Internal Communication Within and Between Two IT Departments
From a Managerial and Employee Perspective

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Studying internal communication within an IT department from both a managerial and employee perspective in a telecom organization demands knowledge, data and hard work. This master program has contributed to a mindset of triangulation within management, communication and IT, knowledge that seems very valuable and appreciated within organizations. To be able to set our knowledge in action we searched for an organization with a fast paced environment where we hoped our study would contribute to an improvement. Thanks to personal contacts and weeks of waiting, we received the opportunity and proposal to be granted at the IT-Development department to approach challenges within internal communication in IT departments from a managerial and employee perspective. Data was collected during 10 weeks and the organization’s warm welcome helped us to easily approach key persons and orient ourselves within the organization. This welcoming approach made it easy to network and therefore find all necessary data to make this study complete. Hard work with a clear strategy from the start has contributed to a study full of commitment and interest. We therefore believe that interaction between theoretical knowledge, practical experience and collected data have made this study feasible.

First of all, we would like to thank our personal contact for promoting and putting us in contact with the telecom organization and then the executive of the IT-Development department for making this study viable. A big thank you to all managers and employees for have given us part of their valuable time, effort and support. Without this practical experience the study would not have been possible to complete. Special thanks to our mentor Therese Monstad, lecturer at the Department of Informatics and Media at Uppsala University for constructive feedback, guiding and engagement through this study. We would also like to thank Cecilia Strand lecturer at the Department of Informatics and Media at Uppsala University for keeping us on track in the early stage of this study. Finally but not least we would like to thank our families and friends for supporting and cheering us through these months of study. We also want to thank each other for a nice and instructive collaboration with a positive attitude and great energy.

Karim Chabane and Diana Larsson

Uppsala, 07th of June 2015
Abstract

Introduction (Purpose) - The main purpose for this study is to investigate challenges within internal communication from a managerial and employee perspective in two interrelated IT departments. Furthermore this study aims to give suggestions for how organizations can improve their internal communication within and between departments.

Design/methodology/approach - The research setting took place in a Swedish telecom company where data was collected during 10 weeks. An abductive scientific approach was used with an extension of mixed methods with a triangulation design. Interviews and survey were made to both managers and employees as primary data, whereas different kinds of observations, informal interviews and meetings, intranet and employee satisfaction scores were used as secondary data.

Findings - Findings show several internal communication challenges, such as different definitions of what internal communication stands for, too many media channels put strains on the internal communication within and between IT departments which results in un-synchronization. The organizational structure itself creates challenges within internal communication as a result of not sharing common goals and strategies, but also responsibility issues which leads to misunderstanding and conflicts. To enhance internal communication challenges between the departments, some of the following examples were found; the need of overcoming un-synchronization, shared goals and strategies, common messages from head managers in order to reduce problems related to co-operation between the departments and desideration of an interactive communication tool.

Practical implications – Deal with misunderstandings to prevent internal communication challenges. Interrelated departments should strive for alignment through common goals and strategies. More interactive communication tools such as social networks could promote more effective internal communication.

Originality/value – Rich data collection by using mixed methods resulted in empirical findings that address internal communication challenges between two IT departments with an organizational structure that reminds of a line-and-staff organization from a managerial and employee perspective.

Keywords - Internal communication in IT departments/IT-environment, strategic internal communication, organizational communication and organizational change.
Internal Communication within and between two IT Departments
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Abstract

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Introduction

An important variable in determining an organization’s success is the quality of the communication between the people in it (Kitchen & Daly, 2002). In turn, Robson and Tourish (2005) write that there is a considerable quantity of literature which shows that internal communication may help to improve organizations’ chance of being successful. Furthermore, Meng and Pan (2012) write that internal communication is becoming more and more important for organizations in their aim towards excellence and efficiency. In addition, Meng and Pan (2012) contend that internal communication is vital for increased competitiveness and effectiveness in fast changing industries.

Internal communication is vital to the performance and success of organizations, especially when it comes to changes (Harshman & Harshman, 1999). Iveroth (2010) describes change as continuous iterative processes that consist of on-going and open-ended micro-processes of organizing that together make up organizations and the world. Researchers (Harshman & Harshman, 1999; Kitchen & Daly, 2002; Meng & Pan, 2012; Robson & Tourish, 2005) clearly point out the importance of internal communication for organizations in general and for changing organizations in particular: there is a clear need for organizations to have efficient internal communication. As Harshman and Harshman (1999) write, internal communication is a key function in how organizations perform. Quirke (2008) contends that if “command and control” and “information is power” were adhered to by managers and leaders in the old world, the impact of new technologies and media means that in the new world employees can easily bypass censorship and are less easy to control. Sharing information today is widespread and creates difficulties for organizations in controlling from where information emerges and if it is of importance (Quirke, 2008). Never has so much been communicated by so many, and meant so little. The message often fails to get through because the medium eats the message (Quirke, 2008). To circumvent this, there is a need to move from the message to creating meaning and understanding. Quirke (2008) writes that well done internal communication can provide strategic advantage through aligning employee efforts, sharing knowledge and engaging their passions. Furthermore, Quirke (2008) writes that there is a need to shift from seeing internal communication as a process of distribution to using it as a process of conversation. This is reminiscent of the ideas that theorists of organizational communication have: organizations would not exist without communication (Kitchen & Daly, 2002; Taylor, 2004; Weick, Sutcliffe & Obstfeld, 2005). This means that
communicating is itself a way of organizing internal communication as something entwined with organizational structures, environment, power, and culture (Kitchen & Daly, 2002).

This empirical oriented study aims to study the underlying internal communication challenges in two interrelated IT departments in a large Swedish telecom company. The two studied IT departments in this study handle parts of the organization’s IT infrastructure and are undergoing a transformation period where large parts of old IT systems in the IT infrastructure are being replaced and modernized by new IT. Data from observations, interviews and surveys was collected to study internal communication challenges from both a managerial and an employee perspective to ascertain the internal communication challenges from different perspectives in the organization.

1.1 Problem background
Quirke (2008) writes that there are distances between business strategy and communication strategy. This because of the lack of a clear link between information that is sent to employees and what they are supposed to understand from it. Quirke (2008) further writes that organizations are fooling themselves by not following through with the internal communication by converting awareness into action. Quirke (2008) means that the real value of internal communication is to enable employees to turn strategy into action. This is the biggest challenge, since it means handling internal communication challenges and difficulties in order to be able to create a path of consistency in organizations (Quirke, 2008). Taking this into consideration, it is important to understand how specialized IT departments in large organizations manage their internal communication, both strategically and in the day-to-day work activities. How departments are organized must surely affect the way they communicate.

The organization of these departments and their place in the organization as a whole affect the internal communication, especially if internal communication is understood as entwined with organizational structures, environment, power, and culture (Kitchen & Daly, 2002). The relationship between the two interrelated IT departments in this study is reminiscent of an organizational structure within a line-and-staff organization. Line-and-staff organizations are traditionally when a staff function assists, advises, and counsels the line function in the organization (Bruzelius & Skärvad, 2009). At the same time, the staff function has no formal defined authority over other portions of the organization (Browne & Golembiewski, 1974). In addition, the line function is the production department (Bruzelius
and Skärvad, 2009). The line-and-staff organization is often characterized by the fact that conflicts between workers in the staff function and the line function are common (Browne & Golembiewski, 1974; Bruzelius & Skäravad, 2009). These conflicts often revolve around staff function workers claiming that line function workers ignore and avoid them and their specialist knowledge, whereas line function workers claim that staff function workers lack understanding of the special and practical problems the line function has (Bruzelius & Skäravad, 2009). Contrarious and inconsistent interests between the line function and the staff function is another common conflict that happens when individuals and units have different goals for the organization’s business (Bruzelius & Skäravad, 2009). The organizational structure of the line-and-staff organization is important in terms of studying underlying internal communication challenges, since Bruzelius and Skäravad (2009) claim that the solution to solve conflicts in line-and-staff organizations is better communication where the parties can clarify their opinions and expectations of each other (Bruzelius & Skäravad, 2009).

The two IT departments in this study resemble the line-and-staff organization since one of the departments consists of IT specialists that plan and build the IT infrastructure—hence the staff function—whereas the other department is in production and operates in the IT environment that the staff function provides. With the context of a changing organization in mind, and focusing on the role of internal communication in organizational performance and organizational structure, this study will further investigate strategic and daily internal communication challenges.

1.2 Purpose

The purpose of this study is to investigate internal communication challenges from a managerial and employee perspective in an organization that is undergoing changes. By changes, we mean an organization that is undergoing what Iveroth (2010) calls iterative processes that consist of ongoing and open-ended micro-processes of organizing that together make up organizations and the world. Within this context, the internal communication will be studied in two departments that work with IT, these two departments having a relationship that resembles a line-and-staff organizational structure.

While there is a huge number of articles covering internal communication research, there seem to be little research on what internal communication challenges there are within different organizational settings such as, for example, departments that work with IT. In times when more is less, where managers have difficulties in knowing when and what to
communicate and where employees have almost unlimited access to information, more understanding of the reasons for underlying internal communication challenges within and between different departments in organizations can provide more concrete ideas on how to align business strategies with communication strategies. Above all, by investigating internal communication challenges with and between departments, we can gain ideas on how to make the internal communication work effectively on a daily basis.

The research questions in this study are empirically oriented and the main research question for this study is: *What are the internal communication challenges within and between the departments in this study?* The main research question is then complemented by two sub-questions, the first of which aims to assess the organizational structure’s impact on the internal communication with the question: *In what way does the organizational structure affect the internal communication between the departments studied?*

Answering the main research question and the first sub-question can give an idea of how to improve internal communication within and between departments. The second sub-question is: *How can the departments studied improve their internal communication within and between the departments?*
2 Literature review/theory

The purpose of this study is to investigate internal communication challenges from a managerial and employee perspective in an organization that is undergoing organizational changes. This empirical oriented study will put theories to use. This chapter starts with a presentation of internal and strategic communication that continues and proceeds to address the stakeholder approach to internal communication. Finally, a different perspective on communication will be presented. The chapter continues with a discussion of media richness and media channels. Finally, a theory outline will be presented.

2.1 What is internal communication?

Since the purpose of this study is to investigate internal communication challenges from a managerial and employee perspective, definitions of the concept of internal communication provide a theoretical lens throughout this study. Internal communication is defined as the involvement of all kinds of communication in organizations, from daily informal office chatting to formal corporate communication to all employees (Hume & Leonard, 2014; Ryynänen, Jalkala & Salminen, 2013; Welch, 2013). Dolphin (2005) describes internal communication as communication between the organization’s leaders and their “key audience”—the employees—and that involves social interaction through communication. Internal communication is a way for managers to build relationships with employees and other managers (Welch & Jackson, 2007). The relationship between employee engagement and internal communication can be explained by the fact that when information from supervisors and coworkers is communicated accurately, in time and is of relevance, employees in the organizations are more likely to feel less vulnerable (Mishra, Boynton & Mishra, 2014) and may rely more on their supervisors and coworkers (Thomas, Zolin & Hartman, 2009). This indicates that internal communication, when used properly, enhances trust between managers and employees and thereby leads to better employee engagement within the organization (Mishra et al., 2014). If internal communication motivates employees, this may create value for the organization (Verčič, Verčič & Sriramesh, 2012). Furthermore Verčič et al. (2012) contend that aligning the goals of individual employees to organizational goals should be seen as an internal communication task. To accomplish that, employees can be provided with the information they need to do their job (Quirke, 2008).

Other terms related to communication used internally in organizations are, for example, corporate communication (Welch, 2013), employee communication (Men, 2014; Welch, 2013; Welch & Jackson, 2007), and organizational communication (Chong, 2007).
2.1.1 Strategic internal communication

Internal communication is thus defined as something both formal and informal. Furthermore, internal communication may enhance trust between managers and employees, which may in turn lead to increased organizational performance. To enhance trust between managers and employees through internal communication requires some type of strategy. As Hume and Leonard (2014) write, internal communication is concerned with the relationship between the organization and its employees: each is the other’s most important public and a productive relationship is necessary for them to achieve their goals. Strategic internal communication is concerned with the strategic functioning of internal communication (Hume & Leonard, 2014). According to Hume and Leonard (2014) and Clampitt, DeKoch and Cashman (2000), internal communication is defined as strategic when it is managed with the aim of aligning managers and employees with the organization’s strategy. Clampitt et al. (2000) explain strategy as something about the overall picture that takes place within the higher levels in organizations, clarifying that the strategy serves as the basis of how to act tactically. Tactics can be seen as the social interaction between what Dolphin (2005) calls organizational leaders and the employees. This implies that tactics and social interaction between organizational leaders and employees can be facilitated with the help of strategic internal communication efforts. A communication strategy is about what you say and do not say and the goal is to create the right type of memories (Clampitt et al., 2000). Clampitt et al. (2000) write that organizational memories create a climate that can encourage innovation or, on the contrary, kill it. A strategy is about how to remember events, because that can create feedback from the employees. Another aspect of strategy is that employees often get information that is confusing or contradictory because there are many meanings in one message.

Clampitt et al. (2000) outline different strategies that executives can use for internal communication regarding changes and uncertainty. This means that there is no communication strategy that fits all kinds of organization. Instead, internal communication strategy should be aligned with the organization’s type of business (Clampitt et al., 2000). In this context, Clampitt et al. (2000) assert that researchers have connected an effective communication strategy to increased productivity, increased effectiveness, improved morale, and decreased turnover. This means that a well-aligned communication strategy can enhance the organizational performance (Clampitt et al., 2000; Meng & Pan, 2012). Clampitt et al. (2000) write about the importance of executives having a communication strategy in order to
create a more accepting and positive environment in organizations in regard to changes and innovations.

The departments scrutinized in this study work with changes and innovations on a daily basis. Part of this study’s purpose is to look at how organizational structure affects the internal communication between interrelated departments. One aim of a strategic communication decision could be to foster interdepartmental communication, and that can be fulfilled through job rotations and using cross-functional teams (Clampitt et al., 2000). However, it does not mean that conflicts between departments may be solved, but it could improve some employees’ understanding about the other department’s dynamics and how it functions (Clampitt et al., 2000). Communication strategy is more than choosing the proper channels to communicate by; a communication strategy should begin to try to answer questions like: With whom should the managers communicate? How should employees and managers communicate? When will employees and leaders communicate? Where will employees communicate with each other? (Clampitt et al., 2000). Seldom are these questions asked, because organizations want to be efficient and therefore perhaps communicate a change through mail, but that does not create employee buy-in. Clampitt et al. (2000) suggest that an important strategic question should be which issues should be discussed by using a rich medium like face-to-face. To address these issues, the following questions should be discussed: Who versus what, when versus how and why versus what (Clampitt et al., 2000).

