate with most people as a point in time that they might have zoned out even while in person. The key is to clearly communicate the goals of the meeting so that the participants are aware of why they should care about the subject. If a person is invested in the goals of the meeting, they are more likely to stay focused.

> *"Of course, it is always easier* [referring to whether there are differences in managing employees located in the same place compared to those away] *if that team is, so to speak, present. Being in the same room they can ask person X that 'hey have you noticed that you have this kind of gig in the queue?', and how it is progressing. While, when youare remotely, then it is either with Teams or by phone, or something like that. And then it is really important when you have a lot of the guys remotely out there all over Finland, that they have their own calendars up to date, so I know what they are doing. Of course, I trust the guys one hundred percent of the time, it is not that… But in work supervision, like if the calendar is full, and they are at an on-site gig, then of course I can't give any urgent remote support gigs to them." (P6)*

Earlier in this chapter, we discussed how the digital communication tools used by the organization can affect the success of internal communication. When implementing remote work possibilities, the tools used and their utilization play an important role in how successful internal communication efforts can be. The successful management of virtual teams should be the culmination of every aspect of internal communication guidelines and frameworks that has been identified.

In this chapter, we can see how far-reaching benefits the strategical management of internal communication guidelines and frameworks can be. Well-managed guidelines enable communication unity across the organization, shape the communication culture in the direction which works best for the organization, and provide efficiency by educating how the chosen communication tools should be utilized.

6.4 Defining Core Process Owners

In this section, we discuss the perceived benefits of strategical management of internal communications and what categories formed the data structure dimension: *defining core process owners*. Throughout the interviews, issues come up with the strategical management of internal communication efforts within the case organization. Communication management has been identified as an important part of internal communication but implementing communication as a part of the organization's strategy has been overlooked. It became clear throughout the interviews that communication strategy was quite shattered, as in, the strategical management was viewed quite differently from manager to manager and branch to branch. To combat this, the research suggests that organizations should define who the owners are for core communication processes. The owner should be one person or a group, for example a Chief Communication Officer, or a communications team (HR can, for example internalize ownership of internal communication). The important distinction is that there is an entity that maintains the strategical management of internal communication efforts. The benefits are: 1. holistic understanding of the organization's communication strategies and their implementation. 2. The management of digital communication tools, their utilization and acquisition. 3. Enables the creation of consistent and unified communication guidelines and frameworks. And lastly, 4. The ability to make changes and respond to issues faster and more agilely.

6.4.1 Strategic thinking

The strategic management of internal communication requires the organization to see communications as an important aspect of the organization's core operations. Strategical thinking should be applied as much to communication efforts as to any other core process. This section's value in the data structure in Figure 3 cannot be overstated, since not embracing strategical thinking when creating or managing internal communications within an organization leaves it shallow and potential benefits are not gained.

> "[Answering to interview question 5] *Well, I think it would create all the bases for communication and other activities in this house and it certainly would bring equality and minimize the misunderstandings and the amounts and possibilities of misunderstandings, which usually always happens to happen even if it's not voluntary. In other words, it is a prerequisite for doing something that works, so that we have clear rules and framework of what we do, and with what do we do it, and how we do, and when is it done?" (P10)*
>
> *" So, this strategic management does perhaps make it so it would cut those sprawls. --Yes, and when it is aligned at the strategic level really. So, every*

> *team that thinks about their own practices can be in some framework in some way. Holistic might be a good word to say. That it is like everything looks like the way of doing at Tietokeskus, and then everyone understands each other." (P1)*

All the different aspects of communication management, which have been discussed and noticed in this chapter, are made more impactful with holistic strategic thinking (P1 and P10). In essence, strategic thinking boils down to why something is done, how it can be beneficial to the organization and how it should be maintained/managed. In the case of internal communication, we have found many benefits that suggest that organizations should manage internal communication strategically.

From the interviews we can notice that the case organization considers internal communication as a byproduct of other strategical entities rather than its own strategy, which leads to confusion whether there can be perceived to be any strategic thinking when it comes to internal communication. It is quite telling when multiple higher managers are confused about how communication strategy is practiced within the organization. This shows the benefits of naming core process owners who oversee the management of their respective strategical operations. Having ownership centralized to a group or a person creates a more coherent management of strategic operations.

> *"*[Answering to interview question 4] *Well, here we maybe are going back to the fact that I **think** we have made a strategy, which is good. In other words, we have selected the channels that will be used, and nowadays, for example, a communications officer is appointed for all projects, who will then take care of the communication to stakeholders. But then the problem may have been that. Well, like the rooting… we have a beautiful idea of how it should be done, but is it fully realized? Maybe not. And the fact that we are a pretty versatile organization in terms of work tasks, that there is a big sales team, technical experts, then we have helpdesk where the needs are just like when everyone is in the same space all the time and in the same way as in the career situation also, and then there is, for example, the logistics centre." (P1)*

> *"*[Answering interview question 1] *This is where we have a small problem in internal communication. Perhaps it is also related to this question that we do not really have an actual person in charge of internal communication on a larger scale. It's kind of been done in a way, that production has its own communication and sales have its own and then marketing is its own, that it's like a little bit… and HR, of course, its own. I guess they are a bit kind of split. So in that sense maybe, it is challenging at the moment. Improvements are required. It should be, in some way, managed better by some kind of person as this kind of communication supervisor… the internal communication. Now it is a bit too much divided in different directions and everyone does a little bit of their own stuff so it kind of disperses a lot of it." (P4)*

> *“--you have that communication management there so little bit kind of communication manager type internally, is missing from us. Who's… when it is all a little bit like communicating your own thing or your own teams. But who could be told that there are some things here. Someone who would take care of the communication like putting together those things.” (P4)*

P4 identifies that the lack of a communication manager has created a divided communication culture and habits between different business operations. This dispersion creates consistency issues when communication needs to be done across business operations. Without a unified communication strategy, communication issues are more likely to occure when information is communicated broadly, and most times information which needs to be heard across the organization is something important.

The appointed owner/s of the internal communication strategy should see the bigger picture and stay informed on possible issues and improvement possibilities. As we noticed in Section 6.2, granting employees the possibility to bring forth their worries and/or improvement suggestions is quite important part of internal communication error recognition and the strategical maintenance of internal communication quality. Through this the process owner can stay informed on rising issues and tackle them before they can affect employee satisfaction further and implement fixes.

The case organization not having a named process owner for internal communication leaves them unable to quickly identify issues, and more importantly unable to quickly fix them (P2). Since fixing communication issues is at the moment not clearly someone’s responsibility. This leads to a phenomenon where possible issues can boil higher than they should before they are noticed, causing employee dissatisfaction. Furthermore, when the issues are ultimately noticed, creating fixes can take an unnecessarily long time, and because no one has a clear understanding of the internal communication processes as a whole, the fixes might not actually eliminate the deeper-rooted problems.

> “[Answering to interview question 3] *--another problem I can see is that we have some difficulties in defining our core processes' responsibilities. I.e., that there would be clear processes who is responsible for which process and so that those processes are not sort of interrupted i.e., when we think about it, what is the thing we exist for i.e., for customers. So how does the process visible to the customer start? Where does it end? And who is responsible for the process as a whole. That is one problem of communication. Also, the fact that it is not clearly known who is responsible for which part of the process and how it relates to this process of initial work and who is responsible for it.” (P2)*

Communication strategy influences the success of other organization's processes. When well managed it positively affects them while if neglected it can hinder their success. P2 raises an interesting point of view:" *Communication strategy cannot be a separate strategy deviating from the organizations strategy*". They point out that communication strategy should be aligned with the organization's core strategies. This holds true for all core strategies; they should be complementary to each other and create added value for the organization by benefiting from one another. Internal communication strategies should therefore be built by utilizing the knowledge of the organization's senior managers who understand the organization's strategic goals well.

6.4.2 Information system catalogue management

We have discussed the role of digital communication channels and tools in the management of internal communications in previous chapters, but in this section, we dive deeper into discussing why the strategical management of these systems is important for the success internal communication. As we have noticed in this chapter, successful management of the internal communication strategy begins from naming an owner or owners in this process. Additionally, to what has been stated earlier, the owner also should have a deep understanding of what communication tools are used, how they are utilized, and be a part of the lifecycle management of these tools (P6 and P9). We noticed earlier that proper training and guidelines are beneficial in how well the used tools can be utilized. The process owner should be the entity most aware of the possibilities and limitations of the organization's tools.

