OPTIMISING FACILITY MANAGEMENT (FM)

COMMUNICATION IN SWISS HOSPITALS:

THE DEVELOPMENT OF A

FM COMMUNICATION FRAMEWORK

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ABSTRACT

The thesis combines and contributes literature on healthcare, facility management (FM) comprising the non-medical processes in hospitals, organisational theory and organisational communication in light of FM communication in hospitals. It addresses the research gap of non-existing evidence-based research focusing on FM communication in Swiss hospitals for the benefit of FM executives. This is a gap because well-defined organisational communication is a prerequisite for any organisation to function.

Nested within business and management research, a mixed-method case study research design was applied, following a primarily inductive approach led by pragmatism. A series of interviews with, and a survey addressed to, FM executives with an analysis of FM meeting minutes established characteristics and challenges of formal and informal communication activities within the context of hospitals' FM departments.

Results show that traditional channels such as e-mail, phone and scheduled meetings dominate. Digitalisation is still in its early stages. Meetings and e-mail communication consume substantial resources while there is a risk that these are not used effectively and efficiently. The majority of hospitals' FM departments do not have specific and consciously aligned communication guidelines available. Meeting minutes revealed that the "FM diversity", by providing a variety of support processes managed by staff with different professional backgrounds and expert knowledge, is not thoroughly used as an asset to collaboratively achieve tasks together.

The research implication is a framework optimising communication procedures in Swiss hospitals' FM departments. The framework supports FM executives to check and if necessary, adjust communication procedures within their respective areas of responsibility. The framework consists of 10 key elements supporting effective and efficient FM communication. They are put together in a stand-alone 7-page readily understood document. It includes 27 self-check questions raising FM executives' awareness regarding these elements as a basis to optimise communication activities in their areas of responsibility. The thesis contributes to optimising FM communication in Swiss hospitals and to knowledge by taking into account the communication requirements within this particular context.

Research limitations include that the implications are subject of the particular context of Swiss hospitals' FM departments. Further does the framework not provide a specific recipe to ensure effective and efficient FM communication. It raises awareness for FM executives to develop communication procedures tailored to their respective areas of responsibility. Nevertheless, the framework does provide a first step as a basis for future research opportunities considering more detailed the "recipe" aspect desired by FM executives.

DECLARATION

No portion of the work referred to in the thesis has been submitted in support of an application for another degree or qualification of this or any other university or other institute of learning.

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1 INTRODUCTION

This introduction explains what the thesis is about. It provides a condensed research background to place the research problem. Based on the research problem, the research question and corresponding research aim and objectives are identified. That information leads to the thesis's contribution to knowledge and evidence of originality. Finally, the chapter facilitates a useful reader guidance by stating the thesis structure.

1.1 Research Background

Healthcare systems, and within that hospitals, around the world are struggling with their finances (OECD, 2017a; OECD, 2018). Switzerland scores clearly above the OECD average of expenditure on health as a percentage of GDP, with a high 12.3% in 2017 (OECD, 2018), see Figure 6 on page 29. Analysing the Swiss development of health expenditure as a share of GDP from 1990 to 2017, the rising tendency cannot be denied, as seen in Figure 1.
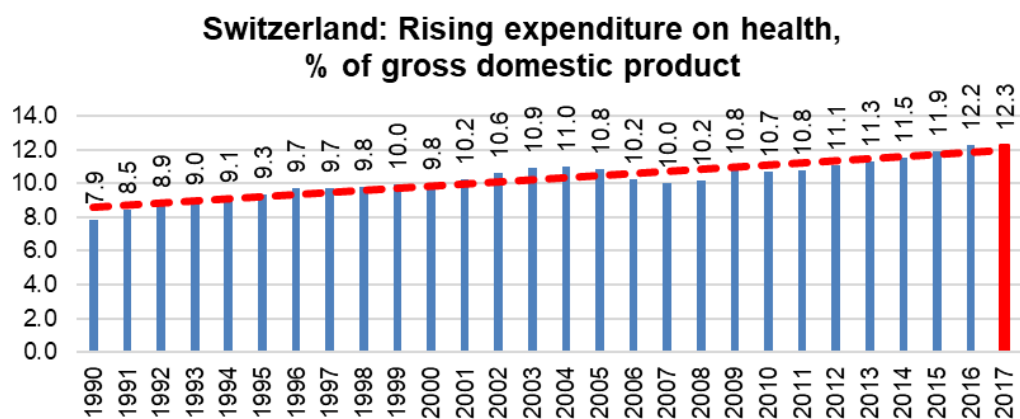
Figure 1: Health spending as % of GDP in Switzerland since 1990,source: self-study according to OECD (2018)

Today's spending on the Swiss health care system is about CHF 80 bn (BFS, 2018b). Hospitals account for about CHF 30 bn of the healthcare costs (BFS, 2018c). An upward trend in the future cannot be ruled out, as already indicated by the OECD reports (OECD, 2011b) (OECD, 2013; OECD, 2017a). A detailed analysis of the Swiss hospital structure is provided in section 2.1.6.

To face this tightening financial environment, Swiss hospitals need to improve their process effectiveness and efficiency. This drive for improvement not only affects hospitals' core functions of medicine and care, but also their non-medical support processes. These can be put under the umbrella of facility management (FM) (Gerber and Klauser, 2015). FM is defined as the "integration of processes within an organisation to maintain and develop the agreed services which support and improve the effectiveness of its primary activities" (CEN, 2006a ,p.5). The role and relevance of FM is critical as 25-40% of hospitals' total costs are incurred by the various support processes (Abel and Lennerts, 2006; Jensen, 2008). These sources are relatively old but, based on the extensive literature review accompanying this thesis, scientific

literature does not provide more recent ones focusing on the question how much the FM costs account for hospitals' total costs. To overcome this gap, annual reports 2018 of the five Swiss university hospitals were analysed to confirm this cost proportion (CHUV, 2019; Hôpitaux Universitaires Genève, 2019; Insel Gruppe, 2019; Universitätsspital Basel, 2019; USZ, 2019). However, as the mandatory structure of these reports do not allow to extract FM portion from substantial cost factors such as staff expenses this gap could not be closed within the scope of this thesis. This lack of recent data is also confirmed by recent publications are still referring to the work of Abel and Lennerts (2006), when stating data about FM cost allocation in hospitals, such as Leiblein, Tucker and Hofer (2019). Still, considering the increasing healthcare and hence hospital cost, it can be assumed that the value of the data from Abel and Lennerts (2006), stating FM's impact on hospitals total expenditures has not yet decreased.

In order to provide aligned FM processes for the benefit of the core business, the FM department of any hospital needs to function efficiently and an important aspect enabling that is organisational communication, as it is for any organisation (Rüegg-Stürm, 2005). The importance of organisational communication as a prerequisite for any organisation to function efficiently is stated by Papa, Daniels and Spiker (2008) who are mentioning that it is not just a tool for managerial control but that **all of the human processes defining an organisation arise from communication**, pointing out that "the linkages and connections among subsystems depend on communication and information flow" (p. 109). This is also confirmed by Mosley and Pietri (2015) pointing out that to be effective, organisations must utilize two critical linkages to sustain positive intra-organisational relationships: open and clear communication.

From this condensed research background it can be derived that organisational communication taking place within FM departments' of Swiss hospitals play a crucial role for the FM to positively influence hospitals' cost in times of a tightening financial environment. More detailed and thorough analysis of the research background is outlines in chapter 2 Background.

1.2 Research Problem

There is a wealth of literature on organisational communication stating its impact on an organisation's success, suggesting how to facilitate effective management communication. However, literature addresses these issues mostly in a general way and not particularly fitted to the needs of FM in hospitals, let alone to the specifications of FM in Swiss hospitals. But actors in every hospital's FM department communicate internally and externally through different channels. As there is no particular framework guiding these activities, there is a possible lack of effectiveness and efficiency to be tackled by evidence-based research. The lack of recent citations from academic knowledge underpins this research problem.

One of the very few studies explicitly discussing the role of communication in hospitals FM, although in the specific context of an Australian hospital and with a different understanding of what makes FM, is from Heng and Loosemore (2013). These authors explored the information gaps that exist in FM organisations in hospitals and the brokerage potential of facilities managers in facilitating integration of FM information within hospitals' FM communication network structure. To do so, they used social network analysis techniques to provide a detailed understanding of communication patterns between actors and departments in the FM communication network. In conclusion, Heng and Loosemore (2013) reinforce that FM in hospitals is a highly complex activity dependent on connecting numerous multidisciplinary pools of disconnected information. These authors further stress that insights into the communication structure enable important implications for the practice of FM in better supporting hospitals' core business. They further state that a crucial prerequisite to enable aligned communication activities is a detailed understanding of the patterns of communication between actors and departments, which Heng and Loosemore (2013) call "FM communication network". An understanding, which directly refers to further down stated research objective B of this thesis, following the research question: How does communication in hospitals FM departments look? Different to the referred study of Heng and Loosemore (2013), this question focuses on communication activities within the borders of an FM definition in the setting of Swiss hospitals (detailed explanation in chapter 3.6 Inquiry Strategy), with a much more applied focus rooted in business and management research, see section 3.1 to address the research problem.

Above not only describes the research problem but also introduces the **research gap**. Pointedly formulated the research gap this thesis addresses reads as: There exists no equivalent evidence-based research focusing on FM communication in Swiss hospitals.

1.3   Research Question

Based on the apparent research problem, the following research question was proposed:

What are the optimum communication procedures in terms of roles, channels and content in order to facilitate effective and efficient support services in Swiss hospitals?

1.4   Research Aim & Objectives

To answer this research question, the following aim is devised:

To develop a framework optimising communication procedures in Swiss hospitals' FM departments. The framework shall support FM executives to check and if necessary, adjust communication procedures within their respective areas of responsibility.

The framework incorporates evidence-based information on the appropriate use of different communication channels and points out challenges to handle in order to facilitate effective and efficient communication within the FM department. The framework is applicable to FM departments in Swiss hospitals.

The following objectives were set to operationally investigate the above aim:

A   Establish existing knowledge to inform subsequent research objectives, particularly the applied data collection instruments needed to achieve objective B. This is achieved by the application of a thorough literature review, comprehensively presented in the background chapter 2.

B   Establish existing communication activities in Swiss hospitals' FM departments. To state current communication procedures in terms of channels used, responsibilities and corresponding challenges. **Guiding sub-question: How does communication in Swiss hospitals FM departments look?**

C   Develop the initial framework optimising FM communication procedures based on key results from objectives A and B.

D   Validate initial framework in order to ensure applicability in practice.

E   Produce evidence based communication framework supporting a potential optimisation of communication activities in Swiss hospitals' FM departments.

1.5   Contribution to Knowledge

Based on the apparent research problem, this PhD thesis shall provide a significant contribution to knowledge in the field of corporate communication focusing on FM in hospitals. By means of a framework guiding a potential optimisation of communication activities in Swiss hospitals' FM departments. It allows to understand how communication strategies, incorporating the particularities of FM in hospitals, impact the facilitation of FM departments' objectives. That subsequently enables to assess and adjust FM communication in hospitals for the benefit of the support services' efficiency and effectiveness. The research provides evidence of originality as it goes beyond the predominant generic guidelines of organisational communication by firstly combining management theory, focusing on organisational communication, with the particularities of FM in Swiss hospitals and secondly by providing tangible guidance for FM executives on how to apply the findings for the benefit of hospitals' FM departments.

1.6   Thesis Structure

To facilitate reader guidance Table 1 explains the structure of this thesis. It follows the standard structure of a thesis as suggested by Evans, Gruba and Zobel (2014) and Dunleavy (2003) and has four parts: an introduction, the background, the core and a synthesis.

Table 1: Structure of this thesis, source: self-study guided by Evans et al. (2014) and Dunleavy (2003)

Introduction – Chapter 1
Chapter 1 – Introduction explains what this thesis is about, as indicated in the lead-in paragraph of this chapter.

Background – Chapter 2 (Objective A)

This chapter **directly foreshadows the core**. It provides the **knowledge required for the reader** to understand this thesis's research. To ensure this, the literature review is developed on which to base methodological actions, results and discussion. According to Nieto and Pérez (2000) the theoretical framework of any research should be taken into consideration for two reasons: Firstly to benefit from previous scientific contributions and secondly as the starting point of any empirical research is an initial combination of factors and their assumed relationship with the phenomenon studied, resulting in a wide bibliographical revision. This analysis of past work, tailored to the context of this thesis already forms part of the contribution to knowledge.

The Core – Chapters 3, 4, 5 (Objective B)

The core part concerns this thesis' empirical work. It consists of several chapters. Their common factor is that they provide narrative leading from a series of linked propositions, each independently supported by evidence and argument.

Chapter 3 – Methodology accounts in detail of the methodological choices made to answer the research question.

Chapters 4 and **5 – Results** report the empirical work = the results of applying the chosen methodology and hence provide, together with the background material, the basis for the synthesis.

The Synthesis – Chapters 6, 7, 8, 9 (Objectives C, D, E)

The synthesis chapters draw together the contribution to the topic.

Chapter 6 - Discussion critically examines the results in the light of the previous state of the subject as outlined in the background, and makes judgments as to what has been added with this thesis core.

Chapter 7 presents the essence of the discussion: **the initial communication framework**, whose validation is provided in **chapter 8 – Framework validation**, where also the final communication framework is placed.

Chapter 9 – Conclusion responds directly to the thesis aim and objectives. It critically reflects on them, responds to the aimed contribution to research, reflects on the thesis' practical relevance, outlines the usability of the research implication, provides recommendations for further research and concludes the thesis with a final remark.