2.1.2 The stakeholder approach to internal communication

Former sections explain some concepts about internal and strategic internal communication: for example, the interaction between managers and employees with the aim of enhancing organizational performance like reaching strategic goals. This view has been criticized due to the fact that employees are treated as a single public (L’Etang, 2005). Welch and Jackson (2007) address this criticism, and in their paper attempt to pinpoint the term internal communication by analyzing definitions of internal communication made by other researchers and different scholars in order to get what they call a “stakeholder approach to internal communication”, which includes a perspective on internal communication from all the stakeholders in an organization. This theory is interesting to probe, since the purpose of this study is to investigate underlying internal communication challenges within and between departments. Therefore knowing more about what stakeholders there are in an organization,
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their relationships to each other and what perspective on internal communication they have, will help in the collection of data at the research setting.

The term “stakeholder approach to internal communication” derives from the statement that internal communication is the strategic management of interaction and relationships between stakeholders at all levels within the organizations, so these stakeholders need to be identified (Welch & Jackson, 2007). This means that there is a need to differentiate stakeholder groups within organizations and how the internal communication can be used between these stakeholders. The stakeholders identified are all employees; strategic management (top management and strategic management like CEOs and senior management teams); day-to-day management (supervisors, middle managers or line-managers); work teams and project teams (departments and divisions). With the stakeholders identified, the earlier statement leads to the idea that within an organization, internal communication can be seen as four interrelated dimensions (Welch & Jackson, 2007). Then, according to Welch and Jackson (2007), this typology of internal communication can be applied to aspects of internal communication management, which form the internal communication matrix.

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

This matrix is Welch and Jackson’s (2007) internal communication matrix which illustrates the four dimensions of internal communication.

Welch and Jackson (2007) define internal communication management as participation in communication, its direction and the content of the communication. These three ideas are included in the internal communication matrix, with examples for every dimension. The stakeholders in the organization form the dimensions of the internal communication, with particular participants in each dimension. The matrix then highlights the direction of the internal communication flow between the participants in the organization: Welch and Jackson (2007) explain this aspect by presenting previous research on the key issues concerning direction of internal communication, these being one-way or asymmetrical, vertical or downward, two-way symmetrical, lateral or horizontal, and upward communication. The content aspect of internal communication refers to what is
communicated and the message material. The content can be communication of information about employees’ roles, organizational issues (goals, objectives, new developments, activities and achievements) and personal contributions. The internal communication matrix has examples of content for every dimension, thus recognizing the interrelated nature of internal communication and, much like Clampitt et al. (2000) suggest, questions such as who communicates, to whom, in what way, with what content and for what purpose may be asked to help understand internal communication in an organization (Welch & Jackson, 2007).

2.1.3 Barriers and drivers for effective internal communication

Previous sections have highlighted the importance of timing and delivering messages at the right moments, but one should ask oneself when the right moment is, especially regarding ongoing projects or communication between employees and managers that takes place daily, thus making timing and right moments vague concepts. Strategic internal communication can be seen as too subjective, since it is written from managers’ or communicators’ perspectives, whereas the stakeholder approach to internal communication does not include media channels and technology. Furthermore, the internal communication matrix does not explain cross-dimensional activities. It is of interest to look further into things that the aforementioned literature has not covered. To investigate underlying internal communication challenges within and between departments, it is of interest to look at a more concrete example of what may hinder and facilitate internal communication.

Ryynänen et al. (2013) found in their research on internal communication in early projects four major barriers that hinder internal communication, these being unregulated usage of technical systems, unsystematic and unstructured documentation, neglecting the impact of cultural differences and personal politicking (Ryynänen et al., 2013). Unregulated usage of technical systems refers to technical systems like intranets, customer relationship management tools, data archives, and production management tools. These technical systems may facilitate communication, but bad management of these tools may lead to information overflow and unreliable information in information systems (Ryynänen et al., 2013). Unsystematic and unstructured documentation is concerned with how the documentation process is structured and the fact that certain information may be informal or may require tacit knowledge in order to understand the content. This barrier can lead to unstructured documentation that may create misunderstandings and thus will need clarification of the content in the documentation (Ryynänen et al., 2013). Neglecting the impact of cultural differences concerns the fact that if cultural differences are not taken into account, they can
form a substantial barrier to effective internal communication (Ryynänen et al., 2013). Personal politicking involves obscuring information and not imparting the whole truth. The reason for this can, for example, be to gain more power over projects, and this may more often occur in project settings, since the team on those occasions is assembled and thus lacking a management structure (Ryynänen et al., 2013). In the same research, Ryynänen et al. (2013) found three promoters of effective internal communication: an open communication atmosphere, a non-hierarchical structure, and a variety of alternative communication channels (Ryynänen et al., 2013). An open communication atmosphere concerns the fact that if the atmosphere is perceived as open and trusting, where communication can be done openly regardless of organizational hierarchies, it will promote effective internal communication (Ryynänen et al., 2013). Non-hierarchical structure concerns the fact that if the organization is not strictly regulated and hierarchical, the communication may lack a regulated communication chain, which makes the internal communication easier (Ryynänen et al., 2013). A variety of communication channels understands that people within the organization and within different projects may prefer different channels when they communicate, so a variety of communication channels may therefore promote effective internal communication (Ryynänen et al., 2013).

2.2 Seeing internal communication from another perspective

So far, strategic and internal communication reflects the view of communication as something that transmits messages between a sender and a receiver. This view sees the communication process revolve around how senders and receivers code and decode messages. It is about how the senders use media channels for communicating. In that media channel, there is always some kind of “noise” or “disturbance” that will affect the communication between the sender and the receiver (Wildhuss & Segerfeldt, 2011). This view on communication calls into question efficiency and accuracy, and queries the process by which a person may influence another person’s behavior or spirit (Fiske & Olofsson, 1990). Regarding strategic internal communication, the managers can be seen as the senders, whereas the employees can be seen as the receivers. Depending on what media channel is used for communicating, noise and disturbance will be different.

Instead of seeing internal communication in organizations as something organizational leaders should try to manage through strategic internal communication in order to enhance organizational performance, or seeing communication as some kind of transfer of information,
Taylor et al. (1996) advocate an approach that is called a constitutive view of communication. This approach sees communication as the fundamental process that shapes our lives and social reality. According to Taylor and Robichaud (2004), organizations emerge in and through communication. What this means is that we shape our environments and the environments shape us, and how this interaction is shaped depends on the practice (Taylor, 2004). Taylor and Robichaud (2004) then consider the organization’s past, such as the material, social and linguistic residues, as something that influences and enfolds into communication. This perspective is interesting to use in this study in order to investigate what deeper underlying internal communication challenges there are within and between the departments studied in this research. The constitutive view of communication enables additional understanding of communication in organizations by not staring blindly at transmissions of messages between senders and receivers; instead, communication is a way of organizing, which in turn is shaped by its members, the employees and managers. Therefore this perspective helps focus on how organizational structure can affect internal communication.

The foundation for this view on communication relies on the concepts of text and conversation. Text is the content and meaning of what is said in an interaction. This is the meaning that is available to individuals through face-to-face or other ways of communicating, and, to be effective, text needs a context (Taylor, 1999). Conversation, on the other hand, is the interaction itself, which means that conversation defines what is happening behaviorally between two or more people in the communication process. Conversation needs a beginning, a middle and an end (Taylor, 1999). These are created by individuals by what Taylor (1999) calls punctuation, bracketing and framing. For communication to occur, text needs conversation and vice versa: it is when these two are coupled that communication occurs. Furthermore, Taylor and Robichaud (2004) write that the making of text is how organizational members reflexively and retrospectively monitor, rationalize, and breed the action of organizing. If the purpose is to organize, conversation is tied to object oriented and materially based activity (Taylor & Robichaud, 2004). What Taylor and Robichaud (2004) mean is that conversation is where the organizing occurs and where co-orientation happens by means of organizational members relating to each other through some common object of concern. Texts and conversations can be understood as what Christensen and Cornelissen (2010) describe, in terms of the common knowledge of an organization being the collective sense-making of the organization. This emerges from the interactions of individuals and the
complex connections between those interactions rather than existing in individuals themselves.

2.3 Media richness

To increase understanding of how organizational structure affects internal communication and how internal communication challenges within and between departments can be improved, it is interesting to examine Daft and Lengel’s (1986) theory on media richness. Daft and Lengel (1986) explore why organizations process information. Ambiguity and uncertainty are two identified aspects: these two aspects influence the organizations’ information processing (Daft and Lengel, 1986). Daft and Lengel’s (1986) examination of the richness of media aims to decrease uncertainty and ambiguity between managers or departments and more. What this means is that to reduce uncertainty about something, an organization can obtain more data if the organization knows what type of data to search for. Ambiguity, on the other hand, is about unclear and ambiguous events where managers need to exchange existing views to define problems and resolve conflicts through the enactment of a shared interpretation that can direct future activities (Daft & Lengel, 1986).

Daft and Lengel (1986) propose that ambiguity can be reduced through organizational structure. This is because organizational structure, through organization design, can provide information of suitable richness. Ambiguity reduction needs more debate, clarification and enactment through what Daft and Lengel (1986) call structural mechanisms. That is one reason why their theories are interesting for investigating internal communication challenges between and within the two departments considered in this study. Daft and Lengel (1986) propose seven continuum structural mechanisms to take care of ambiguity and uncertainty, these being group meetings, integrators, direct contact, planning, special reports, formal information systems and rules and regulations. Organizational ambiguity and uncertainty in organizations may depend on the organization’s technology, interdepartmental relations, and the environment. Daft and Lengel (1986) describe interdepartmental relations as a source of ambiguity and uncertainty, and the characteristic causing such ambiguity is differentiation: each department develops its own jargon, goals and time horizon, thus creating bridges of differences between departments, which in turn may result in high equivocality. Daft and Lengel (1986) suggest that in order to reduce ambiguity between departments, rich media should be used.
2.3.1 Challenges of media channels

Daft and Lengel (1986) rank different media channels in order of their perceived richness. Face-to-face is considered to be the richest, telephone second, letters and memos third, impersonal written documents fourth, and numerical documents the least rich. Rich media are personal and involve face-to-face contact between managers, while lower media richness is impersonal and relies on rules, forms and procedures (Daft & Lengel, 1986). Further, the authors contend that face-to-face is the richest medium because of the potential to get instant feedback so that interpretation of the message can be checked. Face-to-face provides multiple cues via body language and tone of voice, and the message content is expressed in natural language. In terms of equivocality, rich media facilitate equivocality reduction by enabling managers to overcome different frames of reference and by providing the capacity to process complex messages (Daft & Lengel, 1986).

In addition to the barriers and drivers of effective internal communication (Ryynänen et al., 2013), Lipiäinen, Karjaluoto and Nevalainen (2014) write further in their article that digital communication tools can be widely used and will facilitate internal communication, but there can be some challenges around planning their utilization. Their findings can be seen as an extension of Daft and Lengel’s (1986) theories on media richness. Lipiäinen et al. (2014) write that e-mail is the most used digital communication tool for internal communication. E-mail is popular because it is cheap, easy and a quick way to communicate. The negative side of e-mail is that its popularity and ease of use can lead to information overload and an over-reliance on e-mail and other digital channels at the expense of face-to-face communication. Lipiäinen et al. (2014) further assert that written communication is rarely the best way to convey a message or to motivate employees. In addition, the use of electronic communication channels has distanced employees from each other in the organization to which they belong (Lipiäinen et al., 2014). However, e-mailing provides the possibility of reviewability: you can go back and check on a person’s statement regarding a subject, or an employee can check and correct a message before sending it, which is not something that is possible in face-to-face communication.

Lipiäinen et al. (2014) write about the usage of intranets, e-mail and instant messaging, and how these tools are perceived within organizations. According to their results, the intranet in the research setting appears to be the main information-sharing digital channel, since it carries news, announcements and information concerning products and markets. Furthermore, Lipiäinen et al. (2014) write that the intranet has two levels, where one is the
organization-wide level open to everyone and the other the operational-level, including local sites, business sites and unit sites which are not open to everyone. Lipiäinen et al. (2014) contend that the main problems with the intranet at the studied organization are the difficulty of finding information and the fact that employees do not really have the time to search for it. Another issue was the lack of interaction with the intranet. E-mail was regarded as a positive digital channel for communication due to its quickness, cheapness and easiness to store and review later (Lipiäinen et al., 2014). The employees felt that though the number of e-mails was increasing, their importance at the same time had diminished. Another aspect of this is that employees in the organization rely more and more on sending e-mails instead of communicating verbally to each other, and because of that, feedback has dropped off and misunderstandings have increased. Lipiäinen et al. (2014) contend that this could be because people may seem to be more formal than they really are when e-mailing. Another thing that Lipiäinen et al. (2014) found was that the respondents had a negative attitude towards group e-mails, since their occurrence leaves employees not really knowing who is responsible for taking action. This in turn meant that nobody replied to those types of e-mail. Lipiäinen et al.’s (2014) research shows that the use of digital communication tools in internal communication can bring several advantages for the organization, because digital communication tools are easy and quick to use, which make the communication easier.

The challenges related to digital communication tools include the lack of clarity and different habits of usage. Another challenge is the fact that communication through digital channels is seen as task-oriented and formal. Formal communication in turn was felt to hinder the practical development of personal relationships across corporate functions (Lipiäinen et al., 2014). In that regard, informal face-to-face communication was considered to be the most important channel to communicate because it is easier to build trusted relationships.

2.4 Theory outline

Previous research shows that there is a broad definition of internal communication since it involves all kinds of communication in organizations, from daily informal office chatting to formal corporate communication to all employees. The broad definition of internal communication makes it difficult to investigate underlying communication challenges within and between departments, which is the purpose of this study. Therefore different theories have been used in order to find and understand reasons for the underlying internal communication challenges in the departments considered in this study. Strategic internal communication
offers the facility to investigate internal communication challenges from a managerial perspective in terms of how to align communication with organizational goals. This facilitates the development of ideas on what strategic internal communication implications there are in the departments being studied. The research of Clampitt et al. (2000) addresses strategical thinking regarding internal communication in organizations that are undergoing changes, which is the case for the departments in this study.