> *"-- maybe we have too many overlapping systems for internal communication. For example, Teams and matteri* [Mattermost]*... the same thing can be done in the same way, i.e. chat here and such. But it's a bit dependent on the person / even dependent on the city, and team dependent. What tool who ever likes to use… and in that I've experienced kind of difficulties, and also our team members, in that… well… in which system do I contact person X, for example." (P6)*

> *"-- there are a lot of channels… we had a project where like this communication was attempted to be streamlined… we did like an internal channel rework where we went through all the channels and that there would be a clear place for everything… Even still there exists a lot of different channels and it didn't quite materialize completely, that everything* [internal communication] *would be in their official places… so for me to stay on top of things I need to go through all the channels every day… reading them… and it's really time-consuming and exhausting, but like I have to do it in order to stay on top of the operations." (P9)*

In Section 6.2.1, we discuss the problems information overflow can have on the success of internal communication. The solution to this problem starts with a critical analysis of why and how the organization uses its digital communication tools. The internal communication process owners manage the catalogue of tools the organization has. From time to time, the used tools need to be reflected upon and decided whether they should be rolled out of use or maybe another tool is needed to service a new need (P9). Before the decision to do either is made, there should be a thorough analysis carried out into why the system is not satisfactory anymore, or why a new system is needed. The wrong decision can be costly not only in terms of money but also by causing employee dissatisfaction. System change projects should practice transparency in communication by informing the users of the system of the change as clearly as possible. The reasons for the change should be made clear and the users should be kept informed to alleviate the effect of change resistance. Change processes are always stressful for those directly affected and can lead to strong emotional responses. Including the user in the process gets their opinions heard and lessens the feelings of not having control over important aspects of their work.

6.4.3 Management of communication

Everything we have talked about in this chapter has been linked to the management of communication. How the management of communication is strategically practiced within an organization should be decided by the core process owners. The management of communication should follow a unified line across the entire organization to promote integrity and equality. The differences between how internal communications are handled from branch to branch create ineffective communication, as we discussed in Section 6.2.

> *"--I don't think in any way that when I say that I wish people had more ownership over their own communication, I don't mean that now it's like 'communicate as much as possible', no. But we would spend some time identifying the core points and stakeholders. And make kind of like 'hey that guy should know a little more' and maybe it's enough for that person to know that we have these kinds of things going on." (P5)*

P5 states that while everyone should hold some ownership over internal communication efforts, the most important factor is identifying the core points and stakeholders to which the communicated information is most important. The notion of information overflow can also be mitigated following this logic. The feeling that unimportant information is communicated constantly through different channels could be lessened. Not all information is something that needs to be said or sent to everyone. What this means in practice is that taking the time to identify those key stakeholders which are necessary for the context of the message would lower the information flood. Carefulness should be practiced though, too much filtering and you can create communication failure by leaving out someone crucial. While information overflow is an issue that can cause annoyance, being left in the dark causes as many or even more negative emotions. It is a fine line to walk informing enough but not too much.

> *"*[Answering to interview question 4] *You could always do more. But I would say that we now have quite workable practices for us that if we make big changes then, what I really said earlier, that we identify stakeholders, we think about the core messages. So yes, it is starting to be like that among us the managers… a very rooted way of working, that we really take the time and think about how this affects who now, and then identify those key groups possibly also change types. Who will help us instil that change a little better and so on." (P5)*

> *"* [Answering a question about what they think about managing internal communication strategy as its own entity] *Yes, for sure. Because we have now… we now have projects where we have, as if, even separated this communication as a part of its own project. Exactly because we have so often failed in communication with a lot of things." (P8)*

While the reactive management of identified issues should be a core part of internal communication strategy as it helps with continuous improvement, being proactive and implementing frameworks and organization-wide guidelines is as important. P5 and P8 discuss how steps have been taken to be more proactive with communication and prevent issues from ever occurring, by identifying previously discussed key stakeholders and core messages and by separating the communication aspect of a project to its own operation.

> *"*[Answering to interview question 1] *It has been tried to improve over the years. We have a 'people's communication network', which was set up to improve communications. Where, like the idea was that all teams or units would have an ambassador, which would bring common communications and communication flow. But I guess all attempts have been perhaps more or less unsuccessful. At the end of the day, though." (P9)*

> *"*[Answering a follow up question about what they suspect the reason was for perceived failure in communication from interview question 6] *I somehow think that there are unit boundaries. That is, there are sales, production, service management, i.e., they all do a little bit of their own thing. And especially for example the customer teams, does the team's content very well, its own customer group and what they're doing. So, they don't hear what's going on in sales or what's going on in the service management i.e., it's going*

> *to be those cross-team boundary information problems so I would bet that quite a few of these seem to be related to that matter." (P4)*

P4 and P9 note that many issues in internal communication are due to an ineffective cross-team information flow. That is, communication of information encounters difficulties when going across team borders. Issus with communication such as this can reveal that there is too much siloing going on and the organization is too divided and shattered. We have discussed this earlier in this chapter, how communication habits within the case organization are not following a unified line, which causes issues with consistency. The owner of the communication strategic process should create unified guidelines for everyone, which enables smoother communication between teams and stops the siloing-effect from occurring.

6.5 Alignment of Communication Management and ISM

The second research question is aimed at determining what the relationship between communication management and information system management is, and in what ways these concepts align with each other. This research question was the main research gap identified from problematization of academic literature from both management concepts. After an extensive analysis process of the gathered research data, a data structure was created utilizing the Gioia-method. The data structure, *key alignment points of Communication management and IS Management,* can be seen in Figure 3. Three dimensions were identified: 1. *Enhanced communication*, 2. *Change management* and 3. *Crisis management*. These dimensions comprise eight 2nd order categories: Data analysis/ Business intelligence, 2. Digital communication channel management, 3. Knowledge management, 4. IT system integration, 5. IT system change process, 6. Automation, 7. Service level management, and 8. Information system security. These dimensions are a result of the held expert interviews within the case organization and the created theoretical framework. The comprised data structure in Figure 3 shows 1st-order codes, 2nd-order categories, and aggregate dimensions and showcases their connections. The data structure is discussed in more detail in Sections 6.6, 6.7 and 6.8.

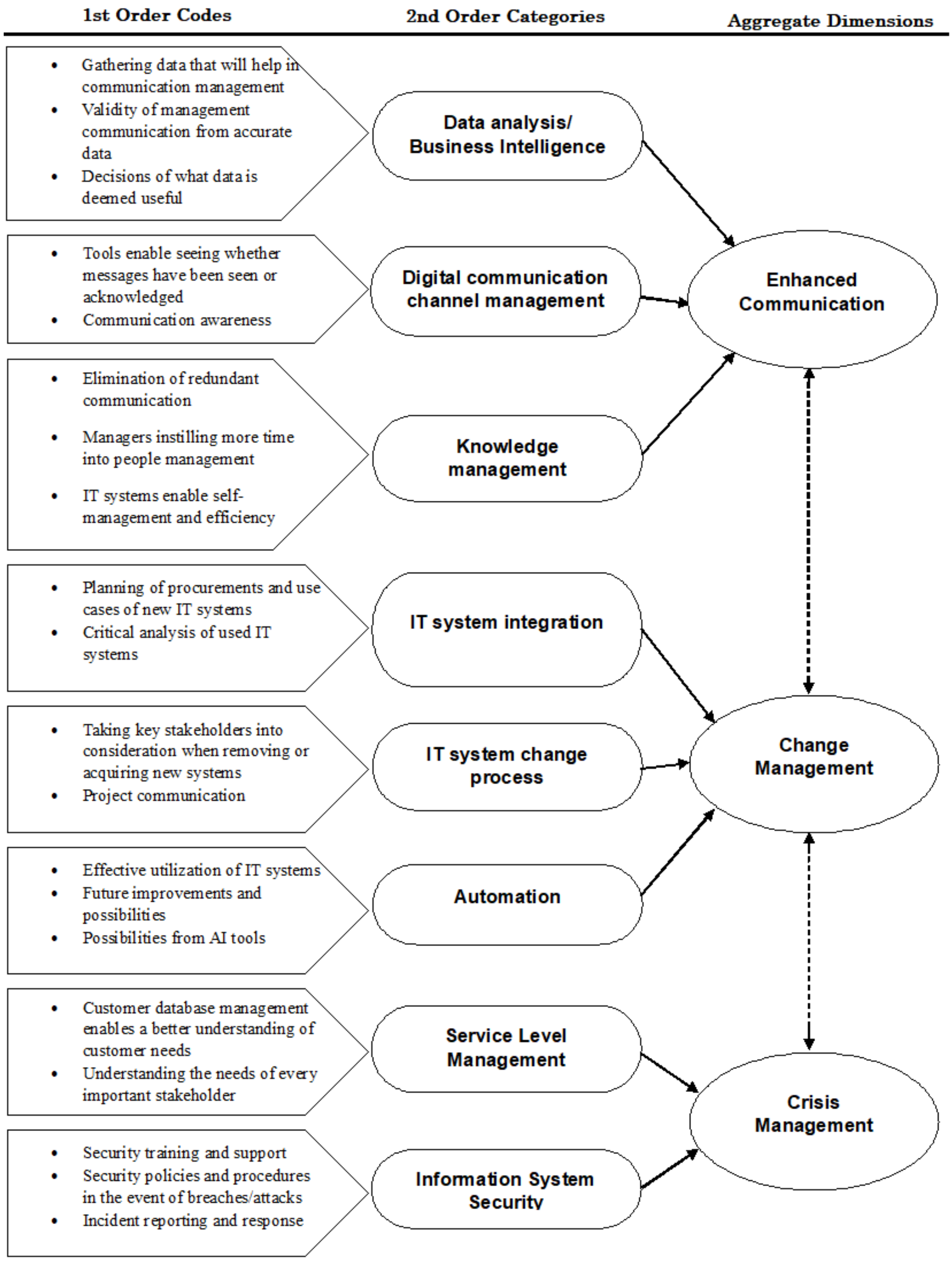

Figure 4 Data Structure – Key alignment points of Communication management and IS Management

6.6 Enhanced Communication

The first dimension shown in Figure 4 is enhanced communication. The identified categories in 2nd-order show the aspects that influence this dimension, which are: *data analysis/business intelligence, digital communication channel management, and knowledge management*. This dimension revolves around which perceived alignment aspects can be seen influencing the connection of how data governance can drive better communication management.