The thesis is rounded off by **chapter - 10 References** and **chapter 11 – Appendices** providing supporting material demonstrating the robustness of the research done.

2 BACKGROUND

This background section clearly declares the research background, backs the research problem and provides deliberate content for this research's empirical evidence to build on. It consists of four main parts delivering the main theoretical threads to place this thesis research. It starts with an overview of healthcare's main components, continues with elements of organisational theory, then lays out the concept of FM and culminates in the topic of organisational communication, followed by a neat conclusion tying these four theoretical threads together.

The choice of these four threads is reasoned by semantically dismantling the title of this thesis, see Table 2 and at the same time considering its research aim and objectives as stated in chapter 1.

Table 2: Justification of theoretical threads shaping the background chapter

Phrase	Implication for background chapter	Section
OPTIMISING FACILITY MANAGEMENT (FM)	Explanation of what FM is needs to be stated aligned with FM in the particular context of hospitals.	2.3
COMMUNICATION	Takes place within an organisation: FM departments in hospitals, triggering the section organisational communication.	2.4
IN	Refers to hospitals being organisations, hence particularities of organisations need to be stated in order to subsequently locate organisational communication.	2.2
SWISS HOSPITALS	Hospitals are nested within the particular setting of healthcare. To understand their particularities, the healthcare setting, with a focus on Swiss specifics needs to be explained.	2.1
THE DEVELOPMENT OF A FM COMMUNICATION FRAMEWORK	This triggers the conclusion of the background chapter achieved by synthesising the four threads.	2.5

To do this in a structured way the **funnel method** as suggested by Hofstee (2006) has been adopted. Hence, the chapter presents the main theoretical threads relevant to the thesis, as displayed in bold in Figure 2, leading to an interim conclusion where the essence of these threads is drawn together to the specifics of this thesis context.
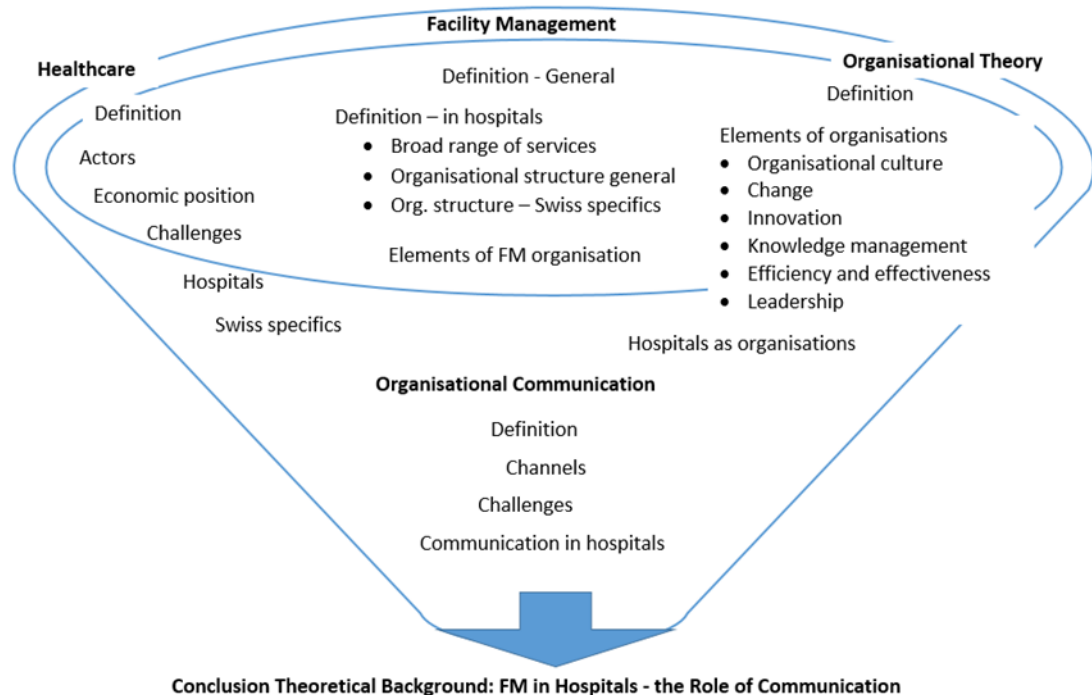
Figure 2: Structure of the background chapter, source: self-study as suggested by Hofstee (2006)

The order of these four threads and their subsequent intermediate conclusion is foremost chosen based on these considerations: It starts with healthcare as the other threads are looked at in the context of healthcare. It then moves on to organisational theory as hospitals are organisations. It then continues with explaining FM, focusing on FM in afore introduced hospital context, and moves on to introduce the main concepts of organisational communication, which is a particular element of organisational theory. Despite organisational communication being a part of organisational theory, it is consciously chosen to present its content as a section on equal level as the other three threads because the research implication is strongly nested within the concept of organisational communication and further because content of afore outlined threads is needed to fittingly present it in the context of this research. This is also indicated in Figure 2 where this central section is located below the three others.

The subsections within the three threads have been developed both inductively and deductively to form a fitting background section, addressing research objective A.

2.1 Healthcare

"It is health that is real wealth and not pieces of gold or silver" as poignantly stated by Mahatma Gandhi (Gandhi, no date, para 1). However, as this chapter points out, health and underlying healthcare with its complex infrastructure are terms, that are undeniably linked with financial aspects. This chapter outlines relevant aspects of healthcare leading to this thesis research setting in Swiss hospitals. It starts with healthcare definition, further outlying its economic relevance and associated challenges, followed by a closer assessment of hospitals as part of it,

concluding with stating healthcare specifics in Switzerland. The term 'research setting' is de-fined as "the physical, social, and cultural site in which the researcher conducts the study" (Given, 2008, 788).

2.1.1 Definition

"Health is a state of complete physical, mental and social well-being and not merely the ab-sence of disease or infirmity" this widely cited definition entered into force in the World Health Organisation's (WHO) constitution's preamble in 1948 and has not been amended since (WHO, 1946, p.1). The WHO further defines **health systems** "to include all the activities whose primary purpose is to promote, restore or maintain health" (WHO, 2000, p.5). Many of today's definitions within healthcare do in their core trace back to these fundamental defini-tions. Hence **healthcare** is defined as "the prevention, treatment, and management of illness and the preservation of mental and physical well-being through the services offered by the medical and allied health professions" (healthcare, 2011, para 2). This action is provided through **healthcare systems** defined as "the total human and material resources that a nation or community deploys to preserve, protect, and restore health and to minimize suffering caused by disease and injury, and the administrative and organisational resources" (Last, 2007, para 1). Lock et al. (2006) add that healthcare systems reflect a country's history, eco-nomic development, and dominant political beliefs as well as that their main features depend on each of the system's component parts. These components include resources of which fa-cilities, including hospitals (Lock, Last and Dunea, 2006), see chapter 2.1.5, form a major part.

Out of the more purist health system definition (WHO, 2000) presents the "WHO health sys-tems framework" outlining the necessary basic functions to achieve overall health goals. This framework is picture in Figure 3 because it displays in a poignant matter the different aspects / resources needed for a functioning health system. For this thesis' information is a system building block of special importance, as it is enabled through communication. Regardless of how they are organised, these basic functions include service provision, the development of the health workforce and other key resources, the mobilisation and allocation of finances as well as health system leadership and governance (WHO, 2000).

Figure 3: The WHO health system framework, source: self-study based on WHO, (2000)

Lead governance responsibility as one crucial element to achieve these goals is also men-tioned by other sources and is the cause of major challenges, as stated in chapter 2.1.4. As an example, Brinkerhoff and Bossert (2014) state that this responsibility lies largely with state actors, but requires the active engagement of other actors as well. As these actors are of

eminent importance, they are elaborated on in chapter 2.1.2. WHO publications provide a rich database to locate definitions. However, this is not the only source to do that. From an industrial perspective, the Global Industry Classification Standard (GICS®, 2014) classifies the **healthcare sector** including two industry groups: "Health Care Equipment & Services" and "Pharmaceuticals, Biotechnology & Life Sciences". These two groups are further divided into single industries. One of these is "Health Care Providers & Services" which contains the sub-industry "Health Care Facilities", which again includes hospitals, as seen in Figure 4. This concludes the initial presentation of overall healthcare terms.

35 Healthcare
    3510 Healthcare Equipment & Services
        351010 Healthcare Equipment & Supplies
            35101010 Healthcare Equipment
            35101020 Healthcare Supplies
        351020 Healthcare Provider & Services
            35102010 Healthcare Distributors
            35102015 Healthcare Services
            35102020 Healthcare Facilities – including hospitals
            35102030 Managed Healthcare
        351030 Healthcare Technology

Figure 4: GICS – Healthcare classification, source: self-study based on GICS® (2014)

2.1.2 Actors

The aforementioned elements of healthcare are governed by many actors. As their action directly affects healthcare and hence in the end also FM in healthcare, and with that the topic of this thesis, these actors need to be described. Various analyses have specified the actors in the health system (Frenk, 1994; WHO, 2000). Thereby three categories of actors stand out. Figure 5 presents them, including their connecting pathways through which health governance is carried out based on Brinkerhoff and Bossert (2014), so providing the stated directives including oversight and resources to the providers who in turn have to provide information and also do the lobbying with state organs. Clients raise their voice in terms of preference aggregation to the state, provide technical input and oversight as part of the client power and in turn expect services from the providers.
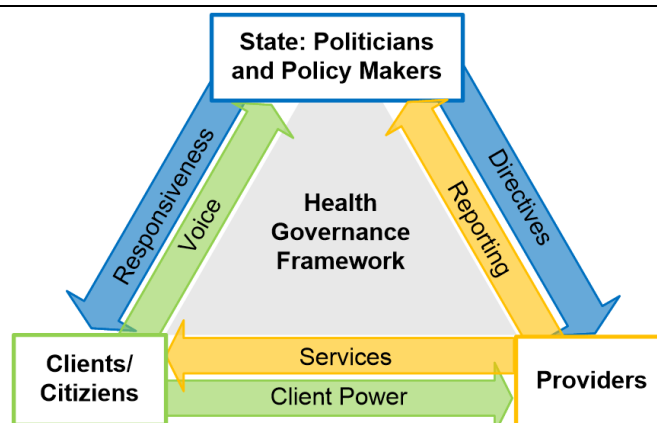
Figure 5: Health governance framework, source: self-study based on Brinkerhoff and Bossert (2014)

As can be seen, the first category of actors includes state actors such as politicians, policy-makers and other government officials and of course, the health ministry as a major governing body (Brinkerhoff and Bossert, 2014). The same authors state the second category of actors constitutes health service providers. Depending upon the particulars of a given country's health system, this set mixes public, private and voluntary sector providers, including **hospitals as major providers**. This category includes organisations that support service provision, such as insurance agencies, health maintenance organisations, the pharmaceutical industry and equipment manufacturers and suppliers (Brinkerhoff and Bossert, 2014). The third category of actors contains clients/citizens, who are using the provided services (Brinkerhoff and Bossert, 2014). Knowledge of these actors makes the complexity of healthcare systems evident and their country-specific collaboration seriously influences the provision of healthcare and hence also its economic aspects, which is the topic of the next chapter.

However, before that, **the role of governance** needs to be outlined as the above mentioned actors govern the crucial elements of healthcare. Healthcare governance is part of many discussions in the literature and media. As this thesis' results will feed into corporate governance, a closer evaluation of its definitions and respective roles for the benefit of healthcare is of use. According to WHO (2017a) governance in the health sector refers to a wide range of steering and rule-making related functions carried out by governments/decision makers in order to achieve national health policy objectives. The same source defines this kind of governance as being a political process that involves balancing competing influences and demands, including:

- maintaining the strategic direction of policy development and implementation
- detecting and correcting undesirable trends and distortions
- articulating the case for health in national development
- regulating the behaviour of a wide range of actors - from health care financiers to health care providers
- establishing transparent and effective accountability mechanisms

Despite this recognition of what constitutes health governance and how it contributes to better health systems, there are many unsolved issues policymakers continue to struggle with (Brinkerhoff and Bossert, 2014). Lack of clarity, competing frameworks and normative biases have variously contributed to conceptual misunderstanding and policy confusion. With today's renewed emphasis on health systems strengthening, better governance frequently surfaces within a country's political system as an element of strategies and action plans (Shakarishvili et al. 2010 in Brinkerhoff and Bossert, 2014).