So far these theories outline the managerial perspective of internal communication: in these theories, the employee perspective is mentioned only peripherally. That is why the stakeholder approach to internal communication is presented in this study, as it helps define different stakeholders in the research setting. The internal communication matrix outlines the different dimensions of internal communication between managers and employees, focusing on the level, content and participators for each dimension. By using the internal communication matrix, internal communication challenges in each dimension can be found, thus outlining what dimensions need to be improved. Although these theories cover both the managerial and employee perspective of internal communication, however, they do not deliver concrete examples of what barriers and drivers there are for effective internal communication. With these theories in mind, Ryynänen et al.’s (2013) findings on the barriers and drivers of effective internal communication enrich the theoretical lens for this study, and will help find and understand the internal communication challenges within and between the departments under study.

Despite the combination of different theories, they do not cover the use of different of media channels and the richness of these. Daft and Lengel’s (1986) media richness theory and Lipiäinen et al.’s (2014) findings on the usage of different media channels provide more components to examine when searching for internal communication challenges. In other words, the impact of different media such as e-mail, instant messaging and meetings, et cetera, deepens the understanding of what internal communication challenges there are. In addition, Daft and Lengel’s (1986) media richness includes the reduction of ambiguities and uncertainties within and between departments through organizational structure, which provides input to find answers to the second research question of this study. Looking into how the departments studied handle what Daft and Lengel (1986) call continuum structural mechanisms provides the theoretical lens with more insight to approach the purpose of this study, in particular with regard to the interdepartmental relationship but also in terms of how ambiguities and uncertainties are handled within and between the departments.
Finally, two concepts of communication are presented throughout the literature review and both views are used to understand communication as a phenomenon and how communication is perceived in the departments under study. Managers and employees may see communication as the sending and receiving of messages, but how can underlying internal communication challenges be explained if they are a result of historical events or work processes? Taylor et al.’s (2004) view on communication may answer this, since the constitutive view of communication takes that into consideration.
3 Method

This chapter will present and describe the methods used to operationalize the purpose of this study. The chapter starts by introducing and discussing the research setting, followed by the research approach, case study and data collection, selection of data and data analysis process. Finally, validity and reliability, and method challenges are presented.

3.1 Research setting

The two departments studied are related and they have different responsibilities regarding parts of the IT infrastructure in the organization. The department called IT-Development works with the planning of the IT infrastructure, which means that they plan and build new systems as a staff function department. At the same time, they make sure that new systems fit the current IT infrastructure. IT-Operation is the department that runs the systems in the IT infrastructure on a daily basis. IT-Operation acts as a line function. Due to the fact that there is an ongoing transformation period where old systems are replaced by new ones, IT-Operation has to handle both older and newer systems in its day-to-day activities. Though both IT departments belong to the same part of the organization (Technology), they belong to different areas of that part of the organizational tree. Both departments follow the organization’s IT strategy.

Applegate et al. (2009) define IT infrastructure as the heart of most organizations’ operating capabilities. The authors contend that any changes in IT lead to small or large fundamental changes in how a business operates. IT infrastructure consists of network, processing systems and facilities (Applegate et al., 2009). Network is the software and hardware that makes it possible to exchange information between organizations (Applegate et al., 2009). Processing systems comprise the hardware and software that together provide an organization’s ability to handle business transactions (Applegate et al., 2009). Facilities refers to the physical systems that protect and house computing and network devices (Applegate et al., 2009).
3.1.1 IT-Development

IT-Development is part of an area that in this study is called Area 1. Area 1 of the Technology part of the organization plans, creates, secures, integrates and simplifies the organization’s technologies, processes and IT for the purpose of, in the long run, offering better products and services to customers in a competitive telecom market. IT-Development is effectively a staff department. In this area of the organization, IT-Development plans and builds infrastructure for the IT based on the overall IT strategy of the organization. IT-Development consists of seven teams that plan/build different parts of the IT infrastructure—for example, storage, databases, support systems, service management and similar. These teams depend on one another: in order to store something on a virtual server, for example, requires that the capacity is there and that the networks are in place in time.

3.1.2 IT-Operation

IT-Operation is part of an area that will be called Area 2. IT-Operation is a larger department than IT-Development. IT-Operation consists of 19 teams and is responsible for the infrastructure operation regarding servers, networks, databases, storage, backups and datacenters. The department is responsible for securing efficient operation and delivery of IT infrastructure and applications. IT-Operation is effectively a line function.

3.2 Research approach

IT-Development gave us the assignment to improve internal communication within and between IT-Development and IT-Operation. This guided the purpose of this study towards internal communication within and between departments. The questions in the first round of in-depth interviews were semi-structured and the content was on the subject of internal communication. The empirical data, together with theories, contributed to an abductive
approach. This approach is a combination of deductive and inductive research (Ekström & Larsson, 2011). According to Dubois and Gadde (2002), an abductive approach is preferable to use when something new is meant to be investigated which means ascertaining new relations between different variables. One problem that can occur in an abductive research approach is that the researchers are influenced by past experiences and studies (Patel & Davidsson, 2011). The research in this study started from a deductive approach by searching for previous research and theories on organizational and internal communication. The deductive approach means that the researcher forms hypotheses based on theoretical material and tests them against the data collected (Patel & Davidsson, 2011).

Before the data collection, theories were studied to provide a focus on what to search for in the research setting. This in turn contributed to a theoretical focus that was used as a starting point for data collection. In addition, this led to a second stage that was effectively an inductive approach (Patel & Davidsson, 2011). During and after the data collection, theories contributed to reinforce the empirical findings, such as looking into the managers’ answers in the first round of in-depth interviews. This approach is used to see if the empirical evidence confirms or rejects the theory. Theories helped in analyzing answers from the managers and shaping new questions for rounds two and three of the in-depth interviews. The inductive approach implies, unlike the deductive, that the researcher begins with the data and then tries to develop theories to support one or more phenomena before summarizing the general conclusions (Patel & Davidsson, 2011).

3.2.1 Qualitative and quantitative methods

The qualitative method is used to gain an understanding of underlying reasons, opinions and motivations (Angrosino, 2007). A qualitative research approach is a suitable method to get a grip on people's individual perceptions and experiences; it can be applied with in-depth interviews, observations or focus groups (Ekström & Larsson, 2011). A qualitative method was used in this study, but in order to gather more perspectives on the internal communication challenges, quantitative elements were added by doing surveys. Usually in quantitative research, researchers use scientific techniques that can give quantifiable, more generalized results (Bell, 1993). The quantitative method is effective when it comes to collecting a large quantity of data. Surveys are often used where empirical evidence is adapted into data. Researchers can then compile and analyze the material (Ekström & Larsson, 2011). The idea behind using a combination of qualitative and quantitative methods was to reach the underlying reasons concerning the challenges regarding internal communication. This
combination started with in-depth interviews with the managers in IT-Development and interviews with managers and employees within IT-Operation. Then we wanted to see if the managers’ perceptions were something the employees in both departments also perceived. Because of the lack of time, the large number of employees in both departments and the number of managers in IT-Operation, it was impossible to do in-depth interviews with everyone; therefore we covered these parts by conducting surveys at the offices within the research setting. We had a goal that being in the research setting on a daily basis would provide us with an insight that would give us a deeper understanding of the data collected. By doing this, we hoped that it would give us a comprehensive understanding of the internal communication challenges within and between the departments studied.

3.2.2 Mixed methods
The way methods are used in this study can be referred to as Myer’s (2014) mixed method’s approach. As Myers (2014) writes in her article about mixed methods in The SAGE Handbook of Organizational Communication, studies often include more than one research question, as in this study. By applying both qualitative and quantitative methods, a larger picture of the research can be shown which helps collect more data regarding internal communication challenges in IT-Development and IT-Operation (Myers, 2014). It is not just the combination of quantitative and qualitative data (like the abductive method) that makes mixed methods special, but the fact that the variety of data collected can be integrated and correlated to respond to the research questions (Myers, 2014). With this approach, insights could be found that otherwise would have been impossible to achieve. This approach demands extra effort, but at the same time offers rewards (Bryman, 2006). The purpose of a mixed method is to find and integrate relevant data from multiple sources (Myers, 2014). It is not important what kind of data or how great the timescale, but rather how different types of data are integrated and for what purpose. There are three advantages with integrated data and the mixed method. First, by integrating two or more types of data, consistency can be discovered and this can lead to similar findings or the same conclusion. This can lead to a credible validity in comparison with data collected by a single method. Second, integrating data can provide illustrative findings, such as gaining concreteness within statistics or meaning in participant narratives. Third, a mixed method offers an analytical density that mixes a deep, complex view of phenomena (Myers, 2014), which in this case concern the internal communication challenges between the teams in IT-Development and between IT-Development and IT-Operation.
3.2.3 **Triangulation design**

The use of multiple data collection techniques can reinforce conclusions (Angrosino, 2007). Within mixed methods, there are four typologies that can be classified as triangulation, embedded, explanatory and exploratory designs (Myers, 2014). Each of these is different and provides a different design, purpose and use, and different primary data and advantages. All apart from triangulation provide one type of data: triangulation means that two types of data are integrated and compared for convergence or divergence (Myers, 2014). This study will use the approach of triangulation, where consistent findings provide a stronger conclusion and divergent findings need an extensive interpretation. The goal is to use quantitative and qualitative data equally, and interview or observation data are used together with surveys. The great advantage is that it allows a deeper or an alternative examination. Data are collected and interpreted coincidently and analyzed separately. The data can also be interpreted across different levels of analysis (Myers, 2014).

3.3 **Case study and data collection**

Searching for keywords such as internal communication, strategic internal communication, internal communication in IT Departments and internal communication in IT environments both at EBSCO and Google Scholar, we found various research papers. Within internal communication and strategic internal communication, we found interesting material which is used in this study, while the other two keywords did not result in any useful material. In Figure 2 below, the data collected are presented, though not in a particular order. For a more detailed overview of the data collection, a second figure is shown below.

![Figure 2. This figure illustrates what type of data we define as primary and secondary.](image-url)
Prior to the observations and interviews in the research setting, Angrosino (2007) recommends doing a personal inventory. This means that the researcher beforehand considers how their own weaknesses and strengths may affect the research setting (Angrosino, 2007). Questions like areas of competence and incompetence and ability to set aside preconceptions about people, behaviors, or social and political situations are discussed. One example of this was prior to the first day, when deciding what type of clothing to wear for the first day in the research setting. In terms of what the departments work with (IT infrastructure), we had some limited knowledge and had that in mind during the weeks at the research setting. Data were collected over ten weeks in IT-Development and IT-Operation. To be able to accomplish the assignment and the purpose of this study, we conducted in-depth interviews with the managers of IT-Development, and interviews with managers and employees at IT-Operation. We also conducted two pilot surveys, one for IT-Development and one for IT-Operation; two surveys, one for each department; and one survey for the management team at IT-Operation; finally, we observed the departments every day during working hours for ten weeks. Some additional interviews were carried out to better understand the projects and activities that the departments are involved in and to get a better understanding of the organization as a whole. Figure 3 below demonstrates the overall activities during the ten weeks of data collection.

Figure 3. This figure illustrates the time frame for the data collection made at IT-Development and IT-Operation.
3.4 Selection of data

To find underlying reasons for the internal communication challenges from a managerial perspective, we collected data from observations, in-depth interviews with the managers at IT-Development and a survey conducted within the management team of IT-Operation. For the employees’ perspective, we collected data from observations, surveys and informal interviews. We also did interviews with managers and employees at IT-Operation. The decision to conduct three interviews per manager at IT-Development was with the hope of reaching a saturation point in their answers. We transcribed all three rounds of in-depth interviews with the managers at IT-Development, with a total of three interviews per eight respondents, which makes a total of 24 interviews. We transcribed six interviews from managers and employees at IT-Operation. In total, we transcribed 29 out of 41 interviews. The remaining 11 interviews were of a more informal approach and therefore used as secondary data to give us another perspective.

Two pilot surveys were sent out to offices in IT-Development and IT-Operation outside the research setting; this was followed up by two surveys conducted in the departments at the research setting. Finally, one survey was conducted within the management team of IT-Operation. Both the in-depth interviews and the interviews were semi-structured, which means that there were specific questions for each interview but the respondents could answer these questions in an open manner. Informal unstructured interviews were carried out with employees on different occasions to gain a better understanding of what the departments worked with and the underlying problems that both departments were currently experiencing.

3.4.1 The observations

The data collection started with observations. By observing managers and employees in the research setting, we developed an awareness of whom to approach and what to search for regarding this study’s purpose. The observations were valuable since it was a starting point for continuing the data collection. Observational methods are a form of data collection that focuses on experiences in real-world surroundings (Grove & Fiske, 1992). Angrosino (2007) asserts that in an observation, we make note of something and we do so by using all our senses. Observations were conducted both as participants and as listeners in meetings and during working hours. Specific persons were followed during working days. Observations were carried out every day during the ten weeks. When something stood out as being relevant to the purpose and the theories in this study, notes were made in a Word document. Observations were not made in any special order. In the research setting, employees in IT-
Development and IT-Operation have their offices on the third and fourth floors respectively. Outside the research setting, both departments are scattered around different offices in Sweden and other European countries. We performed our observations in the research setting by having desk places within both departments, which helped us observe the daily working activities of the departments and enabled us to get a feeling for the organizational culture. This prompted ideas on what to look for in our interviews and surveys. This was relevant in order to further understand underlying internal communication challenges from a managerial and an employee perspective.

To enrich our data collection and get a better understanding of exactly what IT-Development and IT-Operation really work with, we made two study trips. One was a whole day visit to a data center to see how all data is stored, secured and treated in different databases. The second study trip was to the headquarters where the communication department is located. During this visit, we held an interview with a communication manager responsible for the organization’s Technology Area 1. Interview questions were prepared in advance related to how the intranet was used and planned, and the person responsible for it.

In addition to the data collected above, data were collected through observations in meetings as both passive and active participants. These meetings could result in informational data or could finish with an informal interview with one or more meeting participants. Furthermore, informal interviews were carried out to contribute to a rich secondary data. Altogether, eleven informal unstructured interviews were carried out with employees in both departments and with other persons around the organization. These interviews were unstructured and informal, which meant that they could take place in meetings, coffee rooms or at lunch breaks. The purpose of these interviews was to gain a better understanding of how the organization works, what IT-Development and IT-Operation work with, and to get a better feeling for the internal communication challenges. These interviews were not transcribed: instead, data contributed to a better understanding of the daily routines in the departments. Furthermore, participating in the research setting contributed to seeing things that managers mentioned in the interviews.