6.6.1 Data Analysis / Business Intelligence

The modern business world revolves around how to best utilize the massive amounts of data that are gathered daily from all aspects of organizations' operations. For organizations to be able to create value from the data, some form of data governance plan should be formed. Most data-driven organizations utilize business intelligence as an important part of understanding how their different business operations create value. For the case organization, data analysis and business intelligence are at the center of operations, and there are very few operations that are not analyzed. Data gathering by itself is nowadays easy, and difficulties arise from how this data should be analyzed and for what purpose. Analyzing the wrong data might be a moot point and not be of any value. More importantly, analyzing the data incorrectly can have a costly effect on the organization's success. Therefore, the more important the operation is for the organization's success, the more emphasis should be placed on creating a data analysis plan that provides valid and trustworthy outputs.

The connection between data analysis and communication efforts is easily noticeable when understanding what the purpose of data analysis is, which we noted previously is to create useful knowledge that brings value to the organization. The gathered data and the knowledge learned from its analysis can be used to better manage the organization's operations, including communication management. From the organization leaders' point of view, the data helps convey valuable information for key stakeholders about how the organization is operating at the moment and even in the future.

> *"--producing and communicating financial information, I think works very well at Tietokeskus. And that and it is moving forward all the time. We are able to create more and more of this kind of business intelligence type of communication and the goal is not that the financial organization is some report-generator who produces only reports. But rather to create opportunity for the people concerned who have business or cost*

> *responsibility for their activities, themselves get that information from the system. And in that we are constantly evolving into, that we will take the PowerBI reporting forward. And guide that analysis so that the interested parties themselves can apply there for themselves in their own business or in their own area of responsibility." (P2)*

P2 discusses the notion that business intelligence communication is constantly moving forward and evolving in a way that promotes more self-driven analysis. This aspect of thinking fits well with the narrative that data analysis is a driver for bettering communication possibilities. Managers having more readily available information, which benefits their activities as supervisors and enhances communication flow and speed. Later in this chapter, we discuss further how automation and AI could drive this self-driven data analysis even further. The key takeaway we can see from P2 is that the communication of information can be seen as an integral part of why organizations practice business intelligence.

> *"--PowerBI reports on the employee's performance, although it doesn't tell the whole story. But it is just the kind of thing you can follow. Then you might think that you have to look at this and see why this is the case, so it is mainly to raise awareness to consider that there is now some kind of anomaly here." (P1)*

> *"-- I mentioned these KPIs and others, which are… I think we have very much developed. And I think the good thing is that we have these PowerBI reports as well, which are quite widely used by managers as well. That is how you get up-to-date, the same situation reports easily for everyone." (P7)*

When discussing how IT systems could benefit managers' communication management, P1 and P7 discuss how different performance metrics provide valuable information for managers that benefits their communication efforts. P1 brings up an important distinction, which is that there needs to be a reason something is measured, and you need to have the knowledge to analyze the gathered information to make it valid and beneficial. We discussed this before, how data is only as beneficial as its analysis. We can see that being skilled in deciphering data is a valuable skill for managers to have, and its importance as a skill is heightened in data-driven organization such as the case organization. P7 also punctuated the word '*same*' when talking about having up to date reports, which is also an important aspect of information integrity. Having different outputs from data causes disarray and confusion within organizations. The integrity and validity of used information should always be a top priority when practicing business intelligence, as following incorrect information can lead to wrong decisions being made. As we previously mentioned, the information can also be about something useless, which makes the whole analysis redundant. We can now identify how the integrity of data and understanding how to utilize business intelligence also affect communication efforts.

> *"I would venture to say that we are a data-driven organization. In other words, yes, I would say that really everything that is done in HR work is done that way. The basis for the fact that we have the kind of systems that support our work exists. It would be very difficult without these different systems that you get to use." (P5)*

> *"For example, when monitored, are there recruitment needs? Or does it look more like there is an opportunity to take on more responsibilities or customers. And the other one is, of course, measuring the staff's wellbeing from the same systems then generates data for it and, for example, for monitoring absences, there is now a tool called the supervisor's 'compass'. In which if some team members absence meets certain criteria values, which has been determined by your own HR in cooperation, so then it immediately raises information to the supervisor that 'hey that this guy has been, for example, on 3 consecutive Mondays on sick leave'. Or in the last six months there have been more than 10 different sick periods so discuss this. And maybe that conversation and everything else will remain, of course, person-to-person and personal and requires kind of clarification and empathy, but what the system does is that it raises it that now 'hey grab this'." (P1)*

An important aspect of data analysis, as brought up by P1 and P5, is to measure the wellbeing and satisfaction of the organization's employees. Managers are as much people managers as well as operational managers. The intangible capital of an organization is a valuable aspect to measure since the employee's wellbeing has a direct effect on work efficiency. In most organizations, as well as at the case organization, the HR department is the one in charge of analyzing data related to human capital, whether it be wellbeing, satisfaction, or employee turnover. As P1 stated, measuring these aspects with some IT system helps with noticing patterns that would have otherwise been left unseen, but the actual discussion and communication should be done person to person. Here we can again see a direct link with the utilization of IT systems as a communication enhancer. In Section 6.7, we discuss further how IT system utilization, integration, and procurement benefits and aligns with communication management.

6.6.2 Digital communication channel management

Communication channels are an integral part of enabling easy and fast communication between stakeholders within an organization. With the increasing popularity of remote work and virtual teams, their utilization has become commonplace for all types of organizations. When researching internal communication aspects, the management of communication channels was outlined because of their importance in communication efforts (see Section 4.2.1). Digital communication channel management as an alignment point of communication management and ISM is quite easily seen, but it is an important one to bring up. Communication channels have been extensively discussed already in this thesis, but in this section, we focus on identifying exactly why this management practice can be seen as an alignment point for communication management and ISM.

> *"-- as I see it instant message systems are needed either way, that is clear. We operate in the IT field. We collaborate with our customers and our stakeholder communication is centralized on Teams. It is like a fact that it is needed. It is a part of everyday life." (P3)*

P3 emphasizes the inseparable aspects of daily business life digital communication channels. Considering the importance of these digital communication channels for businesses to operate normally, we can notice how important it is to manage them properly. Outages in the services can cause major issues for users to conduct their work assignments, which is why organizations should always have contingency plans in place. Management of communication channels should be prepared for the possibility of these issues occurring and create a guideline for what system is considered the primary one and what are the alternatives/secondary. As we have noticed, the case company has two digital communication channels in daily use, Teams and Mattermost, through which most of the day-to-day internal communication is conducted. Thus, in the case of a service outage in one, business as usual can be continued by using the others. These aspects showcase well how the management of information systems, in this case communication channels, directly impacts the management of communication.

> *"Microsoft has built inside Teams and outlook and so on the Viva-line that pretends to follow who you are dealing with. But it, of course, only sees what you are doing on Microsoft's systems, i.e., if you are then using some other chat channels, traditional phone or at the office seeing people. So, it does not know how to recognize them, and we have not transferred all human contacts to these systems. So, it does not, at the moment, serve us. So what it is capable of doing today, for example, if you send an email, then it will show all the recipients who opened it. And it will show you whether the messages in Teams are… you can see who has seen it, too. Possibly, you can ask for reactions from people. These are the sorts of things in information systems that can help whether I have just shouted into the wind or has someone also heard what has been communicated." (P1)*

Multiple interviewees (P1, P3, and P4) discuss how they would like for every communication system to have a feature where the person communicating something can see how many have seen and/or read the message. Some systems have a simple form of this feature in which users can see when their message has been seen. But for information concerning more than one person you do not get feedback on how many have read the message, as brought up by P4 in this statement:" *HR puts some important information on their channel. So, if 50% see it that way. It's good.*" The knowledge of how many people have seen important information is useful for the management of communication. When it comes to the management of communication systems, when analyzing how they should be used and what features are useful and what are not, communication management should be involved to understand how these systems provide communication benefits.

6.6.3 Knowledge management

The core idea of communication management is to influence individuals' abilities to practice communication between each other within an organization setting. How this influence is achieved is by managing the knowledge and understanding of these individuals. The practice of managing knowledge is based on the understaning that the people working in the organization are valuable assets to the performance of the company. Understanding the connection between communication management and knowledge management provides us with the opportunity to identify how these align with IS management.