2.1.3 Economic Position

Considering the economic impact of healthcare systems and with that healthcare delivery, including the various industrial activities, it can be stated that they consume a notable amount of a country's economic resources (Economist Intelligence Unit, 2011; Deloitte, 2014; Björnberg, 2015a). The OECD (2013) report states the average per capita health spending

across the OECD countries, grew by 4.1% annually in real terms over 2000-2009, but this slowed to 0.2% in 2009-10 and 2010-11 as many countries reduced health spending to help cut budget deficits and government debt, especially in Europe. However in an earlier report OECD (OECD, 2011a), also reported an increase in health spending per capita since 2000 more than twice as fast as economic growth on average across OECD countries (4.0% versus 1.6%). That trend was influenced by the financial crisis (OECD, 2013) which is conformed in a more recent report (OECD, 2017a). Nevertheless, this again emphasises countries having an increasing share of the economy devoted to health. Figure 6 shows health spending as a percentage of the gross domestic product (GDP) in OECD countries based on 2017 data. It is visible that the United States scores almost five percentage points above Switzerland, which accounts for the next highest costs in OECD countries.
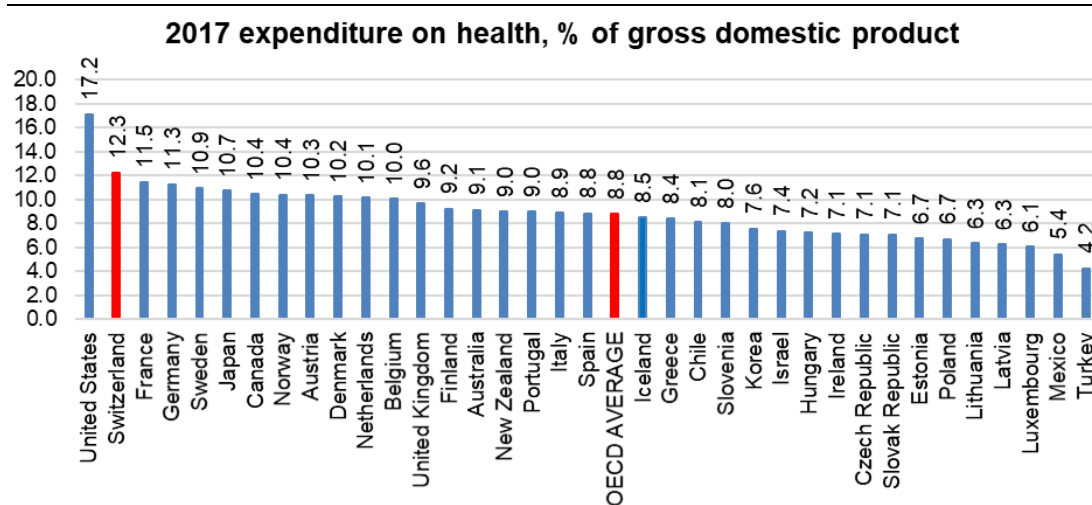
Figure 6: Health spending as % of GDP in OECD countries (OECD, 2018)

According to (WHO, 2000) differentiating factors leading to the specific economic position of a country's health spending lie in the relative severity of challenges being faced, the way a particular health system has evolved, and the economic, social and political context – all of which determine the nature and effectiveness of the respective health systems.

2.1.4 Challenges

Despite national differences, many issues leading to increasing healthcare spending and hence economic challenges are shared across remarkably different health systems (WHO, 2000). These are:

- **Demographic change** of the population increases the need for medical treatments and therewith costs, especially through the increasing number of chronic and multi morbid ill-nesses (Evans et al., 2001; Hogan and Hogan, 2002; Hurlebaus, 2004; Przywara, 2010; Economist Intelligence Unit, 2011; OECD, 2011b; Deloitte, 2014)

- **Medical and technological progress** refers to drugs (pharmaceuticals and vaccines), medical equipment, healthcare procedures, supportive and administrative systems that

can tie these elements together as stated by OECD (2018) and Deloitte (2014). Technological developments and constant evolution in state-of-the-art medical science are major factors affecting the level and rate of change in health care spending due to increasing complexity (Hurlebaus, 2004; Przywara, 2010; The Institute of Medicine, 2010; Economist Intelligence Unit, 2011; OECD, 2013). There also need to be suitable assessment tools in place enabling decision makers to make **right decisions about the investment** and use of devices as pointed out by Drummond et al. (2012)

- **Organisational and structural system inefficiencies** (The Institute of Medicine, 2010; Lünendonk, 2012); this is reasoned among others as poor interconnections within the field of healthcare

- **Shortage of skilled health workforce** fosters international migration of skilled health work force (OECD, 2007; Aluttis, Bishaw and Frank, 2014; OECD, 2015) this for the benefit of countries attracting skilled staff and for the disadvantage of the ones losing them

Further, less frequently mentioned cost drivers are a growth in **patient-driven demand**, as people have rich online access to health information and become more understanding consumers demanding the latest and often expensive treatments (Economist Intelligence Unit, 2011). The same source further mentions the challenging **legacy of healthcare structures**, as they were set up in the 1930/40s where malnutrition and spread of infection were the main medical concerns. Nowadays these issues are, at least in the developed countries, eradicated. However structures of the systems still remain from that time emphasising on acute rather than chronic care provision (Economist Intelligence Unit, 2011).

And there is a constant discussion about **quality** with regard to its impact on costs along with limited resources (The Institute of Medicine, 2010; Apker, 2012b) also visible in Figure 3 displaying the WHO framework. Hence, quality management is one important pillar to address economic challenges. Hung and Jerng (2014) provide a review on clinical indicators for measuring quality in healthcare systems such as hospitals. They define frequently used categories to classify performance indicators as being: Structure, process and outcome – as seen in Figure 7. The term "facilities" is marked in blue as it indicates the various processes, which are part of the FM, as taken up in chapter 2.3.
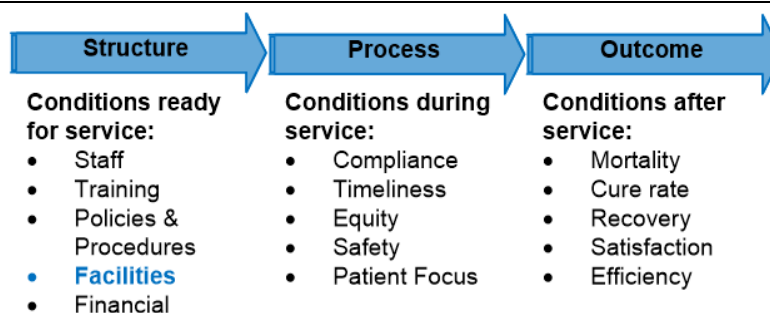
Figure 7: Clinical indicators for quality in hospitals, source: self-study based on Hung and Jerng (2014)

Structure indicators are usually used for assessing capacities / facilities to provide a service; process indicators assess how well services are delivered and outcome indicators reflect the

effect of the provided health service (Hung and Jerng, 2014). (Hung and Jerng, 2014) advocate that a set of new quality indicators is needed to tackle changing issues such as the shift from disease therapy to disease prevention or health promotion and also indicators taking into account the big data availability due to the increasing use of ICT.

As part of specific healthcare systems, also quality measurements need to be tailored to meet internal and external requirements and these in turn differ in countries due to specific legislative requirements. Their changing nature forces healthcare providers constantly to re-evaluate their existing processes and practices (Nelson and Sen, 2014). In their global healthcare outlook, Deloitte (2014) mention the concept of **"glocalization"** a term merging "globalization" and "localization". The authors explain that the adoption of global products to accommodate the needs of local specifics is an ongoing trend in the global health care industry. This matches with the characteristics of FM which also adapts to the particularities of its respective core business to be supported, see chapter 2.3.

2.1.5 Hospitals

Taking the above definitions of healthcare and its elements, hospitals are a vital part of its infrastructure. Martin (2015, para 1) defines them as **"an institution providing medical or psychiatric care and treatment of patients"**. The same source states that these services are provided for both in-patients and outpatients. Hospitals come along in different sizes and with different specialisations, such as teaching or university hospitals with more resources than for example smaller district or community hospitals (Martin, 2015). The WHO characterises them in a similar manner as institutions having organised medical and other professional staff, and inpatient facilities, delivering services 365 days a year (WHO, 2017b). A closer study of hospitals' organisational structure is provided in section 2.2.3 in light of organisational theory. The following are some macroeconomic aspects influencing hospitals' actions.

As part of healthcare, hospitals are faced with earlier mentioned financial constraints. An unprecedented degree of required changes is creating a powerful and urgent worldwide need for hospitals to explore alternative approaches to designing and managing their hospital environments (Kam-Shim, 1999; Rauner and Heidenberger, 2002; Raths, 2007), these might be old sources but unfortunately the healthcare and hospital situation has not improved since then. Wiggins (2007) in do Carmo Caccia-Bava, C K Guimaraes and Guimaraes (2009) states that the healthcare industry continues to face challenging business conditions, which compel healthcare organisations to seek new tools and technologies that help them optimize scarce resources. Academia provides numerous contributions of tools to approach this. de Mast et al. (2011) mention that proven approaches for process improvement from other disciplines (such as total quality management or six sigma, lean or business process reengineering) receive an increasing interest from healthcare. Another area of research is in general how existing business performance management frameworks can be adapted to healthcare specifics, such as the balance scorecard as mentioned by Chow-Chua and Goh (2002), benchmarking (von Eiff, 2015) or data envelopment analysis, a technique currently available to model and

measure the efficiency of national health care systems across the world (Sinimole, 2012). However, the great variety of existing literature and ongoing research activities indicate that an all-encompassing solution has not yet been found. This is clearly connected with the heterogeneity of existing healthcare systems and their associated infrastructure.

With regard to the later introduced thesis focus of FM, these specifics are most often very much core business related, for example about the factors average length of stay or mortality rate and their influence on hospital overall cost performance (Mennicken, Kuntz and Schwierz, 2011; Stock and McDermott, 2011). However, as it gets clear after section 2.3.1 where the role of FM in hospitals is defined, a close evaluation of hospitals support processes in terms of cost effectiveness is advised. Then a large amount of cost is based in hospitals' physical structures. Hospitals are bound to physical structures by using appropriate buildings with suitable infrastructure to provide a diverse range of healthcare services (Raab, 2001). That author also mentions that the absolute amount of these resources is not the problem as such, but that a large potential to improve hospitals' financial performance lies in an improved process organisation and maintenance of such complex facilities. This goes neatly along with the ongoing discussions of bringing approaches from other disciplines into healthcare, as mentioned previously.

2.1.6 Swiss Specifics

As mentioned earlier, national health care systems and their elements are the product of a country's particularities (WHO, 2000; Lock, Last and Dunea, 2006; Deloitte, 2014; Nelson and Sen, 2014). Hence, an introduction of characteristics of the Swiss system is needed to further introduce the setting of this thesis' research.

2.1.6.1 English vs. Swiss System

Switzerland (a multi-ethnic, multilingual and multi-confessional nation) has a federal structure with three different political levels (The Federal Authorities of the Swiss Confederation, 2015): the Confederation (that is the name used in Switzerland for the state), the cantons and the communes. Cantons are 26 states, each having different rules and regulations with corresponding implications on industry. Due to this federalist structure, responsibility for the provision and funding of healthcare lies mainly with the 26 cantons. With regard to healthcare, these specifics have led to a high level of non-transparency (Meier, 2011). Bearing in mind that many readers of this thesis are familiar with the English healthcare system, the Swiss specifics are further introduced by comparing the main features of these two countries' healthcare provision(Sturny, 2019; 2019), as shown in Table 3.

Table 3: English vs. Swiss healthcare system based on Sturny (2019) and Thorlby and Arora (2019)

England	Switzerland
The role of the government	
Responsibility for health legislation and general policy in England rests with Parliament, the Secretary of State for Health, and the Department of Health. Under the Health Act (2006), the Secretary of State has a legal duty to promote a comprehensive health service that provides **care free of charge**, apart from services with charges already in place.	Duties and responsibilities in the Swiss health care system are divided among the federalist structure. The federal government plays an important role in regulating the financing of the system, which is effected through **mandatory health insurance (MHI)** and other social insurance.
Coverage and Financing	
Publicly financed health care: The majority of funding for the NHS comes from general taxation, and a smaller proportion from national insurance (a payroll tax). The NHS also receives income from co-payments, people using NHS services as private patients, and some other minor sources.	**Publicly financed health insurance**: There are three streams of public funding:
	1. direct financing for health care providers through tax-financed budgets. The largest portion of this spending is given as cantonal subsidies to hospitals providing inpatient acute care.
Coverage is universal. All those "ordinarily resident" in England are automatically entitled to NHS care, largely free at the point of use, as are non-residents with a European Health Insurance Card.	2. mandatory health insurance (MHI) premiums.
	3. social insurance contributions from health-related coverage of accident insurance, old-age insurance, disability insurance, and military insurance.
Private health insurance: Private insurance offers more rapid and convenient access to care, especially for elective hospital procedures.	Mandatory MHI coverage is universal. Residents are legally required to purchase MHI, from competing non-profit insurers. There are virtually no uninsured residents.
	Private health insurance: There is complementary voluntary health insurance for services not covered in the basic basket of MHI and supplementary coverage for free choice of hospital doctor or for a higher level of hospital accommodation.

2.1.6.2 Expensive Quality

Switzerland scores clearly above the OECD average of expenditure on health as a percentage of GDP, with a high 12.3% in 2017 (OECD, 2018) as seen in Figure 6 with an increasing health spending as of the GDP since 1990, see Figure 1 according to(OECD, 2018). On the Euro Health Consumer Index (EHCI), a comparison of European health care systems based on waiting times, results, and generosity; Switzerland ranks repeatedly number two as an excellent but expensive health care system (Björnberg, 2015a).

In order to address the rising healthcare expenditure, reforms in healthcare have been implemented. The most recent one in Switzerland was the introduction of SwissDRG, a remuneration system that has been similarly practised in many other countries. E.g. since 2003 in Germany as 'G-DRG' (Neubauer and Pfister, 2008) or since 2006 in England under the title 'payment by results' (Audit Commission, 2004; Pate, 2009). DRG-systems are characterised by remunerating hospitals through prospective lump sum payments, calculated depending on a patient's diagnosis (Covaleski, Dirsmith and Michelman, 1993). For Switzerland this is a ground-breaking reform, as up until 2012, hospitals were remunerated retrospectively. This led to a situation of no incentive and therefore no interest from hospitals to act in a more economical way, as hospitals in each of the 26 Swiss cantons were not obliged to make good deficiencies because they were paid for whatever they priced (Balmer, 2011; SwissDRG, 2011). Besides inadequate performance, there also lacked competition between Swiss hospitals (Teisberg, 2007; SwissDRG, 2011; Oggier, 2012; Björnberg, 2015b). A main and highly proclaimed benefit of the now introduced SwissDRG system is that it forces hospitals and health care providers in general to focus on higher process transparency as a precondition for being cost-oriented (Hurlebaus, 2004; Balmer, 2011; SwissDRG, 2011; Mathauer and Wittenbecher, 2012; Oggier, 2012).