3.4.2 In-depth interviews with managers at IT-Development

The purpose of the qualitative study is to observe patterns and this can be done by analyzing the experiences of individuals or groups to easier understand the perspective of the person being interviewed or observed (Angrosino, 2007). Since IT-Development consists of
eight managers (including the head manager of the department), we decided to interview each one in order to see if their perspectives on the internal communication challenges differed. This could show if the challenges concerned the whole department or some teams in particular. We interviewed each manager three times (later referred to as rounds one, two and three) and each round of interviews revolved around a specific topic. The questions in the first round of interviews were intended to identify the challenges regarding internal communication and why there is a need to improve it between the teams in IT-Development, but also between IT-Development and IT-Operation. The questions in these interviews were about internal communication, how and when it is used, what internal communication challenges there are and what type of media channels are used. Most of the interviews with the managers at IT-Development took place in the offices in the research setting, but some interviews were carried out as telephone interviews with a webcam due to the fact that some managers work in other locations around the European countries. The interviews lasted between 39 and 87 minutes, with an average duration of 58 minutes.

With the help of the observations, the first round of in-depth interviews with the managers in IT-Development was completed and interviews conducted with managers and employees in IT-Operation, after which the data collected were analyzed through coding. For the second round, the categories of strategy, meetings, feedback and communication emerged, whereas for the third round, the categories were strategy, employee commitment score, operational readiness board and feedback. These categories were used to shape the second and third round of in-depth interviews with the managers in IT-Development. The same categories were used to shape questions for the surveys. These categories contributed to finding answers to the research questions in this study.

3.4.3 Interviews with managers and employees at IT-Operation

Six interviews were carried out with managers and employees within IT-Operation. These respondents were recommended by the head manager’s secretary at the department. This type of selection is called a snowball effect, which means that people in the research setting recommend interesting interview persons (Atkinson & Flint, 2004). These six respondents were responsible for overall decision-making in IT-Operation. This selection of respondents was made because they work a lot with different teams in IT-Development; hence they could have input into the internal communication challenges between the departments. The questions in these interviews were related to internal communication, though they varied
to some extent from the questions that were conducted in the first round of in-depth interviews with managers from IT-Development. As before, data were collected and helped form questions for round three of the in-depth interview conducted with managers at IT-Development.

3.4.4 The surveys

In order to gain an employee perspective of internal communication challenges, surveys were carried out. Before launching the surveys, we did two pilot studies, one for each department, to make sure our questions were reliable and valid. The two pilot surveys regarding IT-Development and IT-Operation were sent to employees in other offices.

Each office had 24 employees. The locations of the pilot studies were chosen because of the similarity with the study offices and the number of employees. The purpose of the pilot study was to find errors and to see if we needed to improve and complement the questionnaire by deleting, adding or formulating questions and possible responses differently (Van Teijlingen & Hundley, 2004). The response rate of the pilot study in IT-Development was sufficient, with 14 responses. The response rate of the pilot study in IT-Operation was slightly lower, with a rate of six respondents. After receiving the results from the pilot study, minor changes were made. In some questions, it was found that some respondents had chosen the answering option “other” or “no opinion”. When launching the main surveys, more answering alternatives or/and free text were added to better understand the underlying opinion and to eliminate the default choice of this option.

After the pilot study, two surveys were sent out to the employees in the research setting. One survey was sent out to IT-Development. 24 out of 40 employees responded, a response rate of 60%. The survey consisted of 23 questions. The other survey was sent out to IT-Operation. 16 out of 36 employees responded. This survey consisted of 16 questions with a response rate of 45%. In an attempt to understand the managerial perspective in IT-Operation, a survey to managers at IT-Operation was added. Due to lack of time, in-depth interviews were not possible with the IT-Operation management team, which consists of six managers. Instead, a survey was sent out to these managers with questions similar to the third round of in-depth interviews with the managers in IT-Development. In order to structure all data mentioned, the next section will present the data-analysis process.
3.5 Data-analysis process

In order to answer the purpose of this study, in-depth interview rounds two and three were needed to find and understand the underlying internal communication challenges within and between IT departments. Another reason for these in-depth interviews was to find incentives to improve the internal communication based on the challenges. Finally, since the departments in the research setting had a particular organizational structure, it was of interest to look at whether that affected the internal communication.

The questions asked in the first round of in-depth interviews with managers at IT-Development and interviews with managers and employees at IT-Operation were based on observations and other forms of data that fitted the purpose of this study. These interviews were semi-structured and focused on internal communication from a broader perspective and in relation to IT-Development and IT-Operation. Regarding the first round, we had an analytical process that involved coding strategies. This was made by comparing managers’ responses from the interviews to see if a saturation emerged. The saturation was made when a majority of managers said the same thing. This comparison was made in Excel and the responses resulted in keywords that we chunked together into categories (Goulding, 2002). Finally, these categories formed descriptive categories from which new questions were shaped for the second and third rounds of semi-structured interview. The categories that emerged were strategy, feedback, meetings and communication.

The same procedure was performed for the third semi-structured in-depth interviews, where we partly based our questions on the categories from the first round of in-depth interviews with managers at IT-Development and the interviews with managers and employees at IT-Operation. This resulted in the categories strategy, employee commitment score, operational readiness board and feedback. To further analyze the collected data from the second and third round of in-depth interviews, we used line-by-line analysis. For each transcribed interview, we searched for keywords or phrases that could give an insight into and deeper understanding of the behavior and response. In the early stages of line-by-line analysis, open codes are identified, and through continuous analyzing, a pattern will emerge. Codes are then clustered into groups that describe the behavior (Goulding, 2002). New codes and categories emerged from these analyses, which form part of the result of this study.
3.5.1 Tools for analyzing and planning

Storyboard was used as our first step to plan, understand and realize this assignment. By including all different areas and chapters of the study, it contributed to an overall picture, which was needed. We sketched the storyboard during our first week of the internship and had it as a visual target both before and after our internship. The purpose of the storyboard was to keep us on track visually.

Excel was used as a tool to analyze the in-depth interviews with managers at IT-Development and interviews with managers and employees at IT-Operation. We also used Excel as a tool for collecting, comparing and correlating the responses of managers and employees. At the end of the Excel paper, we had one column for ‘keyword’ and one for ‘class’. Word was used for the second and third interview sessions, where codes were highlighted from the transcriptions, then merged into categories which were pasted in another Word document.

Proof is a tool for making and sending out surveys. This tool was used by the organization and, since we were working confidentially, we could only use internal material. Proof was used for the two pilot studies outside the research setting office and the two we launched in the research setting. This tool summarizes the collected data from the respondents and gives both a visual picture and a percentage per response and question.

3.5.2 Operationalization of theory

Prior to the observations and the first in-depth interviews, internal communication theories presented in the literature review were put to use. This was done by asking the managers open questions about internal communication. The managers’ definitions of internal communication in their daily work activities were then compared to definitions of internal communication from theories. For example, Welch and Jackson’s (2007) internal communication matrix led to the identification of different stakeholders in the research setting; furthermore, the content of communication between these stakeholders could be found, as per the matrix. After the first round of in-depth interviews, the internal communication theories being used could not answer internal communication challenges discovered in both the first round of in-depth interviews and in observations. Therefore other theories were used, such as Ryynänen et al.’s (2013) barriers and drivers for effective internal communication, since some of the findings from the first round of in-depth interviews indicated challenges related to the different barriers and drivers. In the second in-depth
interviews, questions regarding internal communication strategies were posed, since strategy emerged as a category from the findings in the first round of in-depth interviews. From the observations, we noted that both departments in the research setting were undergoing changes that affected the employees; therefore these findings needed to be understood from a strategic internal communication perspective. Theories regarding strategic internal communication were therefore used in order to understand the impact of having and not having different strategic internal communication efforts. In addition, these theories could not answer the empirical findings, especially when it came to internal communication challenges between interrelated departments and organizational structure. Early on in the research process, observations and interviews indicated that IT-Development and IT-Operation’s organizational structure seemed to cause some of the perceived internal communication challenges between the departments. Daft and Lengel’s (1986) media richness theory provided understanding of some of the internal communication challenges both within IT-Development and IT-Operation, and how organizational structure may affect internal communication. Daft and Lengel’s (1986) media richness theory helped understand media channel usage, which led to interview questions that tried to find out the effect of different media channels. Lipiäinen et al.’s (2014) recent research complemented Daft and Lengel’s (1986) media richness theory with the effects of intranets and e-mails on internal communication. Empirical findings from interviews and observations showed that intranet and e-mail overload were an issue and Lipiäinen et al. (2014) were helpful in that respect. Finally, the organizational theories of Taylor et al. (1996), Taylor (1999) and Taylor and Robichaud, (2004) were used to understand how the past affects the way the two departments communicate today. All these theories were used at different stages of the data collection process to help understand the different internal communication challenges that emerged from the empirical findings. The empirical findings from the interviews in both departments formed the questions for the surveys that were conducted in both departments.

3.6 Validity and reliability

Validity is in effect the measurement of what is going to be measured (Van Teijlingen & Hundley, 2001): it considers the soundness of the research. The two pilot surveys were conducted to make sure that respondents would interpret the questions correctly. When questions were not answered as expected, answering alternatives were re-formulated for the real surveys. This was a way for testing the validity, which is important when conducting
surveys (Van Teijlingen & Hundley, 2001). The reformulated answering alternatives in the pilot surveys contributed to the validity.

For the in-depth interviews, the managers at IT-Development were chosen because they could provide data about the organization and the underlying challenges regarding internal communication among the teams and with IT-Operation. By interviewing the managers at IT-Development, we had an opportunity to ascertain the strategic implications of the internal communication. We chose managers from IT-Operation to respond to a survey to get an overall perspective of the situation between IT-Development and IT-Operation. The interviews with managers and employees at IT-Operation were conducted in order to obtain even more detailed information about certain questions related to the purpose of this study. The other surveys were directed toward the employees in both departments and contributed to collected data from an employee perspective.

Reliability is the measurement of the quality of the procedure of data collection that should give the same result on different occasions in similar circumstances (Bell, 1993). The questions in the surveys were based on qualitative data (first round of in-depth interviews with managers at IT-Development and interviews with managers and employees at IT-Operation). This data was time and context specific, which affected the results: conducting this study again would probably bring out different results. The surveys were sent out during the Easter holiday, which may have contributed to the low response rate.

3.7 Limitations and criticism

This study is context specific and therefore the conclusions must be treated as such. This is because data were collected in two departments which have specific characteristics regarding organizational structure and work tasks. Ten weeks of data collection seemed to be a lot in the beginning, but as the time passed and we understood how much data we had to collect, the time frame became narrow. The surveys that were done were limited to employees in the office in the research setting. Including all employees on a European basis would probably have given us too much data to handle in this short time period. Therefore we have gained the perspective on issues for employees working at the office in the research setting and not at the other offices in Sweden and other European countries. This could result in a twisted outcome, because only one perspective has been taken into consideration. Concerning interviews with managers and employees at IT-Operation, we received a recommendation on who to contact. Addressing other perspectives, the results would have been different. The
number of respondents to the survey at IT-Operation yielded a response rate of 45% and not the 60% we had expected and hoped for. We also sent out a survey to five managers at IT-Operation to complete the opinions of the managers across the departments, but with a response rate of only three out of six. We signed a confidentiality agreement which limited us to using the organization’s own internal tools. An example of this was that the surveys that had to be done within the confines of a program and tool called Proof, which limited us since we could not choose a survey tool with which we were familiar. Unfortunately, Proof did not give us access to correlate the data in the way we wished, so we did our very best and made correlations in Excel.

3.7.1 Method challenges
Since the assignment was given to us by the organization, it guided the purpose for this study, which in turn limited the possibility of searching for random challenges that the departments face. Instead, challenges were already identified. What was not taken into consideration was that the assignments covered a large quantity of different projects which involved many employees and managers in Europe. This caused delimitation challenges of where to begin, who to approach and what methods to use for the data collection. When data collection started, different perspectives of organizational members were needed: therefore surveys were added primarily to get employees’ perspectives in order to contribute the data necessary to answer the purpose of this study. The use of mixed methods resulted in large amounts of data that needed to be collected and analyzed. Doing observations, interviews, surveys and collecting data from the organization at the same time resulted in time pressure, which limited us to carrying out the surveys only at the offices where we did our observations. All the data collection was carried out during the ten weeks’ time spent in the organization.

3.8 Ethical considerations
The research process is a dialogue between the researcher and the community in the research setting (Angrosino, 2007) and our study developed as the relationship with the people in our research setting evolved. It was important to remember that we as researchers were dependent on the cooperation and goodwill of those being investigated. An example of this would be that we could do three interviews with each manager in IT-Development, or that we could participate in almost every type of meeting that these managers had. Angrosino (2007) claims that personal values are part of the ethical considerations. Personal values in this context could mean a consensus among our peer group, our own personal reflection on
issues of concern, or a combination of these (Angrosino, 2007). During our first day, we signed a privacy paper to guarantee that all data collected during our ten weeks, all information observed and perceived, was confidential. The opinions of certain employees or respondents are never attributed because of the need for confidentiality, nor are the organization or the departments named.
4 Empirical findings analysis

This chapter will present the empirical findings from a managerial and employee perspective. The empirical data will be analyzed by applying theories to the empirical findings. IT-Development and IT-Operation felt the need to increase their internal communication. In reality, early findings showed that the departments were already communicating a lot and did not need to increase internal communication: instead, there was a need to improve it. This chapter consists of three parts. The first part presents the empirical findings and analyses of the managers’ definitions of internal communication and its usage in both departments. The second part presents the empirical findings and analyses of the internal communication challenges between the teams in IT-Development. Finally, the third part presents the empirical findings of the internal communication challenges between IT-Development and IT-Operation.

4.1 Internal communication: The managers’ definitions

In the first interviews with the managers in IT-Development, how the internal communication works between the teams was discussed. One of the managers pointed out the importance of having a good and close relationship between managers, which in turn may have a positive effect on the internal communication. Another manager pointed out that personal chemistry and close working habits are the foundation of good working relationships. Empirical data from the first interviews with the managers at IT-Development shows that the meaning of internal communication is difficult to define. This is part of the challenge with internal communication, since the definition of it varies from person to person. The majority of the managers mentioned internal communication as something both formal and informal that involves managers, employees and stakeholders, depending on the content of the messages.

One manager in IT-Development mentioned workshops, workrooms and the newsletter as examples of internal communication. There are formal frames for internal communication, such as team meetings, monthly management team meetings and a performance review meeting where feedback is given between managers and employees. Internal communication could be presented as information exchange, gossip around the coffee machine, intranet and, when the organization is mentioned in the press, media.
4.1.1 The use of internal communication in IT-Development and IT-Operation

Empirical data from the interviews in both departments shows meetings used as a formal media channel to communicate, including face-to-face, video conferences and presenting PowerPoints through an instant messaging application. The instant messaging application is used daily by managers and employees when a quick and informal response is needed. E-mail, intranet and telephone are other channels that are used for internal communication. Managers from the management team in IT-Operation are all convinced that they have all the tools they need to have good internal communication. Figure 4 shows that employees at IT-Development communicate through many different media channels. The three most preferable media channels are face-to-face, meetings and e-mail (67% each). The same preference of channels was shown in IT-Operation but at an even higher rate: e-mail 81%, face-to-face 75%, and meetings 69%.