> *" --what kind of load does anyone under me, for example, have. In which jobs they are attached to. And then the idea would then be that we could more flexibly use expert resources in other customer teams, other than those to which he is primarily assigned. If we could see better and be able to communicate among ourselves that there is more pressure here now, more people are needed, and in another teams, they are waiting if there is more work to be done. So that we could get visibility with these systems. And then we might get to discuss with managerial colleagues more about development ideas and new stuff, other than about the daily work supervision. Communication would be more than the kind of thing where you would try to look for something new and different. Rather than going to that daily hassle." (P1)*

> *"There would be no need for it. The kind of communication that could be obtained directly from the system. So, we can focus conversations on the kinds of things that people are better at. What motivates others and such things." (P1)*

> *"-- the information, as we talked about before, that it could be there at the managerial level, but since it did not necessarily trickle down to us in the middle. Then there was kind of like an 'hunch' that, well OK, the seer gets*

> *earlier how much to be billed and stuff like that. But like, when you get more accurate data now, then you can also see if there are any grievances, for example, if some expert has half of the day unrecorded, then from there it can be seen. Then, you can talk about it in one-to-one sessions. And possibly ask them, that: 'hey is there something wrong?'. Whether the work burden is too great or whether to identify burnout or such. That it looks like their work input has lowered." (P6)*

> *" Yes, that the work is freed up for the experts to do the 'right' work that is billable, and not fight with the systems." (P6)*

P1 and P6 discuss how IT systems can enable better utilization of manager time for people management. If managers' time is mostly taken up by 'fighting' with different systems, they cannot focus on managing employees as individuals. Effective people management is beneficial for organizations at multiple levels. It cultivates a positive work environment where employees feel valued, motivated and supported. When managers prioritize clear communication, active listening, and empathy, it fosters trust and enhances employee engagement. Engaged employees are more likely to be committed to their work. Moreover, strong people management practices promote knowledge development and retention. By providing regular feedback, coaching, and opportunities for growth, managers empower their team members to reach their full potential. This not only enhances individual performance but also creates a culture of continuous learning and improvement. As employees see a clear path for their career advancement, they are more likely to stay with the organization, reducing turnover costs and maintaining institutional knowledge. From this we can notice how big of an impact the alignment of communication management and ISM can have on the managers ability to foster more efficient and committed employees. Manager-employee communication should not be undervalued, and the effective management of IT systems can create more time for exactly this.

> *"*[Answering to interview question 7] *--and it would eliminate the need that it would have to be inquired from others or dug up from other systems that I want some information on how as the service manager's point of view the matter is. So I must ask the service manager about it, so I think that is the wrong starting point. It should be visible from the system right away, so there it helps to acquire that information." (P3)*

P3 also contributes to the notion of eliminating redundant communication by better utilizing IT systems to streamline information flow through the organization. IT systems can be an effective way of reducing unnecessary steps from the communication of information by the means of creating organized documentation systems where important information can be stored for later review. Having to retrieve information straight from the source every time can cause issues. In worst cases, the undocumented information can be important in the future and the one how has the knowledge has left the organization, essentially creating the need to relearn the knowledge again.

6.7 Change Management

The second aggregate dimension shown in Figure 4 is change management. The identified categories in 2nd-order show the aspects that influence this dimension, which are: *IT system integration, IT system change process, and automation.* In the creation of this dimension, we identify how different aspects of IT change processes can act as an alignment point between communication management and ISM. We start by analyzing how the ISM process and IT system integration can benefit from the communication management practices.

6.7.1 IT system integration

Different IT systems can be utilized in tandem in multiple ways to create value, whether it be by reducing process times or enabling new ways of operation, the knowledge of how to integrate these systems can be a great source of efficiency. IT system integration refers to the seamless connection and interaction between different software applications, systems, and data sources. The integration process usually involves the acquisition of new systems and their integration into the current system environment. Also, old systems can get new features that create their own integration processes if they are significant enough. The core phenomenon in play is change. Change management plays an incredibly important role in successfully driving through change projects. One of the key aspects of change management is communication with key stakeholders affected by the upcoming change by acquiring feedback, providing counseling, and understanding how successful the change has been. This section focuses on IT system integration aspects of change processes, while the next Section (6.7.2) focuses on the pre-integration part of IT system acquisition processes. Both sections are very closely related.

> *"--it has been developed quite wildly. For example, the latest was, which was not quite easy, so we have been modeling all things like work hour interpreters there in the systems so that our payroll partner does not have to do more than to press enter. Maybe a little bit 'painted'* [exaggerated]. *But when a person marks in the work system/a time tracking system, let's say someone's overtime or on-call time or alarm compensation or whatever. We have them like dozens of different things then it goes as interpreted into that system, i.e., they don't need to calculate it." (P5)*

P5 presents an example of how IT system integration can provide tangible benefits by streamlining and automating parts of a process.

> *"In any case, we have more than one partner, and I have not previously experienced that through one partner the management of the whole thing is possible. I have not come across a partner who has been able to produce it* [it referring to IT system] *as I would have liked. So definitely that updating the data into one place, so I don't have to worry about if the same information has to be exported to even more places. Its integration capability and reporting possibilities were definitely the key criteria. The ease of use of course." (P5)*

P5 talks about the process of being realistic about the possibilities of integration. They note that integrating as few partners as possible might not bring as many benefits as dividing systems from multiple partners. We can notice an important aspect of IT system integration from P5's discussion, which is that organizations should understand why they want to integrate and what are the desired benefits. Before embarking on a system acquisition project, the organization should critically analyze the currently used systems. This critical analysis provides holistic knowledge on how the current systems are used, what are their weaknesses, and their benefits. Through this process, unrealized benefits from the current systems might be found, which might make the procurement of something new impractical. Furthermore, a deeper understanding of how the current system is used enables the organization to create a more precise list of features that are needed from the prospect new system. To fully understand how the current systems are utilized, communication management plays a key role, as knowledge should be gathered from the users. Looking outside-in might create a narrow understanding in which tacit knowledge is not taken into consideration. Tacit knowledge can be a valuable source of information, but finding it requires successful communication with key users.

> *"When a system is changed there is always change resistance, and there is always that… you've heard it yourself at the coffee tables: 'CW* [current system] *was just introduced. Why does it have to be changed again'. 'And again, you have to learn a new system' and stuff like that. So, well change always faces that resistance. And that ITSM-system change for me, among other things, that change of system has at least been full 'pos'* [lots of difficulties] *for me. And through it, I have tried to ensure, for the guys, that when they agonize even with CW, that... Well… 'Why do we have to do this and that now and so and so?'. Well in the new system it may be that it has been handled by automation, for example, or it has been handled smarter there. That this is the continuous improvement, the development as it were, to*

take that cause forward and to facilitate their work. Then comes a better system in place of a bad one…" (P6)

The case organization at the time of writing this thesis was in the middle of an ITSM project, where they were fully changing their core system. While discussing this process, P6 brought forth an important aspect of any change project, which was *change resistance*. This resistance is so prevalent that it can be considered more of a rule rather than an exception. The bigger the change, the stronger the resistance, which is why change management is an important aspect of any change project. A major part of change management is communication. In chapter 6.1 we noticed what aspects should be considered when creating a successful internal communication strategy. During major change projects, all these aspects come into play. Practicing effective internal communication lessens the effects of change resistance, which in turn makes the acceptance of new processes easier.

We can identify an important alignment point between communication management and ISM through IT system change and integration processes, which is *change management*. Communication management should therefore be a part of these processes to assure their success.

6.7.2 IT system change process

This section, as stated in the previous Section (6.7.1), discusses the pre-integration part of IT system change processes, which includes understanding why new systems are needed and how organizations can gather information about them, and how IT system change projects are related to communication.

> "[Answering how they would root communication aspects into IT system acquisition] *From every part of our, i.e., company people are involved when, for example, 'loge'* [logistics branch] *communicates practically exclusively through tickets. The expert side may communicate through tickets. The service desk through the phone. So, when they have those different communication practices, then one or two are taken from each of those kinds of organizations to then represent them. That they say, well, how we handle communication here and then, so let's tie them up, so to speak. And let's take all the habits into account and then how to implement it with a possible new system." (P6)*

> *"In system procurement it is, of course, essential and the key thing, the definition of work and who all participate in this definition process. And that is how you define what the stakeholders of that system are and kind of get the input from them, what should be done in the system. And that is how in the new system, for example, it is what we have been planning to happen in the new ITSM service. I.e., we have defined those stakeholders, for example,*

finance as a stakeholder, what are our needs in relation to that ITSM system project and so on. And through this, it also takes care of the communication, i.e., what is being done. As input, we consider what are the needs and requirements of each stakeholder for the system. And so on. We basically have built, for example, the ITSM system project so that it does involve the necessary people in the project." (P2)

When considering an IT system change, the perspectives and requirements of key stakeholders should be understood, as pointed out by P6 and P2. These key stakeholders may include users or groups directly or indirectly affected by the system change, such as employees, teams, leaders, and business partners. Taking key stakeholders into account promote that their needs, concerns, and expectations are understood and addressed, creating a sense of ownership and cooperation. By engaging stakeholders early on, their valuable insights can be gathered, allowing for a more comprehensive understanding of the system's impact and potential risks. Furthermore, involving stakeholders throughout the change process helps with transparency, building trust, and increasing the likelihood of successful adoption and acceptance of the new IT system. The engagement process is driven by communication, which helps us identify further how communication management aligns with the ISM process of IT system change.