2.1.6.3 Swiss Hospital Landscape

Despite the attempt that the changes in the remuneration system should benefit healthcare costs, they are still rising. Today's spending on the Swiss health care system is about CHF 80 bn (BFS, 2018b) as seen in Figure 8. In the displayed period, population in Switzerland has risen from 6.796 million to 8.373 million (BFS, 2018a); still this does not explain the explosion of healthcare costs alone.

Healthcare Costs in Switzerland
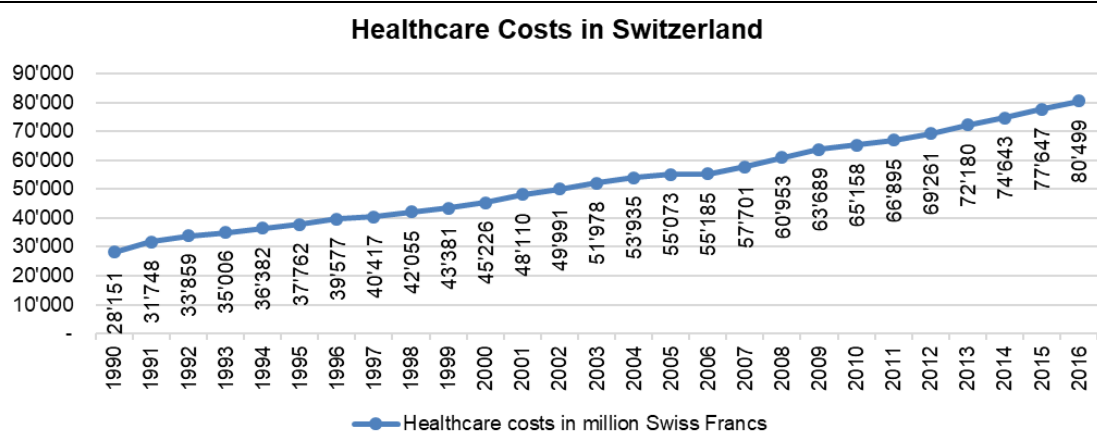
Figure 8: Healthcare costs in Switzerland source: self-study according to (BFS, 2018b)

Hospitals account for about CHF 30 bn of the healthcare costs (BFS, 2018c), as seen in Table 4. An upward trend in the future cannot be ruled out, as already indicated by the OECD reports (OECD, 2011a; OECD, 2013; OECD, 2017a). Additional to the total spending, Table 4 shows the number of hospitals, available hospital beds and the average length of stay (BFS, 2018c).

Table 4: Swiss Hospitals Statistical Data 2017, source: self-study according to (BFS, 2018c)

2017	General Hospitals		Speciality Hospitals			
Indicator	Major Healthcare	Primary Healthcare	Psychiatric Hospitals	Rehabilitation Clinics	Other Speciality Hospitals	**Total**
Number of Hospitals	44	58	51	53	75	**281**
Beds	19 790	4 678	6 573	4 433	2 788	**38 263**
Average length of stay in days	6.5	5.2	32.1	23.9	6.1	**8.1**
Expenditures						
Total in milllion Swiss Francs	19 981.6	3 993.0	2 276.0	1 292.5	2 495.1	**30 038.2**

From the total number of 102 general hospitals providing acute care, 71 are based in the German speaking region of Switzerland (BAG, 2017) and account for the sample of this thesis inquiry strategy. The two main categories, major and primary healthcare, are subdivided into smaller categories based on their size and number of services provided. Table 5 provides an overview on these categories, which provides a further indication for the upcoming sample structure.

Table 5: Categories of Swiss Hospitals 2016, source: self-study according to BAG (2017)

Code	Category	Number of Hospitals (2016)	German Speaking Region
K111	General Hospital - Major healthcare Level 1	5	3
K112	General Hospital - Major Healthcare Level 2	39	31
K121	General Hospital - Primary Healthcare Level 3	15	10
K122	General Hospital - Primary Healthcare Level 4	27	18
K123	General Hospital - Primary Healthcare Level 5	16	9
		102	**71**

With reference to the aforementioned federal structure in Switzerland with high sovereignty of the 26 states, the situation of Swiss hospitals can boldly be compared to a landscape of highly individual "islands", as displayed in Figure 9. Each island struggling within the current healthcare challenges more or less on its own. Initiatives to consolidate hospitals beyond the 26 states' borders for a more effective and efficient healthcare provision have not only been disputed by politicians protecting their areas but have also been taken down by the popular vote, lately in February 2019 where hospitals of two neighbour counties tried to merge (Marcolli, 2019).

Figure 9: The Swiss hospital landscape as figurative islands within the Swiss 26 states borders (source: self-study)

The cornerstones of the Swiss hospital landscape conclude the background thread on healthcare, providing relevant knowledge in which to place this thesis research. It became clear that economic aspects are central aspects in the complex mechanisms of health systems and within those hospitals. However, despite all influence of healthcare politics and globally induced and shared challenges, in the end hospitals are organisations and hence follow organisational principles, which is outlined in the upcoming theoretical thread.

2.2 Organisational Theory

"Every organisation, whether a business or not, has a theory of the business" stated Drucker (1994 p.96). In light of the situation described in the previous healthcare chapter, it is evident that hospitals need to be run both effectively and efficiently in order to face their challenging environment. To do so, principles of organisational theory must be applied appropriately, to set a *hospital specific theory of business*. This chapter describes the crucial elements for a hospital to consider in light of organisational theory. Starting with definitions and a generic evaluation of why organisations can be seen as complex systems and which parts are especially relevant in it. Then moving on to reflect the special organisation hospital.

2.2.1 Definition

Organisational theory is based on **both managerial and sociological origins** (Scott and Marshall, 2009). The managerial part focuses on analysing the structures of organisation including the nature of staffed positions in it, the powers and duties attached to these and how goals of the organisations are carried out, thereby organisations are seen as hierarchical structures (Scott and Marshall, 2009). The sociological part focused on social processes taking place within organisations, emphasizing how relations or processes constrain or subvert the official organisational goals, thereby the viewpoint is less hierarchical and more cooperative

(Scott and Marshall, 2009). For "organisations" there is no one agreed definition in academia (Miles, 2012). The same source defines it as a "managed system designed and operated to achieve a mission, vision, strategies and goals" (p.7), while having a deliberate structure to work on the set goals through work and behaviour of purposefully assigned staff.

As it is part of organisational theory, some more emphasis has to be placed on the **meaning of management**. According to Cole and Kelly (2011) it encompasses coordinated activities to direct and control an organisation. This goes along with Miles (2012) describing it as "the process of accomplishing organisational mission, strategies, goals and objectives the use of people […], money […], things […] and data […]." (p.8). Referring back to the governing actions within healthcare also the term "corporate governance needs to be defined, as this thesis topic relates to this. **Corporate governance** is defined (corporate governance, 2017) as "the way in which a company is managed by the people who are working at the highest level in it. Effective corporate governance will contribute decisively to a company's success." Hence, for hospitals this refers to what is done by the hospital board.

Another approach to grasp the meaning of organisations is provided by Miller (2009) who states five common themes that organisations share:

1. Organisations are **social entities** of more than two people
2. These social entities participate in activities that demand **coordination** or synchronisation
3. These activities create and maintain **structure** such as vertical hierarchies or flat collaborative teams. Structure defines responsibilities, who reports to whom, priority of actions and other issues
4. Organisational members work to achieve set organisational and individual **goals**
5. Organisations are embedded in an **environment** consisting of other organisations and varied social, economic and political forces

So, what specific parts does an organisation contain and in what way do these need to be managed? This aspect is taken up in the next chapter.

2.2.2 Elements of Organisations

Organisations take many forms and have multiple purposes. Models help to grasp their diversity and complexity. Such a systemic approach to management theory and practice is provided by the new St. Gallen Management Model (Rüegg-Stürm, 2005). Based on systems theory, the model views organisations as a whole and understands them as productive, social, changing, and complex systems (Rüegg-Stürm, 2005). Figure 10 displays the model and through that the various parts forming such a system, which need to be managed in order for any organisation to function. The model assumes that management primarily means mastering complexity (Schwenker and Wulf, 2013). Thereby the complexity is based on the various interactions between the system's elements (Schwenker and Wulf, 2013). Compared to the later, in section 2.3.1, introduced FM-model (CEN, 2006a), which focuses on FM's fit in an

organisation, this model focuses in more detail on the environment and components of an organisation as a whole.
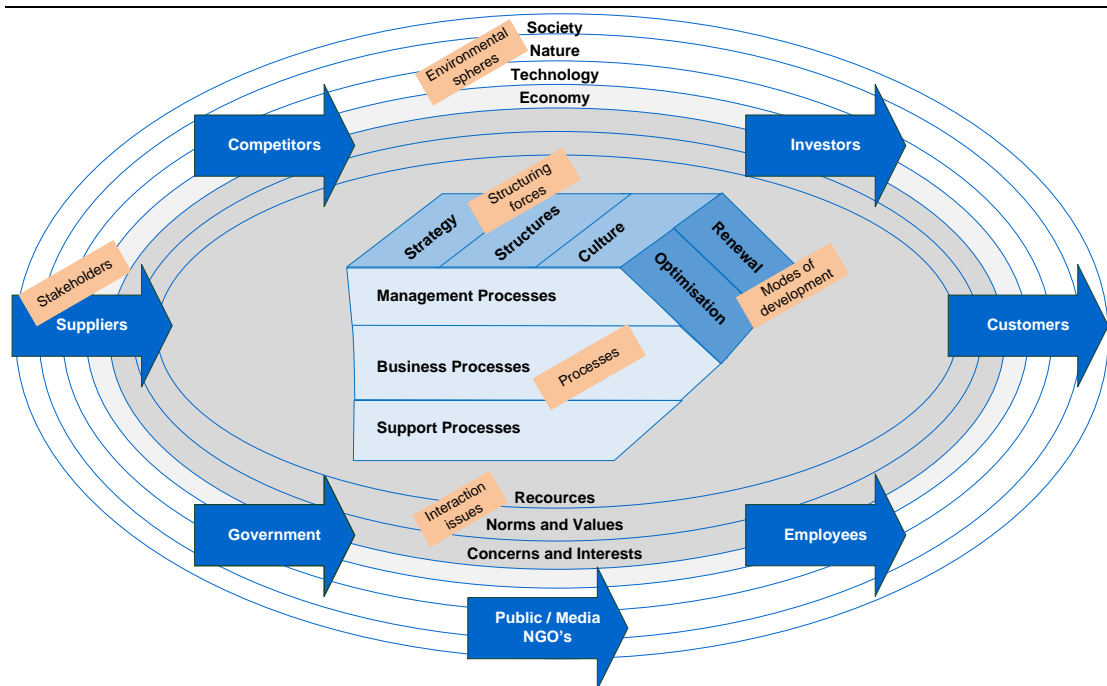
Figure 10: The new St. Gallen Management Model, source: self-study based on Rüegg-Stürm (2005)

Models such as this help to explain complex systems (Wright, Sparks and O'Hair, 2012). One criticism is that they are perhaps excessively descriptive and that they are seldom used in practice by companies (Schwenker and Wulf, 2013). However, despite its critique, combining the previously given definitional attempt of organisational theory with the new St. Gallen Management Model, many similarities can be detected strengthening that these are the defining elements of organisations.

A vital part for any organisation to manage its purpose and reach its goals plays **organisational communication** (Rüegg-Stürm, 2005). Rajhans (2012) states that to manage the existing performance of the employees and to motivate them for better performance, efficient communication practices are key in all organisations. These practices contain **dynamic interactions used to accomplish set organisational goals** (Jablin, 2001). **Interaction** is one determinant element within organisations that can be addressed with fitting organisational communication. Rüegg-Stürm (2005) mentions three spheres of interactional issues: Resources, Norms and Values, Concerns and Interests, as seen in Figure 10. To provide solid background for the empirical part of this thesis, some **major elements** that form the crucial interactions and hence communication within organisations, are dealt with in the following subsections.

2.2.2.1 Organisational Culture

A vital part for functioning complex organisations is cultural awareness. Schein (2010) proposed the concept of it being made of deep assumptions driving behaviour at the subconscious level, values influencing day to day work and artefacts made from physical rituals or objects defining the work. Stacey (2007) divides formal culture as the visible actions, beliefs and structures of the organisation visible to outsiders and informal culture representing hidden, grapevide connections unseen to outsiders; all of which help to define an organization's character and norms. Within the St. Gallen Management model the layers "Norms and Values" and "Concerns and Interests" can be allocated to this topic. Unsurprisingly in view of this diverse array of phenomena, little agreement exists over a precise definition of organisational culture, how it should be observed or measured, or how different methodologies can be used to inform routine administration or organisational change (Scott et al., 2003). But despite this lack of clarity, culture and especially informal culture acts as the lifeblood of organisations, as poignantly stated by Stacey (2007). Hence sustainable leaders must have a sensitive nose and network to both the formal and informal elements of their organisation's culture (Stacey, 2007; Schein, 2010).