![Figure 4 – Channel preference](image)

**Figure 4. What channel do the employees prefer to use for communication?**

The organization’s intranet is a crucial place in terms of information about what is going on. Both departments are part of a very large organization where the intranet is a big information platform. The first page of the intranet is where corporate news is shared. This news should not be department-specific, but is carefully selected so that the news is related to the whole organization globally. News is handled by the organization’s communication department. The departments often communicate through e-mail. Sometimes an employee can receive up to 100 e-mails per day.

“E-mail sucks, not an effective tool anymore” – Manager, IT-Development

This has its pros and cons. It is good to have written information to refer back to if needed, but too many e-mails may result in difficulty knowing which ones are important. Face-to-face communication is good for getting direct feedback, but can result in not remembering all the information. The use of virtual communication is very important,
especially as many managers and employees are traveling in other European countries. This is when communication tools such as instant messaging, video conferences, telephone and e-mail are important. In relation to concrete communication efforts between the departments, there are, as presented earlier, a lot of meetings and a lot of e-mailing but still uncertainties and the need for clarification persist. One of the managers from the management team in IT-Operation said that there is a need for further use of new channels like apps, video and web. More meetings are not the solution, according to one manager, who also considered a large quantity of e-mails a cause for concern.

4.1.2 Analysis of the definition and use of internal communication

These definitions reflect the view of communication as the transmission of messages in which the managers sees themselves as senders of messages and where the content of the message makes it either formal or informal internal communication. The definitions mentioned fit well with how internal communication is described in theory. Empirical data show that personal chemistry and close working habits are the foundation of good working relationships. Mishra et al. (2014) describe this as something that can increase employee engagement and enhance trust. However, the empirical data did not show that good relationships are connected with employee engagement and there was little talk about internal communication as something to motivate employees.

The empirical findings show that many media channels are used in the departments by both managers and employees. Furthermore, even though media channels enable internal communication, they do not necessarily improve it. Instead, the number of media channels further challenges the internal communication as there is no knowledge or strategy regarding what media channel preferences there are for certain types of information. As mentioned in the literature review, Ryynänen et al. (2013) contend that a variety of media channels can be seen as a driver for internal communication. Even though IT-Development and IT-Operation have a variety of media channels and therefore many possibilities for good communication, this is perceived as challenging, partly because the amount of information communicated is overloaded, which creates inconsistency. Though there are internal communication efforts, there is a lack of strategic thinking in terms of, as Clampitt et al. (2000) put it, who versus what, when versus how, and why versus what. Some of the internal communication challenges seem to emanate from this and may be enhanced by more strategic thinking in regard to what Clampitt et al. (2000) term strategic internal communication.
Another empirical finding is that the content of the internal communication is mostly related to change and reorganization. Other information transmitted is general information, including goals, strategy, operational information, and on-going activities related to projects. Status and updates are reported between managers and employees at team meetings. The internal communication corresponds well with the content component of Welch and Jackson’s (2007) four dimensions of the internal communication matrix. Though the organization studied has cross-dimensional relationships, in reality the same employees and managers are communicating in the various dimensions.

4.2 Internal communication challenges in IT-Development

“*A communication platform could be a consistent way to discuss questions and to describe them and strategies*”

- Head manager, IT-Development

The empirical data show that the managers of IT-Development feel that there is a need for a common place to share information more efficiently than currently exists. In relation to the need to share information more efficiently, the managers think that there should to some extent be routines in communication methods and a common way to communicate with the customers. The needs may derive from the lack of an overall picture, inferior implementation processes, and the fact that there are many ongoing projects and activities in the organization. In addition, these problems create other problems, such as there being no guarantees on priorities between the teams. One of the managers in IT-Development even called it stovepipes in the work processes.

“I do this and that, he/she that and this” – Manager, IT-Development

The same manager thinks that people are not used to seeing the overall picture of processes; instead, there is too much focus on each part of a process, which creates stovepipes. These, however, could be prevented were there more cooperation—for example, one part is not done before the next person can do their part. This may imply that if the teams in IT-Development were able to have a better understanding of the overall picture of a process, it could improve the internal communication between the teams. The problems in the work processes are related to two occurring categories that were revealed in the empirical data from interviews and observations: lack of synchronization and the need for greater transparency throughout. The lack of synchronization between the managers and their teams
is, according to the managers, mainly due to a heavy workload and the fact that they sit in on many different meetings during working hours. Thus it can be difficult to find common spaces where they can actually interact and communicate with each other. The managers think that greater coordination between the teams, more decision-making, understanding of each team’s KPIs, clearer directions and better resource planning may reduce the perceived unsynchronization between them and thus improve internal communication. Resource planning is something the managers have worked on during the management team meetings this year. This is seen as a way for the manager to see what every manager is involved in.

One of the managers mentioned that there is a lack of transparency since there are no proper work descriptions which make work tasks dependent on individuals. Another manager thinks that documentation should be shared more between the teams in order to increase the transparency. One of the managers pointed out the importance of being more project-oriented in order to take faster decisions, which will in addition reduce the unsynchronization between the teams. One idea is to have each team’s weekly meeting at the same time, since it enables synchronization. One concern about this is that it could open the gates to even more meetings. A problem with this idea is related to logistics, since there are not enough videoconference rooms available, as each team is scattered over different locations. This goes hand-in-hand with how the managers talked about transparency. During the interviews, they talked about the importance of increased transparency.

“Honesty is important for the culture; meanwhile, hiding mistakes can damage it. Everyone makes mistakes” – Manager, IT-Development

The type of dialogue within the management team was another thing mentioned related to transparency, and which could create more synchronization between them. Transparency is important because, as already mentioned, the managers have heavy workloads and sometimes a lot of resources are needed between the teams. There is a concern in this regard, since in some cases the teams do not know what other teams are doing; therefore they may not understand why other managers often need more resources. Not getting involved in projects or activities at the right time is a question of unsynchronization and insufficient transparency between the teams.

4.2.1 Analysis of the internal communication challenges in IT-Development

The empirical data show similarities with what Taylor et al. (1996, 1999, 2004) write on communication. The text takes place in a context where there are projects, activities and
daily related work tasks. The empirical data show that this leads to heavy workloads and lending of resources between the teams. This affects the transparency. The text itself reflects the uncertainties and clarifications needed through meetings, where the interaction between the participants is termed conversation (Taylor et al., 1996, 1999, 2004). If conversation is where the organizing occurs and where organizational members co-orient in relation to each other through some common object of concern, then the perceived unsynchronization problems and the lack of transparency between the managers in IT-Development derive from this. The teams in IT-Development work in stovepipe systems, which means that each team has different objects of concern that limit the co-orientation between the managers and employees. The lack of an overall view may affect the collective sense-making of the organization in what Christensen and Cornelissen (2010) call the complex interactions of the individuals and the complex connections between those interactions. The empirical data show that the complex interactions between managers and employees may depend on the lack of collective sense-making. This in turn affects the department’s unsynchronization, lack of transparency, need for clarification and the need for meetings to discuss uncertainties.

4.2.2 The intranet and information sharing

When asked what employees search for on the intranet by choosing three alternatives, 83% of the employees responded that it was documentation related to work tasks, 58% news on a corporate level, and 54% workrooms. Structured documentation should therefore be a factor that can help enhance internal communication. Documentation of different kinds is scattered in different workrooms. Some of the managers even said that the workrooms are their team’s way of communicating internally. According to the managers, some workrooms are very well structured and in other cases, less structured. It all depends on if somebody takes responsibility and actually works with the structure of the workrooms. IT-Development has an intranet page that is not used at all as a channel to share information about what is going on in the department, nor there is a weekly newsletter that is shared through e-mails. A majority of the managers feel that a newsletter could be useful if somebody actively works on it and that a newsletter feel alive and exciting. One manager was not sure if a newsletter on the intranet would change anything, and another manager said that it is difficult to create value. The negative aspects of a newsletter may depend on the fact that the managers believe a newsletter should be sent by e-mail—since the managers and employees receive a great many e-mails every day, the question is whether or not they would have time to read it, or even to notice that the newsletter had been sent to them.
“There is a risk that a newsletter just spams the e-mail inbox” – Manager, IT-Development

IT-Development’s intranet page is not seen as a channel where managers and employees can potentially access more general information on the department’s strategy and goals. The intranet is seen more as the place where you get corporate information news and where you can access your workrooms. The ever growing number of e-mails is a concern for most of the managers and there is a feeling of drowning in e-mails. Despite the ambiguities of having a weekly newsletter, one of the managers thinks there is need for a common information page with easy access to different kinds of information. The head manager of IT-Development demands a weekly report from each manager within the department. The weekly reports are summarized and then sent to the person in charge of the head manager of IT-Development. The intranet of the organization affects the internal communication for IT-Development, as there is no real management of information from different systems like the intranet, data archives, CRM and more. This may lead to information overflow and unreliable information, which is the case here.

When asked how easy it was to find information through the intranet, 54% responded positively with “easy” or “sufficient”, while 46% were more negative, responding “not so easy” or “not easy at all”. One other cause of the perceived unsynchronization, and one of the reasons that meetings are held in order to handle uncertainties and to clarify things, is documentation. A majority of employees at IT-Development feel that information and documentation are inefficient. 50% of the employees in IT-Development responded that this could be resolved by having a common platform for documentation, 17% by being more specific on where to find documents, and 17% responded that having more workshops could help resolve the problem. Currently, only parts of the documentation used at IT-Development are structured. According to one manager, things get documented to end questioning and to be able to go back and review if needed. Therefore it is important to document when decisions and changes are made.

“A culture [where], when a decision is made, it does not get accepted immediately”

- Manager, IT-Development

A lot of documents are produced but never used, so there it is possible that similar documents are created. Since IT-Development builds and plans new systems, there are a lot of guidelines, operational guides and repositories that are very important. There are also clear guidelines regarding system documentation. While system documentation appears to be of
importance, it is not unusual for employees to ask about different documentation, which means that access or knowing where to find documentation may be a problem. According to one of the managers, common routines, process maturity and documentation do not work properly. The reason for this is that for a long time the organization worked like separate islands of business.

“You sat in a room and asked over the table: how do you do this? And you got an answer: go to that person, he knows more about that. Then you get tossed to another until you got the answer you were looking for. This may work to some extent, but not in a large organization like ours” – Manager, IT-Development

4.2.3 Analysis of the intranet and information sharing
In this study, the organization’s intranet reflects the findings of Lipiäinen et al. (2014) on the intranet, especially in terms of the difficulty in using the intranet for finding information. One team uses their workroom as an internal communication channel: Lipiäinen et al. (2014) contends that intranets have a lack of interaction, which is shown in the organization. This may lead to information overflow and unreliable information, which is the case here. This is another barrier to effective internal communication, according to Ryynänen et al. (2013). Furthermore, Lipiäinen et al. (2014) assert that challenges within the intranet can result in difficulties in finding information and that employees do not really have the time to search for information. The same issue was shown in the research setting.

Documentation is a challenge that may cause some issues regarding internal communication, mainly because of the misunderstandings that derive from what Ryynänen et al. (2013) call unsystematic and unstructured documentation, which is one of the barriers to effective internal communication. Empirical findings show that there is a lot of technical documentation, which leads to the implicit need for knowledge to understand the content of the documentation. The result of this is that employees may not understand the content of the documentation: hence the need for clarification. This may result in an unscheduled meeting, which in turn affects the internal communication, a direct result of unsynchronization. Because of the challenges mentioned above, managers and employees find it difficult to find the proper documentation regarding work tasks. This means that knowledge regarding work tasks is dependent on individuals. These types of internal communication challenge are not covered by the internal communication matrix (Welch & Jackson, 2007), because the content of the matrix does not focus on internal communication challenges.
4.2.4 Meetings and strategic internal communication efforts

The teams in IT-Development work with a lot of different projects regarding the organization’s IT infrastructure that contribute to change. There are a lot of meetings because of the many uncertainties or because factors relating to work need to be clarified.

“The stovepipes are not all held together and therefore there are a lot of meetings in order to clarify and coordinate people, because no one really knows how things should work”

– Manager, IT-Development

Meetings are held both physically and virtually simultaneously, since the teams in IT-Development are scattered across other European countries. One of the managers thinks that there are a lot of meetings because the teams have a lot of counterparts—for example, with teams in IT-Operation. There exists a culture where meetings are a way to get guaranteed time with different persons and, in addition to this, there are a lot of meetings because everyone needs to participate in everything every time. According to one manager, missing a meeting may result in a damaged relationship with other managers and employees. Another manager pointed out that there are a lot of meetings and that may be a problem, but at the same time your presence may be of importance for colleagues attending the same meeting. Since the managers attend a lot of meetings, they have to prioritize, which means that they have to skip certain meetings. One of the managers even highlighted the importance of meetings as a way to keep relationships with other managers alive, while another manager pointed out that inviting everybody to every meeting is a way of preventing disappointment. In that regard, informal face-to-face communication was considered to be the most important channel, because it is easier to build trusted relationships. Some managers feel that meetings are sometimes used as an excuse not to deliver. They mean that if someone misses a meeting, they may have an excuse not to follow up on the information that was communicated at that meeting. According to one manager, less discussion and more decisions have to be made during the management team meetings, and every manager agrees on the fact that there are too many meetings, which makes it difficult to be synchronized with the other teams, and hence affects the internal communication.

When asked what kind of meeting gives managers control and a feeling for what is going on, a majority highlighted the one-on-one and weekly team meetings. The one-on-one meetings are about supporting the employee, setting individual goals and developing the role of the employee. The managers have three one-on-one performance reviews per year with
their employees, at the beginning, in the middle and at the end of the year, which are focused on target setting. So far the strategic internal communication efforts in IT-Development may be seen as different kinds of meetings, such as weekly meetings, monthly information meetings, and one-on-one-meetings. 54% of the employees in IT-Development responded that they have a good understanding of the overall purpose of IT-Development’s strategy and goals, 13% responded that they have a very good understanding and 33% responded that they have sufficient understanding. In contrast, almost half of the employees wanted more information regarding IT-Development’s strategy and goals. 58% of the employees responded that they are satisfied with the information they receive regarding strategy and goals.