"Well, in the future, which is also on the horizon for us, we have this ITSM project going on. So, our CW will be replaced with another service. So I really think that if there is one thing then CW may not be quite the best possible for the running of our ticket system. We kind of develop these systems ourselves, i.e., the applications with which they are made. Well then in the future still so when new ones are developed so does their interoperability. So, I also know that our phone system, for example, will be renewed at some point, that it is at least as it is already going in that strategy or in our plans. So I'm pretty sure that it will now be looked at in the way that it talks with the new system as conveniently. And at the moment we have had these integrations as a difficulty. As there have been many different systems, that is how they have communicated. -- but all of them improve our future development." (P10)

" [Discussing how IT systems create value for the organization] *Well now of course we have this big, big project going on. – There are pretty basic things to be done, still… if you have to be honest, we will be doing just the basics in the next couple of 3 years. But of course, the goal is that it would make work easier and then free up time to create more added value for the customers. Productive work. From where we kind of want a small modest slice of the customer's euros too. We could create more value for the customers. And automating things where it makes sense, and then automation usually improves quality and speeds up, speed up operations." (P7)*

When organizations are in the process of IT system changes, the integration abilities of the new system should be considered (P10). We identified in Section 6.7.1 that taking integration abilities into account assures that the new IT system can effectively communicate and exchange information with existing systems and processes within the organization. A lack of integration can lead to data inconsistencies, operational inefficiencies, and hindered collaboration between different departments. By understanding the integration capabilities of the new system, potential conflicts or gaps can be identified and addressed, enabling a smoother transition and minimizing disruptions to business operations. Evaluating integration abilities allows organizations to better utilize existing infrastructure and investments, maximizing the value and utility of the IT system change.

P7 notes that IT system changes have the potential to create added value for customers. By implementing new technologies and improving processes, organizations can offer better products or services that better meet customer needs and expectations. Additionally, IT system changes can facilitate faster response times, improved ticket tracking, and streamlined communication channels, all of which contribute to the creation of added value for the customer.

> *"*[Discussing how to take communication into account from the start of IT system acquisition process] *At the moment, in fact, during the ITSM project, we have thought about this topic quite a lot, because this is going to affect everyone's at Tietokeskus everyday life. And then communication has been tried to keep as proactive as possible and to keep people informed. Though it is kind of really tricky. Because aspects become clear later… before you know for sure then you don't want to… as you mentioned earlier that you cannot talk about aspects early because you do not necessarily know what is going on. And then it can also be dangerous to give the wrong kind of image, or to create wrong kinds of expectations." (P9)*

> *"*[Discussing whether communication has been thought about enough as a part of IT service change projects] *Well, it always comes as part of the project. I bet it's not thought enough, but it's such an extensive part… if we are talking about replacing the ITSM system. Then this kind of thing little integration in between, so it's such a small part of the whole project that unfortunately it often goes unnoticed. But then when it goes unnoticed, it also causes many people to do kind of unnecessary work. It should be thought about more in my opinion." (P3)*

We have discussed the ongoing ITSM project, the case organization is in the middle of as of writing this thesis, so naturality project communication was identified throughout the analysis of the gathered research data. Communication is a factor that should be considered throughout an IT change project. Effective communication assures that all stakeholders are well-informed, engaged, and aligned with the project's objectives. Transparent and timely communication helps manage expectations, mitigate resistance, and keep team members and stakeholders informed. Establishing clear channels of communication, both formal and informal, should be considered to facilitate the exchange of information. Regular status meetings, progress reports, and documentation keep everyone involved updated on project milestones, timelines, and any potential challenges. Additionally, communication should be tailored to different audiences, considering their level of technical expertize and their specific roles and responsibilities. By fostering open lines of communication and actively involving stakeholders in decision-making processes, organizations can promote collaboration and increase the chances of a successful IT change project. (P3 and P9.)

6.7.3 Automation

To keep the term 'automation' coherent in this section, we define it as including those aspects of IT processes that are moved from manual labor to automation (Shastri & Thampi, 2021). For example, we have heard many times throughout this analysis chapter how the introduction of PowerBI has automated the gathering and analysis of business intelligence data within the case organization. In Chapter 6.2, we identified how business intelligence acts as a driver for better internal communication, which makes it applicable as an alignment point between automation as an ISM aspect and communication management.

> *"*[Answering to interview question 7] *--and it would eliminate the need that it would have to be inquired from others or dug up from other systems that I want some information on how as the service manager's point of view the matter is. So I must ask the service manager about it, so I think that is the wrong starting point. It should be visible from the system right away, so there it helps to acquire that information." (P3)*
>
> *"*[Answering to interview question 7] *Immediately what comes to mind from this is when PowerBI was launched for i.e., for managers, that is, for us the middle management, it was such a mind-blowing thing, so to speak. Because before that it really was difficult. And those above me must have had more knowledge than me." (P6)*
>
> *"The expectations and needs may have increased about what should be extracted from the systems nowadays. And I guess if you are to ask this again in a year's time, I'd probably be a different matter altogether." (P5)*

Automation brings benefits to managerial communication, as stated by P3 and P6. By implementing automated systems, managers can streamline routine tasks and processes, freeing up time and resources that can be allocated towards decision-making and communication (see chapter 6.2). Automated tools can generate real-time and accurate data enabling managers to access information more easily, as stated by P3. The availability of up-to-date data facilitates data-driven communication and empowers managers to make informed decisions more efficiently (P3 and P6). Furthermore, automation of repetitive tasks enhances the accuracy and consistency of communication by reducing the risk of human error. Managers can rely on automated workflows and notifications to assure that information reaches the right individuals, improving coordination and cohesion between teams.

> *"*[Discussing future possibilities of IT systems benefiting communication] -- *It is a good thing. This kind of platform will come into use, which will allow for more things. And probably in the sense of communication there are these like different databases and… and all kinds of bots or how to call the use in the client interface so it helps with the customer communication. I do not remember the services I visited a few days ago, but there came up this kind of chat. And the thing I kind of searched for I kind of wrote on it and it found it in a second from there and dropped the answer to me. -- The assistant got me it right away, so this type of thing can be offered more than previously. So, it does not need our time and the customer will additionally receive their answers in seconds. Instead of first calling somewhere and waiting to get to the service." (P7)*

Differing chatbots, as brought up by P7, have shown to be valuable tools in customer communication. These chatbots can provide immediate responses to customer inquiries, facilitating a quick and efficient resolution to their concerns. With their ability to handle a large volume of requests simultaneously, chatbots can significantly reduce customer wait times. They are available nearly around the clock, allowing customers to receive support at any time, enhancing convenience and accessibility. These automated chatbots can assist in providing consistent and accurate information, and not being subject to human errors. While they are efficient at handling common and repetitive inquiries, more difficult or complex issues may still require human intervention. However, when carefully designed and integrated, autonomous chatbots can enhance customer communication. Therefore, the automation of operations can be identified as an alignment point of ISM and communication management.

> *" It is mind blowing* [AI tool] *and we do not necessarily even understand how groundbreaking it is, but I would say we are on the verge of some kind of*

> *revolution. -- For the fun of, it I asked for a car policy. This is usually quite time-consuming in business to do, like in ours too. It took us a while to create it. I would determine that OK yeah that creates this kind of auto policy, which has taken into account this this this this this this. So it created this multi-page… that is really remarkable. We have invested in an employee handbook where you can find, from A-to-Z instructions for everything, so then if it could be combined with that, 'hey, tell me what our early intervention limit value is?'. So, you do not have to wade through the fact that 'hey was the information here or there?', and it would find it. It is like I said, a year from now if you ask, it is all kind of outdated." (P5)*

In one of the interviews, the discussion about automation prompted discussion about the future possibilities of AI. P5 stated how much potential AI technology can have on business operations, and especially pointed out that the process of writing guidelines could be made instantaneous. Furthermore, AI integration could make finding information easier and quicker from different databases. AI could become the penultimate way of automation, which could have a major impact on how effectively different stakeholders can communicate with each other. AI technology's perceivable impact on future ISM as well as communication management was seen as significant enough for it not to be discussed in this research briefly.

6.8 Crisis Management

The third aggregate dimension shown in Figure 4 is crisis management. The identified categories in 2^{nd}-order show the aspects that influence this dimension, which are: *Service Level Management and Information System Security.* Through the analysis of the gathered data with the reference of the formed theoretical framework, we could identify how crisis management is a key alignment point between ISM and communication management. The previously stated 2^{nd}-order categories are both aspects that are at the core of the case organization's business as an IT service provider. Furthermore, crisis management can be seen being affected by both service level management practices and information system security management. In this chapter, we discuss how exactly this dimension and categories are aligned with communication management.

6.8.1 Service Level Management

Service level management (from here on SLM), in the case organization's context as an IT service provider organization, is a process that focuses on establishing, monitoring, and maintaining agreed-upon service levels between the organization and its customers.

It involves defining clear service level agreements (SLAs) that outline the scope, quality, and availability of services provided. SLM secures that the company's services meet the needs and expectations of its customers by closely monitoring and reporting on chosen metrics such as response time, resolution time, and uptime. Through regular reviews and proactive communication, SLM aims to continuously improve service delivery, identify areas for optimization, and foster a transparent and collaborative relationship with customers. As a notation, the case organization has named crisis management operations as major incident management (MIM), but these two are practically the same thing.