2.2.2.2 Change

"A stagnant organisation that cannot innovate to meet evolving environmental conditions will eventually find itself no longer competitive in an increasingly complex and technologically sophisticated economy" (Johnson J.D., 1993 cited in Johnson, 2001, p. 341). Directly analysing the challenging situation that healthcare organisations face, (see previous chapter 2.1.4) it can be derived that they are urged to constantly transform, hence change, to anticipate and respond to the changing environment, such as cost constraints. Change threatens the balance of health organisation systems (Apker, 2012b). The author emphasizes that to succeed in the constantly shifting healthcare environment, health organisations must be able to maintain a **dynamic homeostasis**, a steady state that simultaneously adapts to change. This state requires openness between health organisations and their environment allowing the organisation to anticipate and react to changes appropriately (Apker, 2012b). Both practitioner and academic literature propose that to manage change effectively any organisations, not only healthcare ones need to (do Carmo Caccia-Bava, Guimaraes and Guimaraes, 2009):

- be in touch with their markets, customers, competitors, new products, etc.
- have adaptive leadership which promotes innovation and competitive intelligence
- manage technology effectively in supporting the necessary changes
- follow some basic prescriptions while implementing the change process.

Referring to the St. Gallen management model, change is located in the modes of development as a result of evolving stakeholder expectations, environmental spheres and interaction issues. Husain (2013) mentions the significance of effective communication during the process of managing changes in organisations.

2.2.2.3 Innovation

Tightly connected with tackling healthcare and hence hospital challenges is the urge for innovation as also indicated in the opening statement of the previous subsection about organisational change. Berwick (2003) outlines that healthcare workers need to develop competency for innovation. Already in 1974 Hardy (1974) stated that due to the speed with which new ideas are created in health care, workers must now, more than ever, keep up to date on relevant knowledge, (see chapter 2.2.2.4), and be able to utilize that knowledge to make informed decisions. Weberg (2009) states that innovations are new products and processes that create dynamic social and economic change within systems. Poole and Van de Ven (2004) propose that innovation requires time, space, and consideration of the organisational level and individuals who will be impacted. There are different definitions of what innovations are. Weberg (2009) defines innovation as new products and processes creating dynamic social and economic change within systems. Based on an extensive literature review du Plessis (2007) defines it as "the creation of new knowledge and ideas to facilitate new business outcomes, aimed at improving internal business processes and structures […] (p.21) for the benefit of the organisations goals. The same author considered the role of knowledge management in innovation and concluded that the complexity of innovation has also been raised due to the growing amount of information available as an innovation basis.

2.2.2.4 Knowledge Management

In order to act effectively and efficiently, which is the topic of the next subsection, managers must work with evidence-based knowledge as it "underpins effective decision-making" (McKenzie and Winkelen, 2004, p.7). However, what does knowledge and its management actually mean? Literature does not agree on one definition of **knowledge** as stated in extensive reviews by Tsoukas and Vladimirou (2001). Here the definition by von Sveiby (2002 as cited in McKenzie and Winkelen, p. 7) is applied which consists of two parts:

- justified true belief: -"know what" or "know that" which provides the raw material for deciding what to do and includes facts, assumptions and values
- the capacity to act / "know how" derived from resources such as procedures, rules, practical experiences, mental and physical abilities. This is the knowledge base that we draw on to show us how to take action"

McKenzie and Winkelen (2004) emphasise that this definition shows the inevitable challenge to manage such a subjective and contextualised issue as knowledge. The authors further state that due to the sometimes subjective nature of knowledge, choices can involve tensions and that an integrated, dynamic approach is needed to manage knowledge. Based on literature, Pathirage et al. (2008) point out that knowledge management initiatives often are pursued ad hoc with a high degree of fragmentation and lack of co-ordination.

Also many definitions of the term **knowledge management** exist (du Plessis, 2007). For this thesis a suitable definition is the one from Darroch (2005) who indicates that it is a management task that creates or locates knowledge, manages its flow and ensures that it is used both effectively and efficiently for the long term benefit of the organisation.

Based on an extensive literature review, du Plessis (2007) presents three main drivers to apply knowledge management in organisations

1. To create, build and maintain competitive advantage through utilisation of knowledge
2. That knowledge is a resource to reduce complexity in the innovation process,
3. Knowledge needs to be both internally and externally integrated to the benefit of the innovation process in order to be available for decision making.

Du Plessis (2007) neatly summarises the importance of knowledge management stating "it creates a culture within which the value of knowledge and application thereof is identified and communicated. Such a culture encourages knowledge-based processes and programs such as innovation." (p.26). This again links to the importance of organisational culture facilitating it, which is, referring to earlier content, directly linked to organisational communication which enables the spreading of knowledge for the benefit of the organisation.

2.2.2.5 Effectiveness and Efficiency

Along with earlier content about management it can further be outlined that a manager's task is to accomplish high performance relative to an organisation's defined goals and this both effectively and efficiently (Miles, 2012). Drucker (2007) shaped these terms in management theory. Effectiveness in terms of doing the right things and efficiency in terms of doing things right (Drucker, 2007). Hence, efficiency is in essence concerned with finding the optimal means to achieve a result. In order to do so, a clear concept of the organisational specifics in terms of understanding both the purpose of its whole and its parts is crucial; organisational specifics, which have to be made available in the organisation through communication activities.

2.2.2.6 Leadership

This thesis is very much about business and management research. According to the leading definition of Kotter (2013, para 8) management is "a set of well-known processes, like planning, budgeting, structuring jobs, staffing jobs, measuring performance and problem-solving, which help an organization to predictably do what it knows how to do well". The author advocates strongly that leadership is an entirely different concept. He states that it is "associated with taking an organization into the future, finding opportunities that are coming at it faster and faster and successfully exploiting those opportunities. Leadership is about vision, about people, about empowerment and, most of all, about producing useful change. Leadership is not about attributes, it's about behaviour." (para 9). And the same author further points out that "in an ever-faster-moving world, leadership is increasingly needed from more and more people, no matter where they are in a hierarchy" (Kotter, 2013, para 9). Kotter (2013) is not the only

one defining and proclaiming the concept of leadership. That has been conceptualised in multiple ways as scholars and practitioners attempt to better understand how to lead groups and organisations, because according to earlier content, leadership is a crucial element for tackling healthcare challenges, this concept is therefore worth a closer evaluation. As with the term organisation also for leadership common features have been detected, here taken from the definition by Northouse (2010):

1. It is a process, a dynamic phenomenon
2. It involves influence, affecting the behaviours, attitudes and beliefs of others.
3. It occurs in a group setting – involving multiple individuals
4. It concerns collective goal attainment – working together to achieve shared aims

Leadership challenges within healthcare organisations are diverse, and include workforce challenges such as personnel shortages or cultural diversity or contextual challenges including financial and operational factors, such as escalating healthcare costs (Apker, 2012b) . Based on these challenges a note on leadership is imperative in order for hospitals to function as such a complex organisation. An interesting view on leadership within healthcare institutions is proposed by Weberg (2012). The author suggests complexity leadership as an imperative model to tackle the various challenges affecting hospitals. Based on Marion and Uhl-Bien (2008) the author states that leaders are urged to realise and understand healthcare complexities in order to set in place innovative solutions. Traditional leadership styles focus on linear systems rooted in the industrial era where maximising production was the major aim (Weberg, 2012). Many healthcare leaders are still trained in these concepts (Bass and Bass, 2008). However Plowman and Duchon (2008) argue that the traditional linear focus removes the capacity to effectively change and innovate a system because these aspects are based on non-linear processes and relationship building and co-evolution. Marion (2008) states that linear solutions to problems being added to a broken system are not sustainable, causing the organisation eventually to fall back into the patterns initiating the change. Weberg (2012) further concludes that standardising and controlling every action of their organisation fails leaders as they become unable to adapt and evolve at the speed needed to sustain in the environment of healthcare. Gilbert (2007) mentions that innovation competency obliges leaders responding adaptively to challenges in order to find their way out of unpredictable problems. Hence prerequisites to such adaptive responses are healthcare leaders interacting with and leveraging the interdependencies of the system they work in which is the strong benefit of the above mentioned complexity leadership style (Weberg, 2012).

2.2.3 Hospitals as Organisations

Bearing in mind how hospitals are defined, (see section 2.1.5), and what role they play within the healthcare system (see Figure 5) hospitals are complex organisations. Kash et al. (2014) see hospitals as open systems, based on the open systems definition from Meyer and O'Brien-Pallas (2010). These authors define open systems as those facing uncertainty in both their internal and external environment, which is true from what has been outlined about the

healthcare context and its challenges. Mintzberg (1997) and Diamond, Stein and Allcorn (2002) point out what according to previous content is still valid today: that hospitals are highly fragmented organisations, characterised by clearly defined and hierarchical power structures between a wide variety of disparate stakeholder groups competing for limited resources in a complex and continually changing economic, political, social and technological environment. Figure 11 visualises the new St. Gallen Management Model applied on a hospital organisation. Thereby buzzwords mentioned in this background have been stuck in green to the model's elements. Hence, the figure supports the recognition of hospitals as complex organisations.
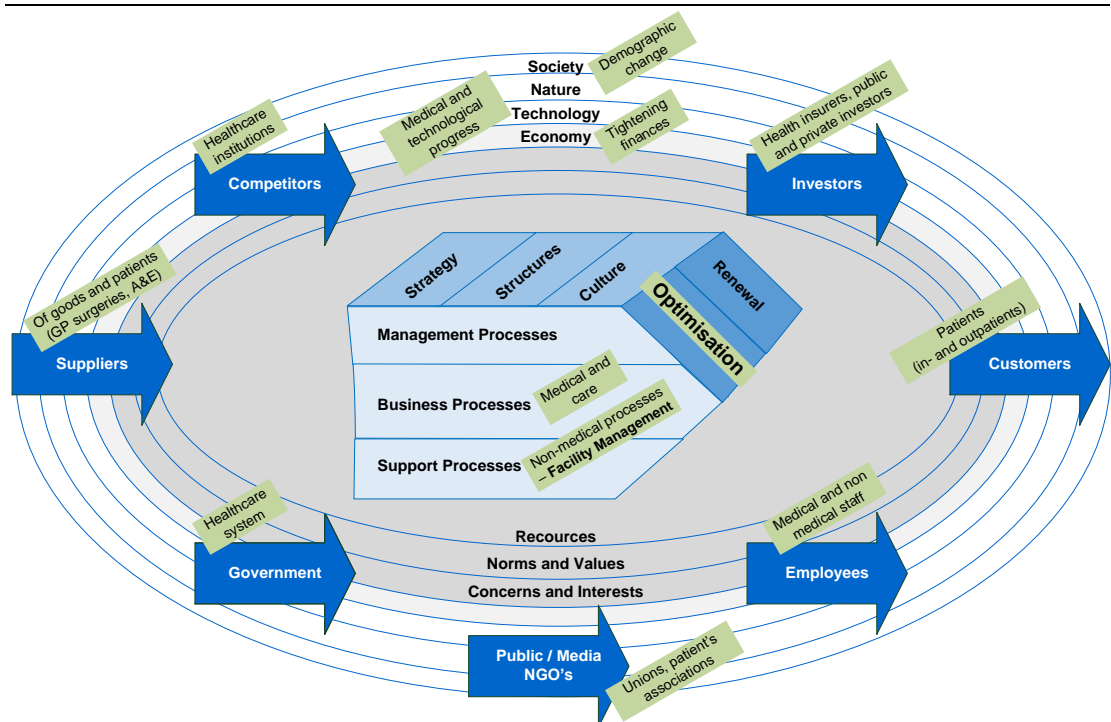
Figure 11: The new St. Gallen Management Model applied on a hospital organisation, source: self-study based on Rüegg-Stürm (2005)

To lead out of this second theoretical thread: organisations are made up of many elements in need of specific alignment for the organisation to function, to deliver its assigned purpose. Hospitals as organisations within the healthcare system are facing contingencies, which are forces in the embedded environment that influence the organisation's functioning (Apker, 2012b). The same author also outlines that health institutions must remain open to these forces and respond with dynamic changes in organisational structures. As outlined earlier, increasing economic austerity, among other factors due to demographic change, is the main force Swiss hospitals currently face. Within that, the non-medical parts of these complex organisations play an important role, as pointed out in the next theoretical thread.

2.3   Facility Management

This chapter outlines clearly how this thesis understands FM in general and within the hospital context. By that it provides more detailed reasons why this thesis' goal is of relevance. Moreover, it offers background information to understand the nature of this thesis' empirical work.

2.3.1 Definition - General

The term Facility Management (FM) (also known as Facilities Management) is defined industrially neutral as "integration of processes within an organisation to maintain and develop the agreed services which support and improve the effectiveness of its primary activities" (CEN, 2006a, p.5). As primary activities differ depending on an organisation's purpose, the term FM is used in a broad range of contexts and contains many different supporting services.

The economic volume of the European FM market is estimated at hundreds of billions of Euros (BIFM, 2008; Lünendonk, 2012; Frost & Sullivan, 2017a; Frost & Sullivan, 2017b). This motivated a group of experts to formulate a European standard that defines the relevant terms around FM, such as the above definition, together with its basic functions. The European standard for FM consists of six parts that have been approved by the European Committee for Standardization (CEN) between 2006 and 2011. The main benefit of the standard is to provide an acknowledged framework for a clear understanding of the interdependencies between organisations' main and FM processes (CEN, 2006b, p. 4). One key element of this framework is the **FM Model**, visualised in Figure 12.