One way to address the vague overall picture of what the teams in IT-Development do is the jigsaw. The aim of the jigsaw is to visualize how the different teams work together in order to better understand each team’s function and how the teams are interdependent. The jigsaw is visualized on the wall in the IT-Development office and contains nine pieces, wherein seven of them present the different teams. One piece represents the head of IT architecture and one piece is representative of the head manager who oversees the whole department. The jigsaw was realized at a full staff meeting in IT-Development: the whole department was gathered in a hotel conference room, where each team presented their piece of the jigsaw. Prior to this day, each team had made a short video clip where their piece of the jigsaw was presented in a comical manner. The head manager of IT-Development believes that this created a feeling that the managers and employees will remember, which hopefully creates a comfortable feeling.

“Every piece of the jigsaw is important and holds a value”

– Head manager, IT-Development

The jigsaw aims to give a sense of belonging and demonstrates that the IT-Development department should be seen as one both by the managers and the employees. The idea of the jigsaw is that one team shares its piece of the jigsaw at a monthly information meeting held by the head manager of IT-Development. The head manager of IT-Development sees that the importance of this jigsaw is its symbolism. Though every manager thinks that the idea of the jigsaw is very good, it needs to be followed up to keep it alive. The jigsaw is an excellent example of how the department created an organizational memory by having the full staff meeting to introduce the idea. The results of the survey show that the jigsaw should perhaps be used more, since 30% responded that they do know anything about it. In contrast,
25% of the employees responded that the purpose of the jigsaw is to increase collaboration between the teams, and 21% responded that its purpose was to have a more visualized perspective on IT-Development. This in turn may help the department to create an environment which encourage innovations.

4.2.5 Example of how a piece of the jigsaw is presented (narrative)

The time is 13:00 and it is time for the monthly information meeting that the head manager of IT-Development holds. The participants (employees and managers of IT-Development) know the agenda, which was sent out before the meeting by e-mail. This information meeting is held via telephone conference, where an online meeting is conducted through the instant messaging function. All participants call in to the meeting to participate. The head manager encourages the participants to speak up if needed. In addition to goals, strategies and information, one piece of the jigsaw is presented every month. Before the information meeting starts, there are participants running around the department, looking for free conference rooms from where they can participate; meanwhile, other participants call in directly through their smartphones. Through the instant messaging program, the presence of each participant is shown on the video-screen so that everyone can see who is attending the meeting. During the information meeting, many participants activate their mute function and do something else. Towards the end of the information meeting, the head manager of IT-Development invites the participants to comment or ask questions through the telephone or the instant messaging function. When nobody responds to the invitation, the meeting is over.

4.2.6 Analysis of meetings and strategic internal communication efforts

Heavy workload and a lot of meetings creates a lack of synchronization between the managers in IT-Development, which affects the transparency between them. Lipiäinen et al. (2014) consider face-to-face the most important media channel by which to communicate, because it is easier to build trusted relationships. That was the initial hypothesis for this study, too: the number of meetings should be a good way to communicate, especially since both the theorists and the managers highly value face-to-face communication. However, the number of meetings seems to be a problem here: empirical findings after a couple of weeks were that though the teams in IT-Development work with changes and have done that for a couple of years, there was no routine, strategy or platform to update and inform each other effectively other than organizing meetings all the time. This contributed to a fuzziness between the teams. Daft and Lengel (1986), Lipiäinen et al. (2014) and Clampitt et al. (2000) all
emphasize the importance of face-to-face communication; but, though the meetings are well intended, their number is one of the reasons for the lack of synchronization between the teams in IT-Development.

Taylor and Robichaud (2004) contend that the interaction between people depends on the environment, which in turn depends on the practice: the number of meetings and the perceived unsynchronization can be seen as a result of this. This somewhat contrary to the theory of media richness (Daft & Lengel, 1986) in terms of immediate feedback reducing equivocality. Draft and Lengel (1986) see face-to-face meetings as a way to communicate to clarify ambiguous issues. Face-to-face communication is considered a rich medium due to the possibility of getting instant feedback so that interpretation of messages can be checked. This may be the reason behind the number of meetings, but they do not reduce ambiguity: hence the constant need to deal with uncertainties and the need for clarifications. Though meetings are held to reduce ambiguity, this study shows that too many meetings may lead to even more uncertainties and unsolved issues.

While the internal communication matrix (Welch and Jackson, 2007) definitely highlights internal communication activities in the different dimensions that happen in IT-Development, the matrix does not really highlight what the internal communication challenges are. The one-on-one meetings fit in the first dimension (internal line management communication) of the matrix (Welch and Jackson, 2007), where the direction is a two-way communication. The participants are the managers and the employees, and the content is the employee’s role and what is going on in the team from the employee’s perspective. Even though the managers at IT-Development strive for a non-hierarchical structure, the whole organization is very hierarchical with a top-down perspective in respect of goals, strategy and vision. This can be seen through management team meetings, where the head manager of the department is the moderator and passes forward information from his manager. This information has in turn been passed forward from another manager in the hierarchical order. This information is passed on to the employees at the monthly information meeting. This is a prime example of what Welch and Jackson (2007) call internal corporate communication in their internal communication matrix. This part of the matrix (no. 4) shows that managers are the transmitters of the message. The direction is predominately one-way; the participants are managers and employees; and the content consists of organizational goals, strategies, new developments, activities and more (Welch and Jackson, 2007). The jigsaw is an example of this dimension of the internal communication matrix. Furthermore, the jigsaw is a good
example of how the department created an organizational memory which, according to Clampitt et al. (2000), can create a climate that encourages innovations. The organizational memory was made by having the full staff meeting to introduce the jigsaw; however, the results of the survey show that perhaps the jigsaw must be used more, since 30% responded that they know nothing about it.

4.3 Historical split between the departments affects the internal communication

The first part of the analysis of our empirical findings shows that in IT-Development there is no common communication platform, unsynchronization and a lack of transparency between the teams as a result of too many meetings, unregulated documentation and no interest in using the intranet as a way to communicate information. These factors cause challenges regarding the internal communication, and these factors affect the internal communication between IT-Development and IT-Operation, which we will present below.

“I think the vanishing point is the split up between the departments that took place four years ago” - Manager, IT-Development

The internal communication challenges between IT-Development and IT-Operation have their origins in a reorganization back in 2011. In 2011, IT-Development and IT-Operation were one whole department that got divided into two: one department that builds and plans the IT infrastructure, and one that works on maintenance of the IT infrastructure. Before the split, the roles were wider; now they are narrower. While the roles are narrower, one manager claims that the work flow for his/her team has increased significantly since the split because they are still doing some maintenance work while planning and building, which results in heavy workloads. Other managers said that they must refine the departments even more in order to prevent unnecessary conflict between the departments regarding resources and responsibility. This is because IT-Operation claims that IT-Development got the better part of the employees in terms of skills and experience when the split was made. Because of lack of resources, IT-Operation borrows employees from IT-Development in order to run the department. One manager in IT-Development thinks that this should not be an issue any more since IT-Operation have had four years to fix this. The split was made for a reason and the existing problems between the departments, and especially the issues regarding responsibility and resources, should be resolved by the head managers in both departments, who must take stronger and clearer steps so that the departments can follow their direction. One of the
respondents in IT-Operation thinks that changes made by IT-Development should be communicated by the managers and not by rumors from employees in that department.

Empirical data from the interviews with manager and employees at IT-Operation show that IT-Operation to some extent work closer to the customers. They are the ones who feel the heat when something is not working. The respondents in IT-Operation believe that there is a lack of knowledge of the customers within IT-Development. This is somewhat confirmed in some parts of IT-Development, though some of the managers think that they work very closely to the customers. One of the managers in IT-Development thinks the word “customer” is a vague term in this context, since most of the customers are internal (within the organization) and it is not a homogenous group. Another manager in IT-Development said that they are very close to the customers, but from a design perspective and not regarding incidents in which they should not be involved. There should be more focus on what the customers really want, by asking their customers about their requirements. One of the managers said that they lack feedback from IT-Operation regarding what the customers think and feel.

“We need contact with the customers to ensure that the IT-architecture fits their needs”

– Manager, IT-Development

Regarding the internal communication between the departments, the overall opinion of the employees is that it does not work well. Figure 5 shows that in both departments a majority thinks that the internal communication is “not so good” or “bad”, whereas 41% responded “sufficient” or “good”. This difference may depend on the fact that some teams in the departments have better cooperation, and hence the internal communication is perceived as good.

**Figure 5 – IC between the departments**

*Figure 5. How does the internal communication (IC) work between the departments?*
In the survey conducted in both departments, we asked the employees what the internal communication challenges depended on. In IT-Development, 46% of the employees responded that from his/her team’s perspective, lack of time was the main problem, whereas 17% responded lack of interest, followed by 13% who responded that there is no effective tool to communicate and 13% who cited lack of leadership as the reason. In IT-Operation, 25% of the employees responded that lack of time was the reason for the internal communication challenges, along with lack of knowledge (25%), whereas 19% responded that there no effective tool to communicate.

4.3.1 Analysis of the historical split between the departments
Almost everything IT-Development does affects IT-Operation’s way of working. In that respect, there is a lack of a communication strategy which, according to Clampitt et al. (2000), could create a more accepting and positive environment in the organization with regard to changes and innovations. The impact of the historical split can be understood by means of Taylor and Robichaud’s (2004) theory on how organizational members—in this case, the managers and employees in both departments—reflexively and retrospectively monitor, rationalize, and breed the action of organizing. This means that the past, when both departments were one, affects the way managers and employees communicate today. As mentioned at the beginning of this study, the organizational structure may affect the internal communication challenges between the two departments. The organizational structure is that of a line-and-staff organization, which may be one reason for the internal communication challenges. An example of this is that IT-Operation has the feeling of working closer to the customer and believes that IT-Development does not feel the heat when there are problems. This shows that the staff function does not understand the practical problems the line function faces.

4.3.2 What strategy to follow?
“If you are a good communicator you also make sure that messages, like strategy, targets, and KPIs, are received and understood and basically you are moving an organization in a direction” – Manager, IT-Operation

Both departments follow the organization’s overall IT strategy and the majority of the managers in IT-Development think that is important to have goals and strategies synchronized with IT-Operation, simply because they deliver services together: the departments would not exist without one another. One of the managers thinks that an idea could be to have common
KPIs, which some counterpart teams in both departments already have and which work well. The head managers should at the same time deliver more common messages to the employees to reduce problems related to cooperation. The teams in IT-Development have different formal procedures that they want other teams or departments to use if they want to contact them: this can be seen as a formal means of contact. These have not been planned in a special manner: it is more the result of a growing need. Hence the need to have some kind of formal way of contact to handle large volumes of questions or inquiries. This is an isolated way to work, according to one manager. The solutions proposed by the managers in IT-Development were that there needs to be more interdepartmental dialogues, dialogues between teams to understand each other—perhaps a tool that enables real time and transparent communication with immediate feedback.

“Common view of service status and improvement actions. Needs to be balance between long-term development and short term fixes” – Manager, IT-Operation

Today the departments are seen and perceived as two different departments, which they are, but some of the respondents would prefer working as one. The head managers of the departments do not have the same supervisor and therefore do not have the same goals or strategy. A manager from IT-Operation pointed out the importance of having aligned goals, strategy and planning between the departments, but that both departments sometime forget about the overall picture.

“Everybody has their thing that they run and forget about the overall picture, which also leads to bad communication”– Manager, IT-Development

Both departments should ask themselves where in the processes they should interact with one another, whereas one manager thought that a full staff meeting could push the relationship between the departments one step forward. From the employees’ perspective, the surveys conducted in both departments showed that 42% of the employees in IT-Development and 38% of the employees in IT-Operation believes that a common communication strategy could decrease gaps between the departments. The head manager thinks that co-operation is important but that there should be some gaps between the departments. Further, the head manager thinks that there is too much interaction in processes where there should not be any, and that is one of the reasons for irritations between the departments. In addition, the head manager of IT-Operation said that there are currently no set forums other than the Orb (the
operational readiness board) to share information with IT-Development. Instead, information is shared randomly through, for example, meetings.

4.3.3 Analysis of what strategy to follow
The strategies and goals of the two departments should be aligned properly but are instead often scattered and unclear. The importance of alignment is shared by Hume and Leonard (2014) and Clampitt et al. (2000), who define internal communication as strategic when it is managed with the aim of aligning internal stakeholders with the organization's strategy. If the two IT departments were to have a common strategy, then the overall picture would probably be much clearer, and one goal is to create the right types of memory in order to breed emotional ties to the organization (Clampitt et al., 2000). This means that a well-aligned communication strategy can improve the organizational performance (Clampitt et al., 2000). This is also mentioned by Meng and Pan (2012). Daft and Lengel (1986) see interdepartmental relations as sources of ambiguity because departments develop their own jargons, goals and time horizons, which create obstacles in the internal communication between departments. This in turn may explain some of the perceived gaps that exist between the departments, since they do not share goals: each department follows its own time horizons and has its own goals. Empirical findings show that there is an ambiguity between the departments because of their differences. For example, IT-Development is long-term oriented whereas IT-Operation is short-term oriented. This relates to Daft and Lengel’s (1986) theory that each department has their own jargon, goals and time horizons.

Between the departments, the only memory managers and employees seem to have is regarding the historical split, and that memory is mostly remembered as a negative event. Clampitt et al. (2000) contend that creation of good memories can lead to increased employee engagement. Furthermore, Clampitt et al. (2000) describe the positive effect that job rotations and using cross-functional teams can have. In the studied organization, such strategic internal communication efforts are almost non-existent. The one team in IT-Development that seemed to have a strategy and cross-functional collaboration had a good internal communication with that team’s counterpart in IT-Operation.

4.3.4 Responsibility and the need for proactivity
The main problems regarding the challenges in internal communication between the departments seem to be related to different work tasks and lack of time where the responsibilities are vague. IT-Development clearly is the department that plans and builds,
while IT-Operation maintains and handles incidents of different kinds. One manager said that when IT-Operation wants help with legacy systems, they cannot help them since they were not the ones who built the legacy systems.

“We have to do their work” – Manager, IT-Development

One of the respondents in IT-Operation mentioned that contact with IT-Development is only requested when help or resources are needed. The internal communication challenges between the two departments seem to revolve around work related processes and misunderstandings.