SLM is closely related to crisis management within the case organization. During times of crisis, such as system failures, cyberattacks, or natural disasters (in Finland these are usually storms causing problems), SLM is practiced to secure effective response and resolution. It establishes predefined escalation procedures and communication channels to address and mitigate crises, minimizing service disruptions and restoring normal operations as quickly as possible. The MIM process is in detail documented and defined within the case organization, which creates coherency between differing crisis situations and customers. By having well-defined SLAs and monitoring mechanisms in place, SLM helps to place realistic expectations for customers during crisis situations. It facilitates communication, transparency and proactive updates to keep stakeholders informed about the status of services and the progress made towards resolution. Communication plays an integral role in maintaining customer trust in the organization's abilities to handle situations that can cause major problems if not handled quickly and carefully. Therefore, we can identify that communication management impacts the success of SLM.

> *"--when communicating with stakeholders. If we could get, for example, a so-called CMDB* [configuration management database] *for information system management. I.e., we would know exactly which customer has what kind of, let's say, operating systems, certain programs in use, certain models, and brands of network devices, from which the life cycle ends or if there are information system security problems. Then communicating about all these would be much easier when they would be there in the ITSM systems… And, for example, major incident communication. We could target it much more accurately and faster for those to whom it belongs. We often must think that we have to inform every data center service customer. Even though we only have one customer's teleoperator line down." (P1)*

When discussing how IT systems could bring communication benefits, P1 brings forth ideas about how greater knowledge about the customers' and their differing services and devices could enable the case organization to create more accurate, tailored, and faster service management. This would in turn affect the provided SLM for the customers. They also note that with these improvements, crisis communication practices could be made more efficient with more timely and targeted communication.

6.8.2 Information system security

For this research, information system security (from here on ISSec) is considered one aspect of crisis management, more specifically, as an important aspect that triggers crisis communication. All the vast amounts of nuance that ISSec hold are not analyzed, rather the analysis notice the strong connection between ISSec and crisis management. The case organization has categorized in their MIM process guidelines ISSec aspects as either *ISSec breaches* (i.e. there is a possibility that some malicious faction has infiltrated the host environment), *viruses* (i.e. an unknowing employee has opened an infected email link which has downloaded a virus onto the host computer or worse), and lastly *vulnerabilities* (i.e. zero-day vulnerabilities in which a vulnerability has been noticed within some program or its specific version for which no defense or patch is available, which provides the possibility for malicious actor to gain access to users environments).

ISSec is closely linked to crisis management within an IT service provider organization. In the event of a crisis, such as a data breach, the importance of crisis communication becomes evident. Security measures such as access controls, encryption, monitoring systems, and crisis response protocols, are utilized to prevent, detect, and respond to ISSec problems. Crisis management includes having a documented crisis response plan in place, such as the case organization's MIM process, which outlines the steps to be taken in the event of a security breach. ISSec assures that organizations' systems, networks, and data are protected against unauthorized access. By implementing strong security measures and regularly assessing vulnerabilities, the IT service provider can minimize the impact of a crisis and facilitate a more efficient response to protect the organizations' assets and maintain the trust of its customers.

We can identify an alignment point between communication management practices and ISM, in the form of ISSec being an important aspect for crisis communications. ISSec crisis should always be taken seriously as they can cause incredible harm to the victim organizations.

> *"--we just introduced a framework for development. In what way every project should be driven forward... It may be that communication is such a thing that has been maybe at this point in the back burner. At this moment we have solved something else... *Person* did a model of them, and it was approved early this year for use. And it would probably be pretty good to check what is the stance on communication. There is more about information system security and things like that brought up. And this might be a bit of a blind spot." (P7)*

> *"--or ISSec issues. Or just a customer reclamation that something went wrong or was late or something was done incorrectly when it was not known what had been agreed upon or when it needed to be done. So, these… Hunting for root causes and something like this… 'retroing' is always talked about with software developers, let 'retro'. Let's go through what happened, and we'll go through it and see why… After something has happened. These big service deviations involve these kinds of stuff." (P1)*

While discussing communication being considered on IT projects P7 noted that while communication has not been fully acknowledged, other aspects such as ISSec have been lifted to the spotlight. P1 also brought up a valuable notion that learning from difficulties should be done to better understand how services could be improved. Considering ISSec, every new threat should be analyzed and new protection methods put in place. The organization handling ISSec being on top of crisis enables better and more trustworthy communication with its stakeholders. Effective communication is needed for promoting the proper understanding and implementation of security measures throughout an organization. ISSec policies and guidelines need to be communicated to all relevant stakeholders, including employees, customers, and partners. This includes communicating to employees about the importance of following security protocols and providing guidelines for secure communication. We can notice that communication management also plays a role in crisis management and communication. Communication channels need to be established to inform stakeholders about security incidents and actions being taken to resolve them. By integrating ISSec into communication management practices, the IT service provider organization can promote a security conscious culture, trust among stakeholders, and assure that ISSec information is understood throughout the organization.

7 Discussion

7.1 Key findings and Implications

The goals of this case study research were to: 1. identify what aspects influence the effectiveness of internal communication strategy within an IT service provider organization. 2. investigate the relationship between communication management and ISM, and in what ways do they align. Through the use of the Gioia-method (Gioia et al., 2012), the gathered semi-structured interviews were in detail analyzed and as a result two data structures were created.

The found answer to the first research question is illustrated in Figure 5. From the created data structure (see Figure 3), we could create an internal communication strategy framework in which the most notable operations that should be practiced when organizations are implementing internal communication strategies are shown. The framework includes three distinctive aspects that are all connected to each other. These aspects are communication error recognition, communication guidelines and frameworks, and defining core process owners. In the analysis Chapter (6.2), we notice how the management of these aspects is connected to internal communication effectiveness.

Figure 5 Internal communication strategy framework

The communication error recognition aspect provides organizations with the ability to better identify internal communication issues and weaknesses by understanding what the drivers of ineffective communication are. For example, within the case organization, we identified how information overflow caused a plethora of issues for communication efficiency between all aspects of the internal communication matrix (Welch & Jackson, 2007). Most of the interviewees stated feeling overwhelmed by the sheer amount of information that they were bombarded with daily and that staying on top of it all was difficult. This identified issue functions well to show us the connection between the next aspect within the framework, which is communication guidelines and frameworks. The stated issue could be noticed as being caused partly because internal communication guidelines and frameworks were lacking. More specifically, the interviewees stated that many of the issues creating the information overflow were the organization's lack of proper structure on how, what, and when different communication channels should be used. Implementing organization-wide guidelines on how different internal communication aspects should be practiced helps the organization create unified communication habits and shape the communication culture to fit the organization's needs.

Staying on the overflow issue, we can notice how the third and final framework aspect, defining core process owners, is linked to the other two aspects in creating an effective internal communication strategy. We identified how creating guidelines and frameworks enable an organization to better manage and shape internal communication habits. Throughout the interviews, confusion about who 'owns' the internal communication processes was noticed. The lack of ownership leads to difficulties in identifying issues, writing guidelines, and overall strategic management of communication processes. Organizations should therefore prioritize naming an owner for communication processes. Naming a core process owner streamlines error recognition, improvement implementation, guideline creation, and strategic management of internal communication as a valuable aspect of an organization's success. Implementing the internal communication strategy framework enables organizations to create a more effective internal communication strategy as it facilitates organizational understanding of communication aspects.

The answer to the second research question can be seen illustrated in Figure 6. Similar to the first research question, a data structure was created (see Figure 4) from a thorough analysis of the gathered research data. From this analysis, we identified three key alignment points between communication management and ISM. These points are enhanced communication, change management and crisis management, respectively. For this research, ITSM frameworks were identified through the analysis of selected research (Maclean & Titah, 2023; Berdik et al., 2021; Ahmad & Shamsudin, 2013; Francis et al., 2010). We created Table 3 from which we see these different aspects and provided guidance on identifying the found key alignment points.

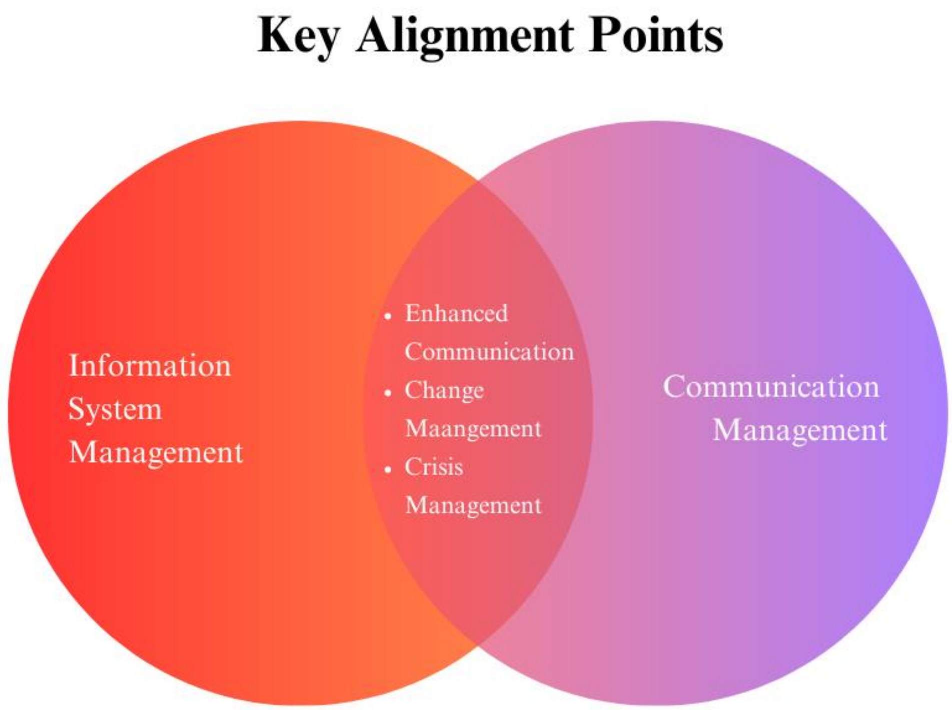

Figure 6 Key alignment points between Communication management and ISM

Enhanced communication as an alignment point encompasses the following ISM operations: data analysis/business intelligence, digital communication channel management, and knowledge management. These aspects were noticed to enhance communication extensively as they all showed signs of either improving communication management or would be seen benefiting from it. The interviewees brought up how, for example, the implementation of PowerBI for business intelligence purposes had noticeable impacts on the trustworthiness and speed of communicated information in day-to-day operations. Digital communication channel management was also identified as a source of communication benefits as these systems facilitate fast and easy interaction between all organizational positions. Finally, we identified how IT systems enable managers to instill more time and effort into the management of their employees and their knowledge.