The FM model defines and describes **demand** from an organisation's perspective and **supply** from a provider's perspective and the connection and coordination / cooperation at the three organisational levels (strategic, tactic and operational) (CEN, 2006a). On the left side of the model the primary processes are mentioned. On the other side of the model, the supporting processes, or facility services are indicated (CEN, 2006a). These services can be provided in-house or by external providers. As the model points out, the delivery of customised support processes is ideally agreed and monitored by an FM agreement and corresponding service level agreements [SLA] and key performance indicators [KPI]) (CEN, 2006a). The **client's** responsibilities are: Determination of primary activities, overall strategy and goals. The **customer** refers to the upper and middle management, acting on a mainly tactical level (CEN, 2006a). Often these are division managers and the heads of departments, depending on the organisational structure of the organisation. The customers' responsibilities are: Designing, organising and controlling of primary and support processes) (CEN, 2006a).At the operational level the **end users** are the actors in and performing the primary processes) (CEN, 2006a).
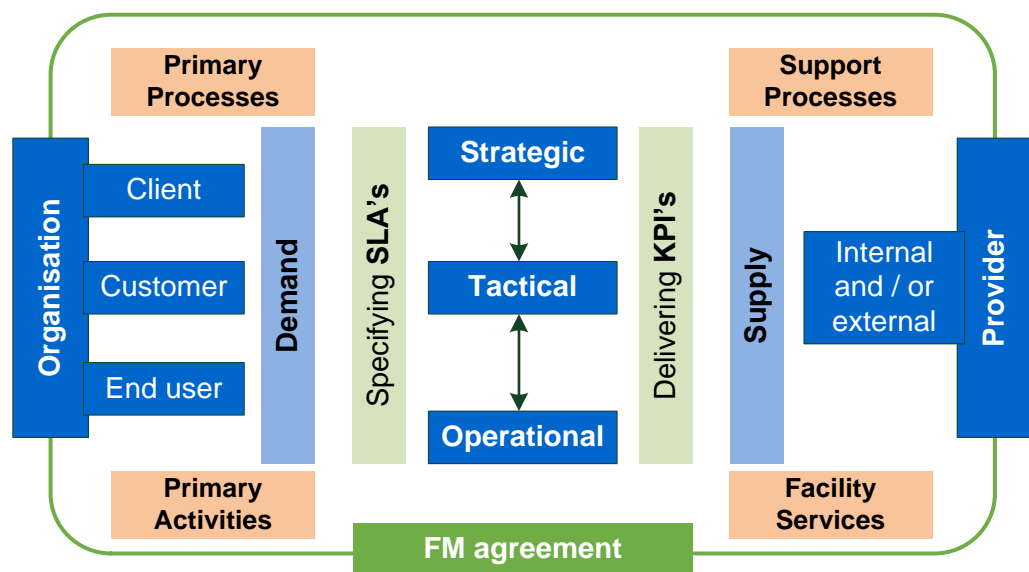
Figure 12: The FM Model, source: self-study based on CEN (2006b)

Even though FM is one of the fastest-growing professional and operational disciplines world-wide, it still suffers from a general lack of knowledge and awareness (Tranchard, 2016). As the European standard's recognition is limited to mostly European acceptance, a new ISO standard called "ISO 41001, Facility management – Management systems – Requirements with guidance for use", has been published in 2018. It is part of the ISO 41000 family of standards usable by facility managers globally to fit their FM to the specifics of an organisation. The multiple documents within the ISO 41000 series promote a common language and approach for FM strategy and practices.

Besides activities resulting in FM standards, in the past decades many other activities have been undertaken to position FM as a discipline and within the context of core business (Price and Akhlaghi, 1999). In an extensive literature review of these activities, Chotipanich (2004) outlines major differences in opinion concerning the purpose, scope and priorities of FM and to indicate which parts of FM practice should be considered for inclusion in any theoretical framework positioning FM. With that, that author proposed a theoretical framework to align and hence position FM within an organisation, see Figure 13.
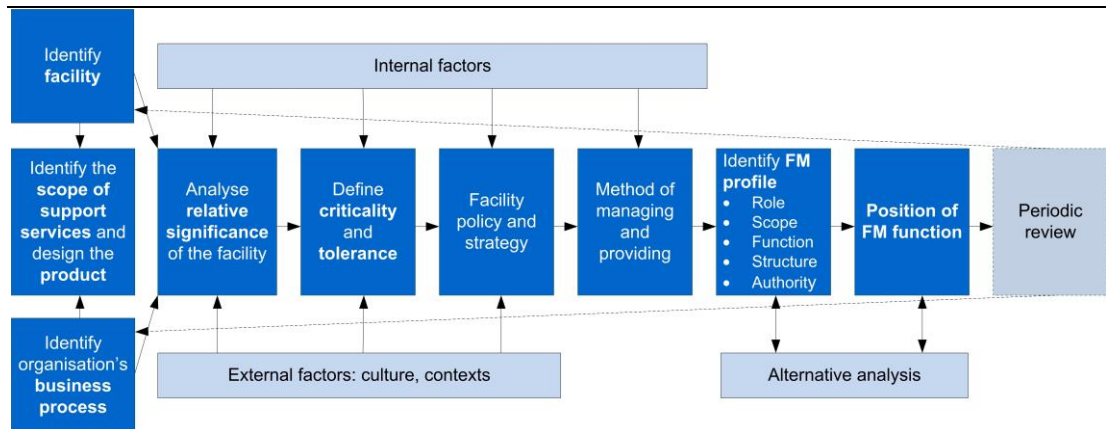
Figure 13: Theoretical framework for positioning FM, source: self-study based on Chotipanich (2004); Chotipanich and Nutt (2008)

The proposed framework further highlights the significance of organisational factors and local contexts in FM practice and arrangement. The author stresses the importance of fitting FM practice with particular characteristics and environments of the organisation see Figure 14.
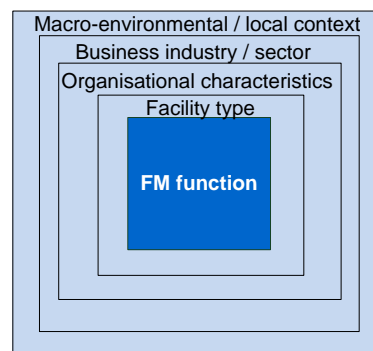
Figure 14: Environment of FM practice, source: self-study based on Chotipanich (2004); Chotipanich and Nutt (2008)

Both figures clearly refer to earlier discussed issues as part of organisational theory. They are displayed because they do provide additional details above FM-model and earlier St. Gallen Management model do not contain and hence supplement the picture of FM and its setting within an organisation. With that, the foundations of FM have been laid to evaluate them in the scope of hospitals.

2.3.1   Definition - in Hospitals

Taking the above FM definition, FM in hospitals includes the support processes necessary to enable a hospital's core business i.e. medical and care services. To clarify the **FM model** (CEN, 2006a) is taken as a point of reference and applied on the hospital setting, as displayed in Figure 15.
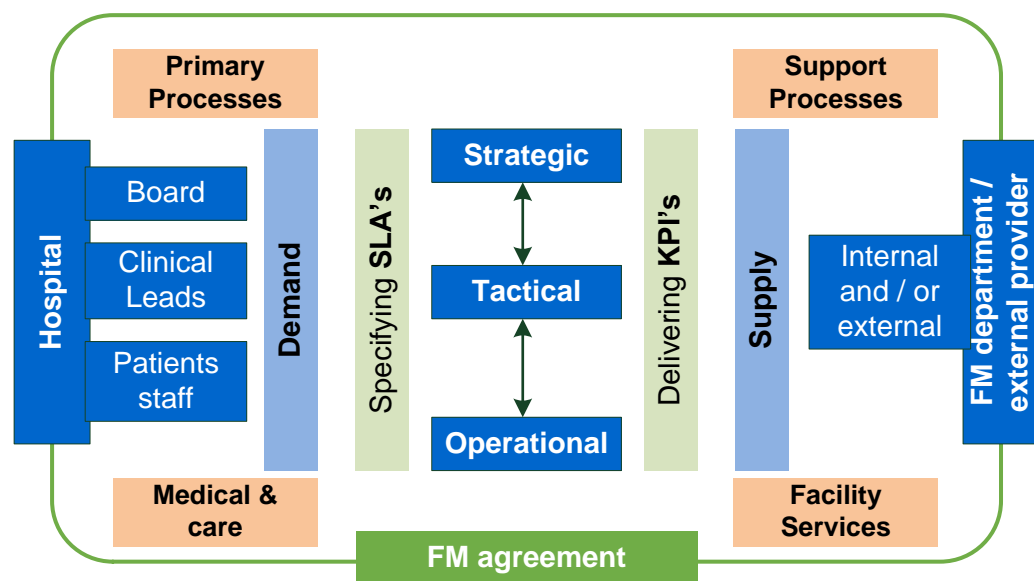
Figure 15: FM-Model applied on hospital setting, source: self-study based on (CEN, 2006a, p.8)

Regarding the hospital setting, the **client** is at the board and executive board level. The **customers** are the clinical leads and heads of departments within the hospital. At the operational level the **end users** in the hospital setting are principally patients and staff working for the defined core processes, medical and care. From an FM perspective, end users are the consumers of the services provided, namely patients, staff and guests. On the other side of the model, the supporting processes, or facility services.

A statement in the CEN Norm neatly summarises the overall purpose of the supporting processes for the benefit of the core / primary processes: "The key focus is to improve the effectiveness of the primary activities of an organisation by streamlining the service provision and interaction of the parties" (CEN, 2006b, p.7). However, it is important to note that the model does not define how individual hospitals set up their FM processes concerning both scope and organisational structure. The next passages contain information on these two aspects.

2.3.1.1 Range of FM Services

The main statement of the above FM models is that support services need to meet the demand of an organisation's core business. So, what kind of support services are there in a hospital? As one can imagine, hospitals need a broad variety of supporting services to run their primary activities. As a first step toward a more defined hospital FM environment a service allocation model for non-medical support services in hospitals was set up by the institute of FM of Zurich University of applied sciences in Switzerland (Gerber, Läuppi and Hofer, 2014). Figure 16 shows the non-medical support services of this service allocation model and therewith what can be put under the umbrella of FM in hospitals. The model is based on the SN EN 15221-4 norm (CEN, 2006b). The final version was published at the beginning of 2015 in German followed by French and English translations (Gerber, 2014). It offers a clear and comprehensive designation, definition and differentiation of the non-medical support services in hospitals. This information facilitates a common understanding of type and scope of the services (Gerber and

Klauser, 2015). Figure 16 outlies the backbone of the model by regrouping the major themes from organisational theory to the situation in hospitals. Especially the distinction of support services into three different areas: management, non-medical and medical is of importance, because this distinction in the end leads to what is in this thesis understood by FM in hospitals.

Organisational Theory   Situation in Hospitals
                                   Regrouped according to Gerber & Laeuppi (2014)

Management Activities ──────▶ Management Primary Activities

                         Management Support Services

Support Services ◀   ──▶ Non-medical Support Services
                                  = **FM Services**

                         Medical Support Services

Core Activities ──────▶ Medical Primary Activities
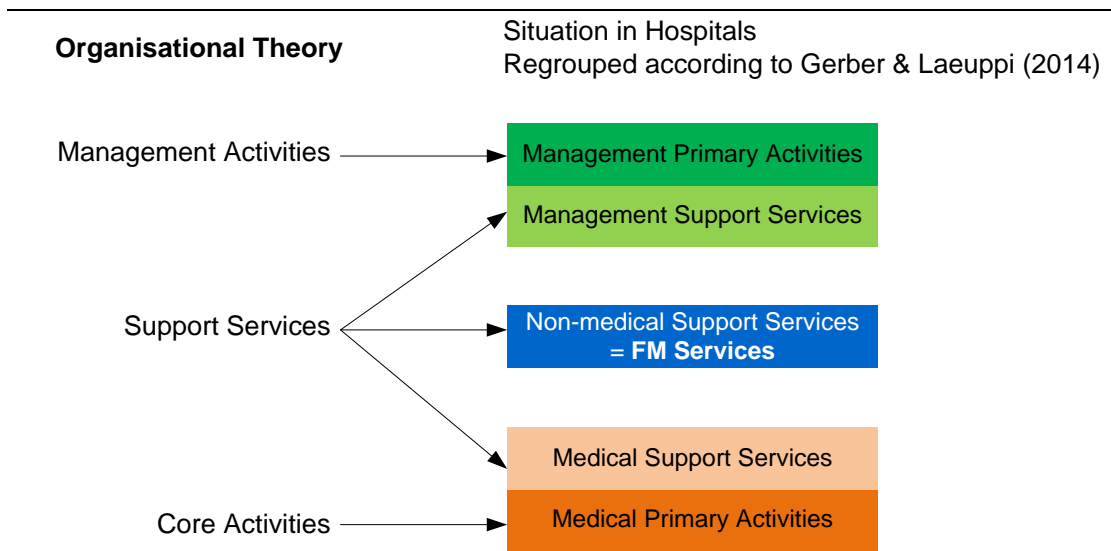
Figure 16: Model of Primary Activities and Support Services in hospitals, source: self-study based on Gerber, Läuppi and Hofer (2014)

Table 6 shows according to Gerber and Klauser (2015) the model of primary activities and support services in hospitals in more detail.