“...put demands on the responsible people and units, share the information on what is happening and also ensure that we are using the tools that we have (which we are not currently)”

– Head manager, IT-Operation

54% of the employees in IT-Development know in part what the teams in IT-Operation are working with. A further 33% responded that they have a brief idea, whereas only 13% know exactly what the teams in IT-Operation do. In IT-Operation, 50% of the employees know in part what IT-Development work with and 25% have a brief idea of what they are working with. Figure 6 shows that a majority of the employees in IT-Development think it is important for them and their team to know what the teams in IT-Operation are doing. In IT-Operation, knowing what the teams in IT-Development are doing is important, but how important is different for each respondent and his/her team. 50% claim that it is very important and 44% that it is important.

![Figure 6 – Knowledge of the other department](image_url)

*Figure 6. Is it important for you and your team to know what the teams in the other department are working on?*

Even though most respondents think it is important to know what the other IT department is doing, we did not perceive that during our data collection. Not informing, or
neglecting the impact of cultural difference between the IT departments, can create a barrier: if cultural differences are not taken into account, they can form a substantial barrier to effective internal communication (Ryynänen et al., 2013). Responsibility was another recurring theme during our interviews with the managers. Responsibility was mentioned along with what work responsibility each manager and employee in the two departments has. There are questions about where the responsibility actually ends and some managers in IT-Development feel that there is not enough engagement in the employees at IT-Operation and that there is a need for more responsibility taking. There is no clear view as to when responsibility is handed over.

One manager mentions that sending e-mails to seven to ten persons and hoping that someone takes responsibility regarding a handover is a way to try to avoid responsibility. E-mail is a way to deny things and to not take responsibility, according to some managers in IT-Development. One of the managers even mentions that there is a lack of confidence, since they do not feel that their counterpart in IT-Operation does anything when there is a problem. On the other hand, one of the respondents in IT-Operation said that there are misunderstandings between the departments—for example, if IT-Operation want to enter into a process earlier. When IT-Development lets them in, it is already too late, since the teams in IT-Operation are work overloaded.

“There is a lack of prioritizing. Meantime, if you ask a manager, he/she will say there is a lack of resources. If you are interested and in need of information, it is easy to get a response directly by approaching the person in question, especially if this person sits one floor above or below you” – Employee, IT-Operation

One manager talked about when new systems are taken into production, saying that there seems to be a great distance between the departments in the implementation process itself, which affects IT-Operation. Another manager claims that they have tried to get IT-Operation involved earlier in the decision making process regarding changes and implementation of systems. IT-Development thinks this is important since they currently have the impression that they only get feedback from IT-Operation when there are incidents in the systems and not when a change has taken place. One manager claims that they have tools for feedback, but still the feedback usually comes another way. Another problem mentioned was the lack of managers in certain areas in IT-Operation, which makes it more difficult when there are work related problems that need to be resolved. One solution mentioned in the interviews is that there is a need to have clearer routines in work tasks, where it often gets
heated between the departments. The routines need to be scrutinized by those parts of the departments where there are many issues, and the teams in each department need to get more employees involved in cross-departmental activities in order to increase engagement and communication between the departments. Proactivity is something that the managers in IT-Development think needs to be considered more: since IT-Operation works a lot with short-term goals and is more focused on reactive work, they may not see the long-term work that IT-Development performs. Proactivity needs more stamina, and one related issue is, for example, that too much reactivity results in new IT environments and systems not being tested properly in IT-Operation. To solve such challenges, a manager needs to be a good communicator, and it is important for executives to have a communication strategy in order to create a more accepting and positive environment in the organization in respect of changes and innovations.

4.3.5 Analysis of responsibility and the need for proactivity

The organizational structure of the departments seem to affect the internal communication in a negative manner. Problems seem to occur when IT-Operation needs specialist help to handle certain problems related to IT, which stirs up the responsibilities between the departments. These challenges are common in a line-and-staff function, as is the case here. This clearly creates misunderstandings and ambiguity between the departments and hence affects the internal communication, which should be seen as an organizational design problem. In this case, Daft and Lengel (1986) suggest clarification as one solution to overcome ambiguity; but our study clearly shows that meetings are held all the time to clarify things. More enactment—which is Daft and Lengel’s (1986) other solution to overcome ambiguity—may help, though both departments follow a RACI-matrix to assign responsibility between the departments. This tallies with the findings of Lipiäinen et al. (2013), who found that group e-mails have a negative impact because of ambiguity over who has the responsibility to take action. One aim of change could be achieved through job rotations and using cross-functional teams (Clampitt et al., 2000). Since the IT departments often communicate through mail, a better solution could be to meet face-to-face and discuss who versus what, when versus how and why versus what, which are key ways to think in more strategic terms regarding internal communication (Clampitt et al., 2000). Though more meetings is clearly not the solution in this case, thinking in those terms would open up more strategic thinking when it comes to internal communication.
4.3.6 Operational readiness board

When we asked the respondents in IT-Operation about internal communication, it was defined as a process and structure where meetings and handovers take place in something called the operational readiness board (the Orb). The Orb is a formal routine to handover something from IT-Development to IT-Operation. Internal communication is often perceived as formal communication—for example, in production (which IT-Operation works with), where the managers are responsible for ensuring that the receiver of the information understands the message. Even though the Orb exists, one of the respondents in IT-Operation thinks that there is a lack of formal ways for IT-Operation and IT-Development to contact each other. The contact between the departments is not formalized enough. The same respondent said:

“Where is the checklist and the instructions? If we need to expand, who has the responsibility for this?” – Employee, IT-Operation

Though the managers in IT-Development think the Orb is a good and important tool, there are some problems related to clarity of procedures and lack of feedback. This is not presently the case between the departments since there is a lack of knowledge and use of the Orb, which leads to misunderstandings, which in turn lead to perceived internal communication challenges. According to one manager in IT-Development, the Orb is the most formal routine between the departments. One of the problems with the Orb is that it is used for discussing things that do not work regarding implementation processes of new systems instead of using this process as a forum for making decisions and handovers. Some managers in IT-Development are frustrated over the Orb, mostly because of the unclearness over when and how to use it properly. One manager understood the fact that new IT environments, systems or platforms should go through the Orb, but what about system updates?

“From now on I will Orb everything in order to prevent conflicts” – Manager, IT-Development

Figure 7 shows that a majority in both IT-Development and IT-Operation responded that they did not have any opinion on collaboration within the Orb. 21% and 13% of the employees in IT-Development responded that the collaboration is “good” or “sufficient” respectively. 17% responded that the collaboration is “not so good”. In IT-Operation, a
majority responded that they have no opinion, 19% thought it “not so good”, and 13% “bad”. Meanwhile, 6% responded that it was “very good” and 6% “sufficient”.

**Figure 7 – Collaboration within the Orb**

It is difficult to know when to use the Orb and sometimes managers and employees even try to avoid it since the Orb feels more like a control organ than something helpful. This is due to the fact that even the most skilled technicians have problems understanding the documentation in the Orb, and those responsible for the Orb are administrators and the head managers, who do not have the necessary detailed knowledge regarding the technical content that need to be orbed. Some of the managers in IT-Development think that the Orb should offer templates that are aligned with their team: that would make the Orb more useful. Other concerns regarding the Orb are related to the process itself. For example, one manager said that once something is orbed and IT-Operation has taken over, it is goodbye and nothing more. Regarding the same problem, another manager said that there is no follow-up after something is orbed, which usually means that the follow-up will occur when IT-Operation has an incident. The same manager suggested that the Orb could contain different stages so they can be sure that IT-Operation has taken it over correctly and knows how to use whatever has been orbed.

**Figure 8 – Knowledge about the Orb**

*Figure 7. How does the collaboration in the Orb work between the departments?*

*Figure 8. Do you know when to use the Orb?*
Figure 8 shows that 38% of the employees in IT-Development have some idea of when to use the Orb, whereas 25% know exactly when to use it. 13% were doubtful and were not so sure when to use the Orb, and 8% were confused over when to use it. 4% were negative and did not have any idea on when to use the Orb, and 13% responded that they do not use the Orb at all. In IT-Operation, 38% responded that they have no idea on when to use the Orb, 6% are confused on when to use it and 13% are not so sure. 19% responded that they partly know when to use the Orb and 13% exactly when to use it. Even though there are many respondents in IT-Operation that are not sure when to use the Orb, all managers from the management team in IT-Operation do know when to use it. This is an interesting difference between managers and employees in IT-Operation, since they are completely contrary. One question this raises is why employees are lacking competence in using the Orb? Is it a question about not communicating enough from a managerial perspective?

4.3.7 Analysis of the Orb

The Orb could be seen as a forum to reduce uncertainties and ambiguity between the departments (Daft & Lengel, 1986). It could be the optimal channel for receiving feedback and building trusted relationships between the departments (Lipiäinen et al., 2014). This would lead to more feedback earlier, and confirm Daft and Lengel’s (1986) theory of media richness in terms of immediate feedback in an attempt to perhaps reduce ambiguity. In the studied organization, ways to reduce uncertainty or gain direct feedback are not presented: this is because a majority of employees in IT-Operation do not know when to use the Orb. In contrast, employees in IT-Development know when to use the Orb. These irregularities can create ambiguity and uncertainties. Even though the Orb contains all seven parts of the continuum structural mechanism to reduce ambiguity and uncertainties that Daft and Lengel (1986) write about, this function does not seem to work. The reason for this is lack of knowledge on how to use the Orb, and often the Orb is not used. To overcome this, more structural strategies and routines about using the Orb need to be communicated and followed up by the head managers in each department.
5 Concluding remarks

This chapter concludes the analyses of the empirical findings with the purpose of answering the research questions for this study. The chapter will then present the practical implications for the organization, followed by criticism and limitations of this study. Finally, suggestions for future research will be presented.

The overall purpose of this study was empirically oriented with the aim of investigating from both a managerial and employee perspective underlying internal communication challenges within and between IT departments in an organization that is going through organizational changes. This was in order to find ways to improve the internal communication within and between IT-Development and IT-Operation. At the beginning of this study, we presented Quirke’s (2008) take on internal communication challenges and the importance of communication for organizational performance in a world where organizations and societies are undergoing dramatic changes. This study has shined a light on this by finding internal communication challenges both on a strategic and a daily basis within and between two IT departments in a Swedish telecom company. Since IT-Development reflects a staff function whereas IT-Operation reflects a line function, our study has highlighted how this kind of organizational structure can affect internal communication between IT departments. The main research question for this study was: What are the internal communication challenges within and between the departments in this study?

The findings in this study suggest that there are several internal communication challenges within and between the departments studied (IT-Development and IT-Operation). Different definitions of what internal communication is and what function it has in the organization is a challenge in itself, since there is no clear idea on how to use it except perhaps as a communication department. This study shows that various media channels put strain on the internal communication within and between the departments, mostly because of a lack of strategic awareness over which channel to use for certain types of communication. The various media channels mix formal and informal internal communication, which spreads information around in various forums, creating uncertainties and ambiguity within and between the departments. The formal contact channels each team has may be needed, but currently these channels cause confusion, since each team has a different form of contact channels. One team may have an e-mail inbox, whereas the other may have a contact formulary: this creates an internal communication challenge. Heavy workloads for managers
and employees may be a result of messy internal communication. These challenges are some of the reasons that the managers in IT-Development feel the need for a common communication platform. In IT-Development, we found that the challenges in internal communication were a result of a perceived feeling of unsynchronization between the teams. Lack of transparency between the teams in IT-Development was another factor underlying the internal communication challenges. The unsynchronization and the lack of transparency are the result of too many meetings, unregulated documentation and no interest in using the intranet as a way to communicate information. The lack of an overview of processes is another issue which creates misunderstandings, thus affecting the internal communication between the teams in IT-Development. Each team has many different meetings with different stakeholders and does not have time to communicate sufficiently with each other. The need for a common communication platform in order to align strategy, work processes and resources with the internal communication derives from this.

The first sub-question was: *In what way does the organizational structure affect the internal communication between the departments studied?*

The internal communication challenges previously presented are the product of the organizational structure. The organizational structure seems to impact the internal communication challenges between IT-Development and IT-Operation. Staff function versus line function problems were identified between the departments, which cause challenges within the field of internal communication. A reorganization in 2011 that split the departments seems to have affected the internal communication, because existing conflicts regarding resources and responsibilities can be tracked back to when the split occurred. Not sharing enough of each department’s strategy, KPIs and goals seems to cause misunderstandings between the departments, which in turn creates internal communication challenges. This shows the importance of interrelated departments sharing common goals, KPIs and strategy to avoid internal communication problems. Furthermore, we found that responsibility issues between the departments is a concern, since lack of clarity leads to misunderstandings and conflict. The lack of proactivity relates to the fact that IT-Operation has more short-term oriented goals, whereas IT-Development are more long-term oriented. This hinders effective ways of implementing new systems, for example, since IT-Operation cannot test them properly. One of the findings was a formal communication instrument—the Orb—used between the departments as a way for IT-Development to hand over new systems to IT-Operation. Most of the managers have positive feelings regarding the concept of the
Orb; however, there were a lot of frustrations regarding its usage. The frustrations derive from lack of knowledge, complicated documentation and lack of clarity on when to use the Orb. This leads to both managers and employees sometimes bypassing it. These issues lead to misunderstandings, which in turn affect the internal communication between the departments.

The second sub-question was: *How can the departments studied improve their internal communication within and between the departments?*

While the previous questions highlight internal communication challenges between departments, one must ask whether or not taking on each internal communication challenge would improve the organizational performance. Where internal communication challenges are concerned, within the teams in IT-Development the use of the jigsaw seems to be a good communication tool to create awareness about the department’s goals, what the teams are doing and why they are dependent on each other. Since there is no real overall picture, the jigsaw symbolism partly helps to fill this gap. However, despite the positive aspects of the jigsaw, there is a need to work more with it, since our survey showed that some employees did not even know what the jigsaw was. The internal communication challenges could be improved by dealing with the unsynchronization problems between the teams in IT-Development by means of clearer directions and a common understanding of each team’s KPIs. The unsynchronization results in difficulty in finding common spaces to actually interact and communicate with each other. Solutions proposed were to have the weekly team meetings at the same time, and faster decision making by being more project oriented. This study shows that unstructured documentation affects the internal communication in terms of misunderstandings between managers and employees, and vagueness over work routines. More consideration over how to structure the documentation can have a positive effect on the internal communication between the teams and the departments. These solutions could be achieved by having an interactive communication tool that enables fast communication and immediate feedback, a tool that lets managers and employees share information horizontally. However, a new communication tool—hence, a new media channel—must be carefully considered and planned, since there is currently no real strategy on when to use which channel for what type of information. Overall, more strategic thinking regarding media channels would improve the internal communication and should be aligned with both departments’ strategies. Having formal contact channels is good, but consistency is needed: hence the importance of either having similar contact channels or communicating them to different stakeholders to a much larger extent. In addition, this may solve some problems regarding the
number of meetings both departments have. Departments in IT-Development must be aware of how the IT they are developing affects the users—in this case, employees in IT-Operation—and they should therefore have a communication strategy to create a more accepting environment regarding changes and innovations. The lack of clear routines, strategy or a platform on which to update and inform each other effectively is a reason for the number of meetings, which further shows the need for the departments to align strategy with communication. The findings in this study suggest that head managers in interrelated departments must deliver more common messages to managers and employees to reduce problems related to cooperation: this would have a positive effect on the internal communication. By communicating uniform information about the Orb, the internal communication would be improved, since managers and employees would have better understanding and awareness of when and how to use the channel. However, in order for this to work, the management team in both departments needs to be engaged and to use common strategies and routines.