Communication is an integral part of change management, which was reinforced by the findings in this research. We could notice an alignment point between change management and ISM through the aspect of change management. For this research, change management was viewed from the case company's point of view (as an IT service provider organization). From the expert interviews we could identify how IT projects, whether it be the procurement process, analysis of used systems, or integration of new features, communication played a noticeable role in enabling project success. Communication is a key aspect of IT change projects as it benefits many important factors such as 1. Providing key stakeholders with the possibility of voicing their ideas, concerns, and expertise, lessening the effects of change resistance. 2. Raising the understanding of why new IT systems are needed, how they are beneficial, and what is desired from their integration. Furthermore, we identified how differing automation processes and AI tools can be seen as enabling more effective communication, i.e., enabling more precise and positioned communication for customers as well as managers and employees.

The third and final identified alignment point between communication management and ISM was crisis management. Crisis management, in the same way as previously noted change management, has communication as an integral part of its core function. We identified how the case organization utilizes its own crisis management process called MIM, and the key role this process played was to enable quick and transparent communication between the targets of the crisis and the case organization. Additionally, effective internal communication enables faster response times, which is invaluable, for example, in the cases of ISSec crisis where fast action is needed. Furthermore, we noticed how service level management (SLM) was tied to crisis management as well. IT service provider organizations provide high quality and steady services by following set SLAs. Through regular reviews and proactive communication, SLM aims to continuously improve service delivery, identify areas for optimization, and foster a transparent and collaborative relationship with customers. Hence, why communication management practices are an important part of SLM and ISSec, and more importantly, how it aligns with crisis management.

7.2 Limitations and future research

The presented research has some inherent limitations, although they are not uncommon in other studies. One perceivable limitation is the generalizability of the findings of this research in terms of its application in other types of organizations. However, as this research was a single case study, the goal was to create research applicable to the case organization’s environment. Other organizations might experience the researched phenomena in the same way or differently, this opens possibilities to conduct future research on the topic from a different point of view, or by utilizing different research methods. There is also the possibility of putting the findings from this research into a practical setting, which would require longer research than what was realistic for this thesis.

Another identifiable limitation for this research was that while the subjectivity of communication as a subject was noticed, the interviewed people were all from similar cultural backgrounds. What is meant by this is they were all Finnish, and possibly in other cultural settings the findings from this research could differ. This again opens possibilities for future research to, for example, identify how these findings would differ when applied to other cultural settings.

Thirdly, the empirical and qualitative nature of this research sets certain limitations on the research and its results. The findings of qualitative research are often subject to the interpretation of the researcher. Ambiguities are inevitably inherent to human language, which may result in some meanings getting mixed or lost in the interpretation as well as in the translation of expert interview data. Therefore, it always to some extent entails a risk of unintentional bias or simple misinterpretations of the interviewee’s words.

A plethora of possible future research were identified from within this research. The created data structures both included eight 2^{nd}-order categories from which their own research on communication could be conducted and further contribute to communication literature as a whole. More specifically, one of the main research gaps identified was a lack of research on the relationship between communication management and ISM. There is a need for further research on this subject so that we may better understand their connections and further gain possible organizational communication benefits.

8 Conclusion

In this thesis, we set out to answer the following research questions:

1. What aspects should be considered when building an effective internal communication strategy?
2. How can information system management be aligned with communications management?

To answer these questions, a theoretical framework was created from previous literature on the subjects of communication management and ISM, as well as subjects that were seen as being connected to the researched topics. For communication management, the internal communication matrix by Welch & Jackson (2007) was chosen as the backbone to help ground the found results onto well-established research. For ISM, the well-established ITSM framework was chosen to which the found data was compared to. In addition, a questionnaire was conducted for the case organization, which was used in tandem with the theoretical framework in helping form the expert interview questions. A total of 10 semi-structured expert interviews were conducted, for which experts from all sides of the case organization were selected to promote as wide a range of answers as possible. The gathered interview data were transcribed and analyzed by utilizing the Gioia-method. The analysis process resulted in two data structures being formed as answers to research questions 1. and 2, namely, *Drivers of effective Internal Communication Strategy* (see Figure 3) and *Key alignment points of Communication management and IS Management* (see Figure 4), respectively. The key findings for research question 1. were turned into an *internal communication strategy framework*, as shown in Figure 5. Additionally, the key findings for research question 2 are illustrated in Figure 6. *Key alignment points between Communication management and ISM.*

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Appendices

Appendix 1 Semi-structured interview questions (in Finnish)

Yleinen tilanne ja kommunikaatio kanavat:

1. Miten kuvailisit tietokeskuksen sisäisen kommunikoinnin toteutusta?
2. Ovatko yrityksen käyttämien kommunikointi kanavien johtaminen ja niiden toteutus mielestäsi onnistunut? Mikä niissä on onnistunut / mitä heikkouksia?
3. Mitkä näet olevan esteet toimivalle (effective) kommunikaatiolle?

Kommunikaatio strategia ja Kommunikaatio johtaminen/hallinta (communication management):

4. Kommunikaatio strategia edistää työyhteisön toiminnallisuutta ja ennaltaehkäisee haitallisia vaikutuksia, jotka johtuvat epäonnistuneesta kommunikaatiosta. Tekeekö Tietokeskus mielestäsi tarpeeksi mahdollistaakseen toimivan sisäisen kommunikointi strategian? Miten näet kommunikaation strategiset päätökset toteuttaessa kommunikaatio johtamista/hallintaa työssäsi esihenkilö asemassa?
5. Miksi mielestäsi sisäisen kommunikaation strateginen hallinta on hyödyllistä?
6. Tekemästäni sisäisen viestinnän toimivuus kyselystä kävi ilmi, että enemmistö (n.78 %) vastanneista oli kokenut viimeisen vuoden aikana tilanteen, jossa sisäinen viestintä oli epäonnistunut, ja näistä vastanneista n.76 % oli kokenut, ettei oltu tehty riittävästi toimia jotta epäonnistumisia ei jatkossa tapahtuisi. Tämän tiedon perusteella, a) Mitä muutoksia tekisit, jotta sisäisiä kommunikaatio ongelmia voitaisiin vähentää? ja b) miten vaikuttaisit siihen, että epäonnistumisista opittaisiin jatkoa varten?

Tietojärjestelmä Hallinta (ITSM):

7. Esihenkilönä työsi vaatii onnistunutta kommunikaatiota eri sidosryhmien kanssa. Miten näet, että tietokeskuksen käyttämät eri tietojärjestelmät avustavat sinua, esihenkilönä, kommunikoimaan sidosryhmille heille tärkeistä asioista (esim. tehokkuus, kpi:t, yhteistyö)?
8. Miten näet tulevan ITSM projektin vaikuttavan sisäiseen esihenkilö kommunikaatioosi?
9. Miten tietojärjestelmien hallinta voi mielestäsi avustaa kommunikointi mahdollisuuksiasi?
10. IT palvelunhallinta ja palveluntarjoaja alalla, kuten Tietokeskuksella, ovat monet eri tietojärjestelmät keskiössä. Näiden järjestelmien toiminnallisuus on edistäjänä tehokkaalle toiminnalle. Onko mielestäsi kommunikaatio hallinta otettu riittävästi

huomioon tietojärjestelmien hyödynnettävyydessä? Miten kommunikaatio hallintaa voitaisiin edistää tietojärjestelmien hallinnalla?

11. Organisaation, kuten Tietokeskuksen, tehdessä tietojärjestelmä hankintoja, miten kommunikaatio hallinta tulisi ottaa huomioon?

Appendix 2 Semi-structured interview questions (translated to English)

General situation and Communication channels:

1. How would you describe the implementation of internal communication within Tietokeskus?
2. Do you think the management and implementation of the communication channels used by the company are successful? What are the successes / weaknesses?
3. What do you see as the obstacles to effective communication?