Table 6: Hospitals Primary and Support Services, source: self-study based on Gerber and Klauser (2015)

Management Primary Activities
Sustainability
Life Cycle Planning / Engineering, Environmental Management System, Energy Management
Identity
Innovation Facilitation

Quality Management
Standards & Guidelines
Process Management
Risk Management
Risk Policy Definition
Resources & Sourcing Strategy

IT Management
IT Strategy definition
Asset & Portfolio Management
Management of Investments, Portfolio & Multi-projects
Financing Management

Management Support Services
Finance & Accounting   HRM   Legal Services   Marketing & Communication   Administration

Non-medical Support Services = FM Services → see figure 16

Medical Support Services
pharmacy, laboratory, social services / pastoring, research & science, patient disposition services (incl. patient administration, disposition of beds and patients)

Medical Primary Activities
(according to DIN 13080:2003-07)
Examination and Treatment: reception and emergency care, medical services, functional diagnostics, endoscopy, clinical pathology, morgue / pathology, radiological diagnosis, operation, childbirth, radiology, nuclear medical therapy, physical therapy, ergotherapy, on-call duty
Care: general care, care of women in childbirth and newborns, intensive-care medicine, dialysis, baby and paediatric nursing care, infectious diseases care, care of mentally ill, nuclear medicine, care on admission, geriatrics, day clinic

Figure 17 zooms in on non-medical support services (Gerber, Läuppi and Hofer, 2014) and displays what this thesis understands as facility services in hospitals.

Figure 17: Facility Services in Hospitals, source: self-study based on (Gerber, Läuppi and Hofer, 2014)

Taking the derived knowledge on facility services in hospitals and joining that with the definition of FM, the term *FM in Hospitals* can be defined as:

The integration of processes = *management* within the organisation = *hospital* to maintain and develop the agreed services = *facility services,* which support and improve the effectiveness of its primary activities = *medicine and care* (own definition based on CEN, (2006a) and Gerber and Klauser (2015)).

The work of Gerber and Klauser (2015) has been published in various channels and languages. Still, it is not yet considered as an international comprehensive and industry-wide accepted definition of hospitals' distinction between core and support services and what therefore belongs under the umbrella of FM. However, unquestionable is the financial significance FM has within hospitals' total costs. **FM accounts for up to 25-40% of hospitals' total costs** (Abel and Lennerts, 2006; Jensen, 2008). Hence, out of the earlier mentioned 30 bn Swiss Francs of healthcare cost accounted by Swiss hospitals (BFS, 2018b), about 60-75% is consumed by hospitals' core activities, medical and care leaving the substantial amount of up to approx. CHF 11 bn in the responsibility of hospitals' FM. That alone justifies why a closer evaluation of how FM processes are structured and hence FM services are delivered in hospitals.

2.3.1.2 Position of FM Function

The above introduced framework defines what can be put under the umbrella of FM in hospitals but does not suggest how FM is organisationally structured within individual hospitals organisations. There are no mandatory standards of how to implement the FM part in the hospital's organisation. Often a clearly distinct FM department is not to be found or FM services are placed under Finance (Lünendonk, 2012). Further, the term FM is not comprehensively used in hospitals' organisational structure (Honegger et al., 2016). Raab (2001) mentions the fact that structures and organization forms are the way they are for historical reasons and that they do not always match the current requirements.

Adding to the picture, on positioning of FM in hospitals, does information about how the supporting services are operated. In the specific setting of hospitals, there are different strategies to provide these. On one end of the spectrum is the classic internal provision of FM services but they can also be provided with various degrees of participation from external providers (Frosch, Hartinger, & Renner, 2001). Frosch et al (2001) state that it is not just a matter of make-or-buy, but more of how to integrate an external provider into the hospital and therewith about the degree of cooperation and dependence of the external service provider. Sourcing strategies with external service providers variously involve private service providers. This also relates to the topic of public private partnership (PPP), in the United Kingdom (UK) also known as private finance initiative (PFI) which is stated to be an evolving sourcing strategy in the health care market (Cording, 2007). However, the term PPP is commonly used for extensive and complex private public collaboration projects, including the phases of financing, designing, constructing and operation of joint projects (Cording, 2007; Daube, 2011) like entire hospitals (Bauer, 2004; Per Anker Jensen, Nielsen, & Balslev Nielsen, 2008).

Besides the decision as to what kind of sourcing partnership is beneficial for a hospital's specific needs, it also has to be decided on whether the broad scope of supporting services are sourced individually with different strategies or if they are sourced as bundled services. The latter form has increased in recent years and is known under the term 'integral FM services' (Lünendonk, 2011b). The term addresses FM companies that provide a range of different services, allowing clients to source their requested services from one provider (Lünendonk, 2011b) instead of a number of different ones, which reduces transactional costs. A recent study (Frost & Sullivan, 2017a) stated that integrated FM continues to represent the fastest-growing segment of the European FM industry. Well known providers are: ISS, Sodexho, Compass Group, Serco, Mitie, Carillion PLC. The last one got published in 2018 for being in major difficulties affecting a significant part of UK's economy and among that also the building of hospitals, such as the new Royal Liverpool Hospital (Kehoe, 2018).

In the UK most NHS trusts depend on external service providers and the financial market volume for service providers is high. In 2016, NHS property services announced the completion of one of the country's largest FM rationalisation processes to save millions each year for the NHS (Peters, 2016). This announcement refers to a national procurement exercise to streamline its FM contracts, leading to an approximately 20% saving on the £200 million contracts which are currently outsourced (Peters, 2016). However, on the downside, outsourcing initiatives cause an ongoing discussion about quality and its effect on the core processes, especially in the UK. For example, (Toffolutti et al., 2017; McKee et al., 2017) highlight the long-standing debate in the UK about the impact of outsourcing of hospital cleaning services to private sector contractors, which is not seen as very good.

Swiss Specifics

As pointed out previously, the author of this thesis works in the leading Swiss institution doing applied research with and for practitioners in the area of FM in healthcare. One of the institu-

tion's goals is "mapping FM in healthcare" aiming to shed light into the heterogeneous organisational structures of FM in hospitals. One of the published papers to this research topic describes and compares the organisational structures of Swiss hospitals' FM departments in relation to each other and to hospitals' parameters such as number of beds and staff (Honegger et al., 2016). To do so six sample hospitals (labelled A-F) were analysed in 2016. The following passages outline key findings of this research (Honegger et al., 2016).

Regarding the terminology used to name hospitals' FM, the research shows the heterogeneous practice: Hospital A and B call their FM "Facility Management", hospital C calls the same services "Hotel Services and Facility Management". Recently the hospital A called it "Logistics". Hospital D calls the same FM area "Infrastructure" while hospital E just calls it "Services". Hospital F and G are calling it "Operations". Hospitals C and D used to have separate departments for technical and hotel services, which are now combined into one unit. At a later stage, in one hospital the departments of procurement, logistics and IT were also merged into the FM department. Hospital E named the FM up to recently "Hotel Services and Logistics" when a change of management led to the change of the department's name which is now just "Services". All departments of the hospital G used to be independent units. Subsequently the departments were combined as one department under the heading "Operations".

In addition to the different terminology, also the FTE distribution varies in the sample hospitals due to their different organisational structures. All of the departments are set up functionally. There are three to five hierarchy levels in the departments. The range of the number of total FM staff in relation to total hospital staff is broad between 8 and 26%, as seen in Table 7.

Table 7: Diversity of FM structure in six sample hospitals, source: self-study based on Honegger et al. (2016)

Hospital	Beds	Hospital workforce (FTE)	Hospital workforce (persons)	FM workforce (FTE)	FM workforce (persons)	FM workforce (persons) as % of hospital workforce (persons)
A	70	220	260	51	67	26%
B	111	443	630	63	80	13%
C	157	626	805	87	107	13%
D	210	1506	2241	148	180	8%
E	220	779	1042	128	178	17%
F	335	1439	1886	203	203	11%

Despite this evident diversity, the study confirms that there is a relation between the size of a hospital and the organisational structure of its FM department. Large hospitals tend to have more sub-units within their FM department while smaller hospitals cover more services under the management of one single unit. Regarding the prominent hospital parameter "number of operated beds" there is a clear correlation between the number of FM FTE's. The correlation coefficient of 0.88, indicating that these two parameters are positively correlated as displayed in Figure 18.
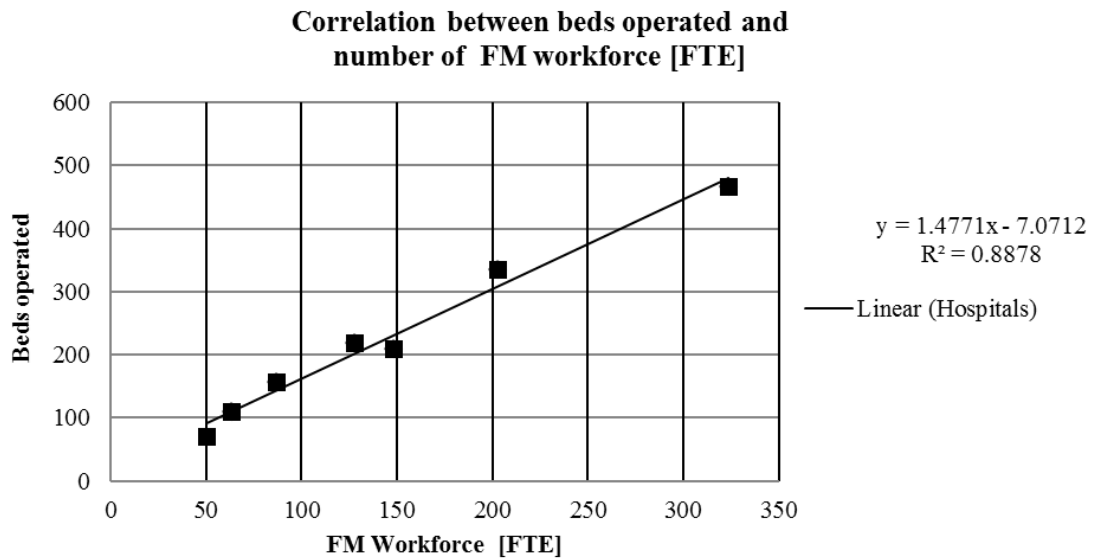
Figure 18: Correlation between beds operated and number of FM Workforce [FTE] (Honegger et al., 2016)

The study further analysed the structure of the individual FM departments to clarify how the FM FTE are assigned internally. Figure 19 shows this at three examples.
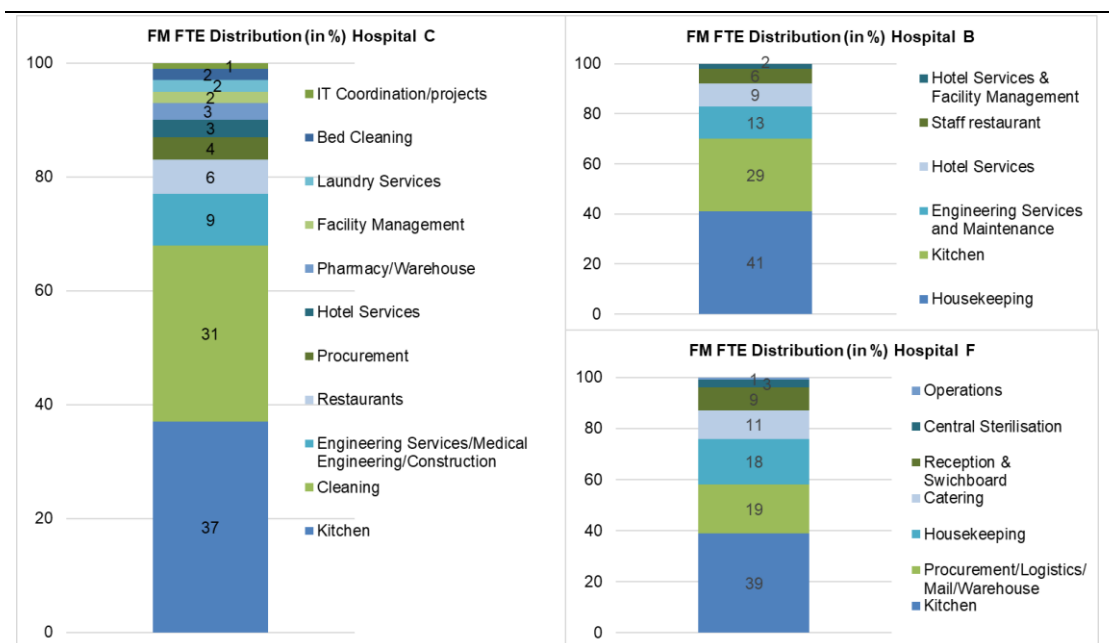
Figure 19: FTE Distribution within FM department, source: self-study based on Honegger et al. (2016)

It is visible that catering, found as kitchen / restaurants, and cleaning services, found also as housekeeping, account for the majority of FM full time equivalents (FTE). The figure along with Table 7 illustrates the heterogeneous nature of FM provision in Swiss acute hospitals regarding the terminology used and organisational set-up. The standards (Gerber and Klauser, 2015) goal introduced to facilitate a common understanding of type and scope of the services has not yet reached its application in practice.