5.1 Practical implications for organizations

Internal communication is about employees getting their job done. Managers need to focus on maintaining the internal communication system and not simply see it as a working process with a start and end date. Maintenance of communication initiatives will help to get things done. Findings in this study indicate that internal communication challenges originate from misunderstandings related to work tasks within and between departments. Within and between interrelated departments, it is therefore recommended that they look into responsibilities, routines and work tasks when it comes to cooperation. When these are vague, it affects the internal communication in a negative manner. This study shows that departments in changing organizations need communication strategies to create a more accepting and positive environment in respect of changes and innovations. Between interrelated departments, common strategies to align internal communication could to some extent be a way to achieve effective internal communication. The goal should be to create clarity within and between departments while they work towards the same goals. Heavy workload affects teams in departments and prevents each team from seeing the overall picture and from having consciousness of colleagues’ working tasks: again, more defined work routines and an overall picture of processes should make the internal communication less messy. Managers should take this into consideration, along with how effective internal communication in teams or departments can lead to better performance regarding work tasks and reaching goals. Creation
of organizational memories in order to motivate employees—in these cases, maintenance of the organizational memory—is important. Media channels should be examined and a strategy introduced in terms of what channel to use when and for what purpose. Managers should take into consideration the medium through which employees actually prefer to communicate. Converging communication and increasing interaction between managers and employees by using social networks can prevent overflow of e-mails and instant messaging messages. It can also promote immediate feedback, which is important.

5.2 Future work
This study was conducted in two IT departments that work with IT infrastructure. Further studies are recommended in other IT departments to look at what internal communication challenges there are in other types of organization. The departments in this study have a line-and-staff organization: other organizational structures would be interesting to study further. This could also be done in other industries and other types of department. This study was conducted in a large organization with employees and offices all around the world. Perhaps internal communication challenges would be different in smaller organizations. Future work could focus on internal communication challenges within work processes to get more detailed understanding of underlying internal communication challenges, or even look into internal communication challenges in communications departments.
References


### Appendix 1. Respondent information

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Appendix 2. Questions for in-depth interview round one (IT-Development)

1. Background info
   Name:
   Education:
   Working at:
2. How do you define internal communication?
3. How does the internal communication work between the teams in IT-Development?
4. How does the internal communication work between IT-Development and IT-Operation?
5. How does the internal communication work within your team?
6. What is communicated through the internal communication?
7. When is internal communication used?
8. Which channels do you use for communicating internally?
Appendix 3. Questions for in-depth interview round two (IT-Development)

Strategy

1. Would a common communication platform make a difference, and that case, how?
2. How does the before and after work look like regarding your meetings?
3. During the first interview all the respondents answered that there is a un-synchronization between the team (the managers), there is no time to check on each other, how could you improve this?
4. Puzzle
   - How do you work with it?
   - What do you think about it?
   - How updated are you in the puzzle?
   - How is the engagement around the puzzle?
   - Why is it of importance?
5. The term transparency is something everybody mentions in the interviews, what do you mean with that word? (think if they have transparency in a now mode or a wished mode)

Feedback

6. How much do you check on stuff with your sister teams?
7. You have 3 evaluation meeting with your staff per year
   - What do you do with the information you get?
   - Are there any strategy on what should be discussed?
8. When, How, Why? Does the managers cooperate regarding this?

Meetings

9. Of all the meeting that you are booked on, do you feel that you get something? How many percent between 0-100 do you feel that the meetings gives you something are they useful or not?
10. Why do you have so many meetings? (informal and formal?)
11. Of the meetings that you have with your employees, what meeting do you think gives you the control on what is going on? And that your employees are motivated?
Communication

12. Newsletter, good or bad?
13. How do you work with the intranet, are there any strategy on how you work with it?
   (like how do you make information visible)
14. If there is something that you need to do that involves another team, what direction do you take?
15. We are noticing the term “documentation” by several managers and employees:
   What should the documentation contain?
   Are there any guide rules?
   Where can the employees take part of the documentation?
   Why should you document?
16. Do your team have a communication plan on how you want to communicate with the other teams and Ops?
Appendix 4. Questions for interview questions round three (IT-Development)

Strategy

1. There is a lot happening on both the IT-Development and IT-Operation, how do you know that the planning that you are working with support the business goals and strategy that are available in both departments?
2. The high workload can make that new things or changes can be received with negativity among employees and managers. When a change/implementation is done how it is sold into Ops, do you sell the benefits?
3. What procedures are there in the current cooperation between your team and IT-Operation?
4. Is it important that you are aware of each other’s goals and strategies? Why?
5. When we speak to IT-Operations they describe that they are working closely with customers. Do your team know the customers’ needs?
6. How could you reduce the gap between IT-Development and IT-Operation?
7. What is desirable communication improvements between IT-Development and IT-Operation on your part?

ECS-score

8. We have identified according to ECS score that cooperation between IT-Development and IT-Operation was worsened by recent re-organization. What can you do about this? How can you increase the cooperation?
9. Last year you managers had a workshop with IT-Operation which revealed that cooperation was deficient in certain work processes. This was followed up by a workshop increase better cooperation. What did you do and did it gave any results, and have you maintained it continuously?

The Orb

10. Why should you use the Orb?
11. How do you think the Orb works today?
12. Do you know when to use Orb? (Strategy around the size of the work)
13. Does the current structure of the documentation in the Orb fit your team’s activities?
Feedback

14. How is the feedback from IT-Operation when It Infra do handovers? Do you expect ant confirmation?

15. How do you think the responsibility reception is at the handovers / collaborations that take place between your team and IT-Operation?
   a. Do you have any desirable suggestions that you think would improve cooperation?

16. What communication possibilities are there with IT-Operation?

17. Are there competence gaps between the departments?

18. What action points are needed with IT-Operation assuming the cooperation that your department has with them?

19. Would enhanced cooperation between IT-Development and IT-Operation if you were sitting together?
Appendix 5. Interview questions for managers and employees at IT-Operation

1. Who are you and what do you work with?
2. Do you think there is a difference between internal communication and communication?
3. What is your definition of internal communication?
4. How often are you in contact with IT-Development?
5. When you communicate with IT-Development, does your communication go through managers or employees?
6. Through what channel do you communicate for the most part?
7. What do you think of the co-operation between IT-Operation and IT-Development?
   - Tell us more
   - Why
   - Which are the major problems from your perspective?
8. As you maybe know IT-Development uses something called Roadmap. Do you know if IT-Operation are involved somehow in this?
Appendix 6. Survey for the management team at IT-Operation

COMMUNICATION
1. How do you define internal communication?
2. How does the internal communication work between IT-Operation and IT-Development?

STRATEGY
3. How is the planning, strategy and goals aligned between IT-Operation and IT-Development? Please explain
4. What routines are there regarding cooperation between Your own team and IT-Development? Please explain
5. What gaps are there between IT-Operation and IT-Development, and how can you decrease them with help of communication?

ECS
6. In the last ECS employees felt that the working tools IT-technology, information and documentation were inefficient. What can you as a manager do about this?

THE ORB
7. Do Your own team know when to use the Orb?
8. How does the cooperation in the Orb work between Your own team and IT-Development? Please explain and give some suggestions how to improve the Orb?

FEEDBACK
9. What are the possibilities for communication between IT-Operation and IT-Development?
10. What checkpoints are needed that today does not exist between IT-Operation and IT-Development
Appendix 7. Survey questioner on internal communication, IT-Development

1. What team do you belong to?
2. How do you define Internal Communication?
3. How does the internal communication work between IT-Operation and IT-Development?
   - Very good
   - Good
   - Sufficient
   - Not so good
   - Bad
   - No opinion
4. Do you have an understanding for the overall purpose of IT-Development’s strategy and goals this year?
   - Very good
   - Good
   - Sufficient
   - Not so good
   - Bad
   - No opinion
5. Do you want more or less information regarding IT-Development’s strategy and goals communicated to you?
   - More
   - I am satisfied with the information regarding strategy and goals
   - Less
   - No opinion
6. **What channel do you prefer to use for internal communication? (Please choose 3 alternatives)**
   - Face-to-face
   - Lync
   - Mail
   - Meetings
   - Intranet
   - Workrooms
   - Telephone
   - Other

7. **Do you know what the other teams within IT-Development are working with?**
   - I know exactly what they work with
   - I know partly what they work with
   - I have a brief idea of what they are working with
   - I have no clue
   - No opinion

8. **What is the purpose of the Puzzle?**
   - To have a more visualized perspective of IT-Development
   - To increase the collaboration between the teams
   - To communicate more
   - To get an easier understanding of what we are working with
   - The Puzzle has no impact on me
   - I do not know anything about the Puzzle
   - Other

9. **How easy is it to find information you are looking for on the intranet?**
   - Very easy
   - Easy
   - Sufficient
   - Not so easy
   - Not so easy at all
   - Other
10. What type of information do you look/search for on the intranet? (More alternatives than one)
   - Documentation related to work tasks
   - News on a Corporate level
   - News on a local level (within IT-Development and IT-Operation)
   - Information regarding strategies and goals for IT-Development
   - Workrooms
   - Other

11. Is there a need of an intranet page for IT-Development? (If yes or no please explain)

12. We have identified that there is a lack of communication and understanding between the departments IT-Development and IT-Operation. In your opinion and from your team’s perspective what is the main problem?
   - Lack of knowledge
   - Lack of time
   - Lack of interest
   - Lack of an effective tool to communicate
   - Lack of leadership
   - Other

13. We have identified that there is a lack of communication and understanding between the departments IT-Development and IT-Operation. Why is the communication with IT-Operation often misunderstood?
   - Lack of knowledge
   - Lack of time
   - Lack of interest
   - Lack of an effective tool to communicate
   - Lack of leadership
   - Other

14. How can you approach the issue from the question above?
15. What routines are there regarding handovers between Your own team and IT-Operation?
   - I know who to contact and how to proceed
   - I know who to contact but often handovers are not fully received from IT-Operation
   - I do not know who to contact
   - There are no routines regarding handovers
   - Other

16. How do you think gaps can be decreased between Your team and IT-Operation with help of communication?
   - Through a common communication strategy?
   - Through more meetings?
   - Through more collaboration in common project?
   - Through teambuilding activities
   - Other

17. Do you know what the teams in IT-Operation are working with?
   - I know exactly what they work with
   - I know partly what they work with
   - I have a brief idea of what they are working with
   - I have no clue
   - Other

18. Is it important for you and your team to know what the teams in IT-Operation work with?
   - Very important
   - Important
   - Less important
   - Not at all
   - No opinion
19. In the last ECS a majority of employees felt that information and documentation were inefficient. How can this be solved?
   - Through Color-coding documents
   - Be more specific where to find documents
   - Have a common platform for documentation
   - Through Workshops
   - Other

20. Do you know when to use the Orb (Operational readiness board)?
   - I know exactly when to use the Orb
   - I know partly when to use the Orb
   - I am not so sure when to use the Orb
   - I am confused over when to use the Orb
   - I have no idea on when to use the Orb
   - I do not use the Orb

21. How does the collaboration in the Orb work between Your own team and IT-Operation?
   - Very good
   - Good
   - Sufficient
   - Not so good
   - Bad
   - No opinion

22. Give some suggestions how to improve the Orb?

23. What checkpoints are needed that today does not exist between IT-Operation and IT-Development?
Appendix 8. Survey questioner on Internal Communication for IT-Operation

1. **What is the name of your team:**
2. **How do you define internal communication?**
3. **How does the internal communication work between IT-Operation and IT-Development?**
   - Very good
   - Good
   - Sufficient
   - Not so good
   - Bad
   - No opinion
4. **What channel do you prefer to use for communication? (Please choose three)**
   - Face-to-face
   - Mail
   - Lync
   - Meetings
   - Intranet
   - Other
5. **We have identified that there is a lack of communication and understanding between the departments IT-Development and IT-Operation. In your opinion and from your team’s perspective why is the communication with IT-Development often misunderstood?**
   - Lack of knowledge
   - Lack of time
   - Lack of interest
   - Lack of an effective tool to communicate
   - Lack of leadership
   - Other
6. We have identified that there is a lack of communication and understanding between the departments IT-Development and IT-Operation. In your opinion and from your team’s perspective what is the main problem?
   - Lack of knowledge
   - Lack of time
   - Lack of interest
   - Lack of an effective tool to communicate
   - Lack of leadership
   - Other

7. How can you approach this issue from the question above?

8. What routines are there regarding handovers between Your own team and IT-Development?
   - I know who to contact and how to proceed
   - I know who to contact but often handovers are not fully received from IT-Operation
   - I do not know who to contact
   - Other

9. How do you think gaps can be decreased between Your team and IT-Development with help of communication?
   - Through a common communication strategy?
   - Through more meetings?
   - Through more collaborations in common projects?
   - Through less meetings?
   - Through less collaborations in common projects?
   - Other

10. Do you know what the teams in IT-Development are working with?
    - I know exactly what they work with
    - I know partly what they work with
    - I have a brief idea of what they are working with
    - I have no clue
    - Other
11. Is it important for you and your team to know what the teams in IT-Development work with?
   - Very important
   - Important
   - Less important
   - Not important at all

12. Do you know when to use the Orb?
   - I know exactly when to use the Orb
   - I know partly when to use the Orb
   - I am not so sure when to use the Orb
   - I am confused over when to use the Orb
   - I have no idea on when to use the Orb
   - Other

13. How does the collaboration in the Orb work between Your own team and IT-Operation?
   - Very good
   - Good
   - Sufficient
   - Not so good
   - Bad
   - No opinion

14. Give some suggestions how to improve the Orb?

15. What checkpoints are needed that today does not exist between IT-Operation and IT-Development?

16. In the last ECS a majority of employees felt that the working tools, information and documentation were inefficient. How can this be solved?
   - Through Color-coding documents
   - Be more specific where to find documents
   - Have a common platform for documentation
   - Through Workshops
   - Other