Communication strategy and Communication management:

4. Communication strategy promotes the functionality of the work community and prevents the negative effects of failed communication. Do you think Tietokeskus is doing enough to enable an effective internal communication strategy? How do you see communication strategy decisions in implementing communication management in your job as a manager?
5. Why do you think strategic management of internal communication is useful?
6. The internal communication effectiveness survey I conducted showed that the majority (approx. 78%) of respondents had experienced a situation in the last year where internal communication had failed, and of these respondents, approx. 76% felt that not enough had been done to prevent future failures. Based on this information, a) what changes would you make to reduce internal communication problems, and b) how would you influence people to learn from failures for the future?

Information System Management (ITSM):

7. As a manager, your job requires successful communication with different stakeholders. How do you see that the different information systems used by Tietokeskus assist you, as a manager, in communicating with stakeholders on issues that are important to them (e.g., efficiency, kpi, collaboration)?
8. How do you see the upcoming ITSM project affecting your internal communication as a manager?
9. How do you think information systems management can assist your communication capabilities?

10. In the IT service management and service provider industry, such as Tietokeskus, many different information systems are at the core of the business. The functionality of these systems is conducive to efficient operations. Do you think that communication management has been adequately addressed in the usability of information systems? How could communication management be promoted through the management of information systems?
11. When an organization, such as Tietokeskus, makes IT system acquisitions, how should communication management be taken into account?

Appendix 3 Data management plan

Research data management plan for students
Tuomas Ruuhijärvi

1. Research data

Research data type	Contains personal details/information*	I will gather/produce the data myself	Someone else has gathered/produced the data	Other notes
Data type 1: *Interviews*	x	x		
Data type 2: *Interview recordings*	x	x		
Data type 3: *Questionnaire*		x		

* Personal details/information are all information based on which a person can be identified directly or indirectly, for example by connecting a specific piece of data to another, which makes identification possible. For more information about what data is considered personal go to the Office of the Finnish Data Protection Ombudsman's website

2. Processing personal data in research

I will prepare a Data Protection Notice** and give it to the research participants before collecting data ☒

The controller** for the personal details is the student themself ☒ the university ☐

My data does not contain any personal data ☐

** More information at the university's intranet page, Data Protection Guideline for Thesis Research

3. Permissions and rights related to the use of data

Find out what permissions and rights are involved in the use of the data. Consult your thesis supervisor, if necessary. Describe the use permissions and rights for each data type. You can add more data types to the list, if necessary.

3.1. Self-collected data

Data types 1 and 2: Interviews and interview recordings

- Participating in the interview is voluntary
- The interview is recorded, and the recording is used for transcription purposes
- The author transcribes the interview
- The interview is held in Finnish and the transcriptions are translated to English by the author
- The interviewee is given an opportunity to proof-read the transcriptions afterwards to avoid factual/translation errors
- The interview recordings and transcriptions are stored in Google Drive
- Personal data is only included to manage the files before the recordings are transcribed. No personal data will be included in the transcriptions or the final report
- After the thesis has been reviewed, all interview recordings and transcriptions will be deleted

Data type 3: Questionnaire

- Participation is voluntary
- Questionnaire answers are anonymous
- No personal information is recorded
- The data is stored locally within the authors pc

3.2 Data collected by someone else

Data type 1:

Data type 2:

4. Storing the data during the research process

Where will you store your data during the research process?

In the university's network drive ☒
In the university-provided Seafile Cloud Service ☐
Other location, please specify: ☒

The data from the interviews (recordings and notes) are stored in google drive and in the authors pc. The interviews are recorded with a recording software app on a phone and also through Microsoft Teams. The data from the questionnaire are held in the authors pc.

5. Documenting the data and metadata

5.1 Data documentation

Can you describe what has happened to your research data during the research process? Data documentation is essential when you try to track any changes made to the data.

To document the data, I will use:

A field/research journal ☐

A separate document where I will record the main points of the data, such as changes made, phases of analysis, and significance of variables ☒

A readme file linked to the data that describes the main points of the data ☐

Other, please specify: ☐

5.2 Data arrangement and integrity

How will you keep your data in order and intact, as well as prevent any accidental changes to it?

I will keep the original data files separate from the data I am using in the research process, so that I can always revert back to the original, if need be. ☒

Version control: I will plan before starting the research how I will name the different data versions and I will adhere to the plan consistently. ☒

I recognise the life span of the data from the beginning of the research and am already prepared for situations, where the data can alter unnoticed, for example while recording, transcribing, downloading, or in data conversions from one file format to another, etc. ☒

5.3 Metadata

Will you require metadata?

I will save my data into an archive or a repository that will take care of the metadata for me. ☐

I will have to create the metadata myself, because the archive/repository where I am uploading the data requires it. ☐

I will not store my data into a public archive/repository, and therefore I will not need to create any metadata. ☒

6. Data after completing the research

What happens to your research data, when the research is completed?

I will destroy all data immediately after the thesis has been reviewed and the research trail has been confirmed.

Appendix 4 Internal communication success questionnaire questions and answers

Mikä on mielestäsi pääkanava, jota käytät sisäiseen kommunikaatioon?/ What do you think is the main channel you use for internal communication?

Answer Choices	Responses	
MS Teams	80,90 %	72
Matter	13,48 %	12
Email	3,37 %	3
Connect Wise	0,00 %	0
Muu (täsmennä)	2,25 %	2
	Answered	**89**
	Skipped	**0**

Ovatko Tietokeskuksen käyttämät kommunikaatiokanavat toimivat tarpeisiisi nähden?/ Are the communication channels used by Tietokeskus appropriate for your needs?

Answer Choices	Responses	
Täysin samaa mieltä[1]	25,84 %	23
Jokseenkin samaa mieltä[2]	53,93 %	48
Jokseenkin eri mieltä[3]	16,85 %	15
Täysin eri mieltä[4]	3,37 %	3
	Answered	**89**
	Skipped	**0**

Oletko kokenut viimeisen vuoden aikana tilannetta, jossa sisäinen kommunikaatio on epäonnistunut?/ Have you experienced a situation in the last year where internal communication has failed?

Answer Choices	Responses	
Kyllä[5]	78,65 %	70
ei[6]	21,35 %	19
	Answered	**89**
	Skipped	**0**

[1] Eng. Fully agree
[2] Eng. Partially agree
[3] Eng. Partially disagree
[4] Eng. Fully disagree
[5] Eng. Yes
[6] Eng. No

Jos vastasit edelliseen Kyllä, tehtiinkö mielestäsi riittävästi toimia, jotta epäonnistumista ei tapahtuisi jatkossa?/ If you answered Yes to the previous question, do you think enough was done to prevent future failures?

Answer Choices	Responses	
Kyllä	23,75 %	19
Ei	76,25 %	61
	Answered	**80**
	Skipped	**9**

Tunnetko, että pysyt ajantasalla kaikessa sisäisessä viestinnässä?/ Do you feel that you are keeping up to date with all internal communications?

Answer Choices	Responses	
Täysin samaa mieltä	7,87 %	7
Jokseenkin samaa mieltä	51,69 %	46
Jokseenkin eri mieltä	32,58 %	29
Täysin eri mieltä	7,87 %	7
	Answered	**89**
	Skipped	**0**

Sisäinen kommunikointi vie aikaa pois työstäni / Internal communication takes time away from my work

Answer Choices	Responses	
Täysin samaa mieltä	13,48 %	12
Jokseenkin samaa mieltä	43,82 %	39
Jokseenkin eri mieltä	31,46 %	28
Täysin eri mieltä	11,24 %	10
	Answered	**89**
	Skipped	**0**

Sisäinen viestintä saavuttaa oikeat henkilöt oikeaan aikaan / Internal communication reaches the right people at the right time

Answer Choices	Responses	
Täysin samaa mieltä	5,62 %	5
Jokseenkin samaa mieltä	52,81 %	47
Jokseenkin eri mieltä	30,34 %	27
Täysin eri mieltä	11,24 %	10
	Answered	**89**
	Skipped	**0**

Työhöni liittyvää tärkeää dokumentaatiota on helppo hyödyntää (ns. Passiivinen kommunikointi) / I have easy access to

important documentation related to my work (passive communication)

Answer Choices	Responses	
Täysin samaa mieltä	8,99 %	8
Jokseenkin samaa mieltä	51,69 %	46
Jokseenkin eri mieltä	34,83 %	31
Täysin eri mieltä	4,49 %	4
	Answered	**89**
	Skipped	**0**

Kommunikoin sisäisesti mielestäni tehokkaasti ja onnistuneesti / Internally, I think I communicate effectively and successfully

Answer Choices	Responses	
Täysin samaa mieltä	23,60 %	21
Jokseenkin samaa mieltä	67,42 %	60
Jokseenkin eri mieltä	7,87 %	7
Täysin eri mieltä	1,12 %	1
	Answered	**89**
	Skipped	**0**

Koen, että muut kommunikoivat tehokkaasti ja onnistuneesti / I feel that others communicate effectively and successfully

Answer Choices	Responses	
Täysin samaa mieltä	8,99 %	8
Jokseenkin samaa mieltä	59,55 %	53
Jokseenkin eri mieltä	26,97 %	24
Täysin eri mieltä	4,49 %	4
	Answered	**89**
	Skipped	**0**