Regarding the question whether FM services are provided internally or externally, it can be stated that the outsourcing rate of typical FM services such as cleaning and catering are much

lower in Switzerland than in the UK or also Germany (Hofer, 2013). This has one main reason: What drives every decision whether to provide in-house or outsourced FM services is cost-effectiveness. Cost-effectiveness has to be measurable, so meaningful or adequate comparison of the effective cost of the in-house or external performances is a prior condition; if not, "cost savings from outsourcing remain anecdotal and are not evidentiary" (Bisman, 2006 p. 21). Concerning the challenges of the Swiss healthcare system, it was mentioned that up to 2012, hospitals were paid whatever they priced for. Hence, there was no incentive to obtain cost transparency. As discussed, this is still not yet comprehensively achieved six years on. So the adequate cost comparison cannot be made profoundly. However, as the author of this thesis knows from her own experience, as an executive leading a hospital's 360 head strong hotel service department (dated 2019), see CV in appendix A, one of her priority tasks is to obtain this cost and process transparency to meet any outsourcing discussions. Based on an extensive literature review Hofer (2013) states it is expected that outsourcing of FM services in Swiss hospitals will increase in the future, if such an increase is expected in the near or distant future is not stated. Years later, the situation of low outsourcing rates of support processes in Swiss hospitals has not significantly changed. There are no comprehensive studies available providing a detailed overview of the current outsourcing rate. Just ones that are indicating trends. Such as the CEO survey provided by PwC (Sommer et al., 2017) stating that outsourcing of support services as a strategical option to optimise costs is seen of little priority, as three of four study participants will not evaluate this option within the next five years. A recent study of PwC focusing on the outsourcing status in Swiss acute hospitals discovered that even though the potential cost savings of outsourcing activities are acknowledged by decision makers, the priority still lies on improving in-house services rather than explicitly considering the outsourcing option (Sommer et al., 2018). The authors poignantly state that considering the outsourcing of support processes seems to trigger internal optimization projects. Meaning that the potential of outsourcing can serve as an argument for optimizing internal service provision (Sommer et al., 2018).

2.3.2 Elements of FM Organisation

To round off this theoretical background, earlier introduced elements of organisational management are taken up again under the light of FM and where applicable in the light of hospitals. This is relevant to place upcoming empirical findings.

Organisational Culture: An important factor forming it, is the fact that FM departments are staffed with a great cultural diversity. As an example, Zurich University Hospital (2018) highlights on its website that over 1,000 employees from more than 40 different nations ensure frictionless support processes. Managing these needs cultural competence. Cross et al. (1989) implies that means having the capacity to function effectively as an individual, team and organisation within the context of multicultural beliefs and behaviours. Another factor influencing organisational culture and hence organisational processes is that the multidisciplinarity of FM requires staff with different professional backgrounds, which can be derived from the variety

of services belonging to FM in healthcare, each bringing in the specifics of their trade, e.g. catering staff, cleaning staff, technical staff.

Change & Innovation: Goyal and Pitt (2007) conclude that even though FM is defined as supporting the core business, it does not just blindly follow core operations because it can effect change in its own right and direct those areas previously regarded as core. The need for an innovative approach to service provision has never been so great as FM innovation acts as an enabler adding value to the whole organisation (Goyal and Pitt, 2007). Nazali, Noor and Pitt (2009) strengthen this by advocating for FM's capability of contributing towards organisational success if it is given the opportunity to exploit new ideas and perform innovative activities that are regularly measured and integrated within the overall business goals of an organisation. To achieve this, it is essential that innovation in FM is given appropriate recognition within the boundaries of the organisation's total innovation agenda. Cardellino and Finch (2006) identified a primary determinant for the success of an innovation in the FM sector as the awareness of the external market, which in this case relates to the challenges within the healthcare and hospitals market from an FM perspective. However, Kash et al. (2014) point out that success factors related to change initiatives (another word for innovation) are well documented and discussed in management literature, but seldom studied in healthcare organisations, which, as complex organisations, are often engaged in multiple strategic change initiatives. These authors concluded that the human resource function, alignment of culture and values with change and business processes that facilitate effective communication and access to information are important factors to achieve innovation through change.

Knowledge Management: While knowledge is increasingly recognised as the most significant of organisational sources, those dealing with an organisation's use of its physical assets and working and production environment, hence FM, cannot be ignored or undervalued (McLennan, 2000). McLennan (2000) argues that a key strategic value of FM knowledge is the understanding of the relationship between the performance of the physical resources and their impact on the customer being served by those resources. According to Nutt and McLennan (2000) the FM knowledge trail starts from a position that relies largely on borrowed management concepts on the one hand, and on imported technical expertise from other professional fields of activity on the other. This statement can be reasoned by the diverse nature of FM services. Pathirage et al. (2008) emphasize that understanding the types of knowledge facility managers may need, use and create in the future is an important area for investigation for FM organisations to remain competitive. These authors point out the risk of knowledge management being a lack of co-ordination as many FM organisations practise it in one form or another, either explicitly knowing that they do that or not. Hence, for this research it is important to shed light on how knowledge management is handled within hospitals' FM. Zehra and Scott (2009) expect that through the development of comprehensive FM knowledge, FM will find it easier to legitimise itself professionally.

Efficiency and Effectiveness: Pitt and Tucker (2008) stress that in FM, performance measurement is important to contributing to organisational success in terms of effectiveness, efficiency-adding value. The authors suggest that a fully developed performance measurement solution via effective benchmarking can deliver as a business tool in FM whilst acting as a driver in the innovation process. Moreover, they suggest that benchmarking techniques are sparse and can directly generate innovation processes to improve performance in FM. As stated earlier the nature of FM in Swiss hospitals is diverse and process transparency not yet a prerequisite. However, the need for performance measurement through benchmarking has been recognised and in the past years benchmarking methods for FM processes within Swiss healthcare institutions have been developed, namely for procurement (BEG Solutions AG, 2018), IT (BEG Solutions AG, 2018), catering (Honegger et al., 2015) and cleaning (Honegger et al., 2015). As mentioned before, existing FM standards and definition do not explicitly state which kind of FM services and their set-up fit an organisation best. In regard to this uncertainty, one aspect of FM literature and on-going discussions in both practice and research (de Silva et al., 2004; Jensen, 2009; Alhaji Mohammed and Hassanain, 2010; Meng, 2013) needs to be stated: the earlier FM is involved in any kind of planning or change initiatives resulting in new physical surroundings or processes the better, because applying FM expertise to design decision-making enables proactively addressing a variety of potential problems, such as the lack of operability, maintainability, and serviceability. Early FM involvement in design is found to be particularly useful for the improvement of cost efficiency and effectiveness from a long-term perspective. Although it has received wide recognition today, it still encounters resistance in practice (Meng, 2013).

Leadership: Rogers (2004) points out two attributes shared by best practice FM operations: Outstanding leadership and clarity of purpose. The author defined the skills FM teams need in order to provide high FM performance. These skills need to be fostered by FM leaders; hence, FM leadership should include them. The one in bold is of special interest for this thesis.

- technical or functional expertise to combine complementary skill sets to deliver functional outcomes as FM covers a diverse range of 'subject matter experts' such as engineers, planners, lawyers, accountants, procurement specialists and administrators.
- problem solving and decision-making skills to identify the problems and opportunities, evaluate the options for moving forward, and make necessary trade-offs and decisions about how to proceed.
- **interpersonal and communication skills**: Common understanding and purpose cannot arise without effective communication and constructive conflict, which in turn depend on interpersonal skills. These include helpful criticism, objectivity, active listening and recognising the interests and achievements of others. Achieving influence within the organisation requires a combination of strong communication technique, good presentation skills, an enquiring mind and the ability to understand precisely how FM contributes and adds value to the organisation and when this contribution needs to be made.

- general business skills for understanding FM as a business resource inspires confidence in how the unit contributes to the bigger corporate picture. Effective management of these skills includes the application of business plans, which identify the unit's goals and objectives and the linkages and support to the wider corporate picture. Ongoing measurement and calibration of this picture must be rigorous and disciplined, creating a stronger sense of purpose and value.

This background thread on FM not only sets the scene of this management discipline but also more importantly outlines the multi-faced nature of FM within hospitals. It is exactly this that any executive needs to be aware of and accordingly to address in order to provide leadership that supports its resilience and ability to thrive in times of significant change in order to face healthcare challenges. With this knowledge, the fourth thread is now rolled out, combining knowledge from the previous ones with new elements of organisational communication.

2.4   Organisational Communication

Whereas in section 2.2 organisational theory elements leading to and requiring organisational communication were outlined, such as values and norms of organisations, this chapter focuses on mechanisms of organisational communication itself. A topic, which is covered broadly within business and management research literature.

2.4.1 Definition

The commanding (Cole and Kelly, 2011) or also called directing (Miles, 2012) part of management tasks involves activities including leading, motivating and communicating with staff as individuals, groups or the organisation as a whole (Miles, 2012). As management is a prerequisite for any organisation's success it can hence be reinforced that communication is of eminent importance. Researchers argue that the previously mentioned systems approach, (see section 2.2.1), particularly influences the study of organisational communication (Papa, Daniels and Spiker, 2008). The authors state that it is not just a tool for managerial control but that **all of the human processes defining an organisation arise from communication**, pointing out that "the linkages and connections among subsystems depend on communication and information flow" (p. 109). This is also stated by Mosley and Pietri (2015) pointing out that to be effective, organisations must utilize two critical linkages to sustain positive intra-organisational relationships: open and clear communication. This linkage argument is taken further by Modaff, Butler and DeWine (2016) who identify distinct communication functions essential for organisational systems:

1. **Constitutive function**: as it creates connections and acts as a binder allowing the coordination of activities and integrating the elements into a whole
2. **Adaptive function**: referring to a constant information exchange between the organisational system and the environment to fittingly adapt to environmental change
3. **Maintenance function**: as it provides information throughout organisational systems to ensure a dynamic steady state

Based on the results of a literature review Byers (1997) points out that in today's society effective leadership is seen as a key ingredient in determining organisational success. Further stating that regardless of which leadership theory one believes in, communication always plays a central role in the leadership process. Hence, it can be concluded that it is a leadership task to facilitate purposeful communication, because often when communication is poor people lack motivation and will react negatively (Byers, 1997). Hansen (2004) elaborates on the connection of how effective communication incites positive productivity from employees. The author points out three truths guiding effective communication:

1. Communicate through supervisors to build strong first line trust and credibility
2. Require that communications be "face-to-face" to allow for feedback, expression and dialogue
3. Communicate information that is specifically relevant to employees and their work

The author further states that the thing frustrating managers the most is poor communication. Taking the earlier described concept of effectiveness and efficiency, (see section 2.2.2.5), it can be derived that **effective communication refers to communication that is understood by the receiver** and **efficiency refers to the content to be of relevance to the receiver and its work**, because also non-relevant content can be communicated effectively.

Conrad and Poole (2011, p.4) define organisational communication, also known as corporate communication, as "a process through which people, acting together, create, sustain and manage meanings through the use of verbal and non-verbal signs and symbols within a particular context". Byers (1997) further states that organisational communication enables us to explain what individuals in organisations do and how they do it. In accordance with that, Trenholm (1991) states that communication can be used as an "explanatory construct", to explain how individuals and groups act. Hence communication within an organisation has several functions: control, motivation, emotional expression and information (Robbins, 2000). Rogers and Rogers (1976) argue that the behaviour of individuals in organisations is best understood from a communication point of view. These authors further state effective communication as a prerequisite for implementing organisational strategies as well as for managing daily activities through people. Hence, it can be identified that organisational communication is a crucial element for functioning business processes in need to be guided and facilitated by executives, which once again strengthens this thesis' relevance.

To systematically study how information is processed and hence communications works, **the communication model** is a known concept used in theory (Byers, 1997; Robbins and Judge, 2010). It displays the necessary elements involved in passing on a message between its source and receiver, shown in Figure 20.
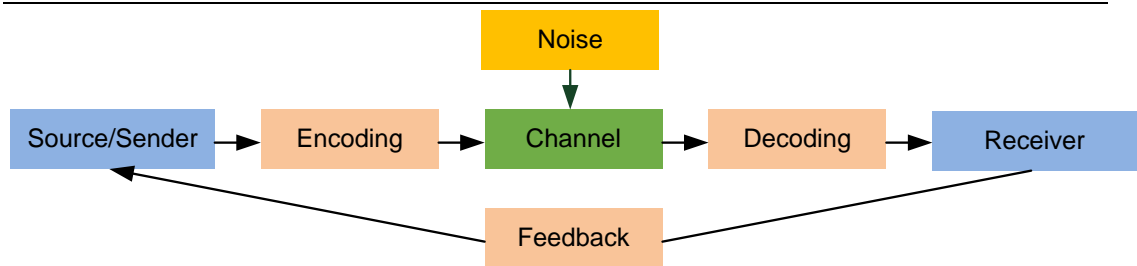
Figure 20: The communication model, source: self-study based on Shannon and Weaver (1949)

The model states that the sender encodes the message and sends it to the receiver through a technological channel. The receiver has to decode the message before understanding and interpreting it. Noise refers to physical disturbances like environment, people, etc. which does not let the message get to the receiver as intended by the sender. The model was introduced in 1949 by Shannon and Weaver (Shannon and Weaver, 1949), and in 1970 Graumann extended the original model by an eighth component, the feedback (Nerdinger, 2019). The model is of a rather technical nature and hence criticised as misrepresentative as human communication is not mathematical in nature (Nerdinger, 2019). Moreover, the model does not address the question of the content that was transferred. The four-page model (also known as communication square or four-ear model) of Friedemann Schulz von Thun accounts this critique and expands the Shannon-Weaver model so that messages from both the sender and the recipient can be interpreted in terms of content, self-disclosure, relationship and appeal (Schulz von Thun, 2008), as displayed in Figure 21.
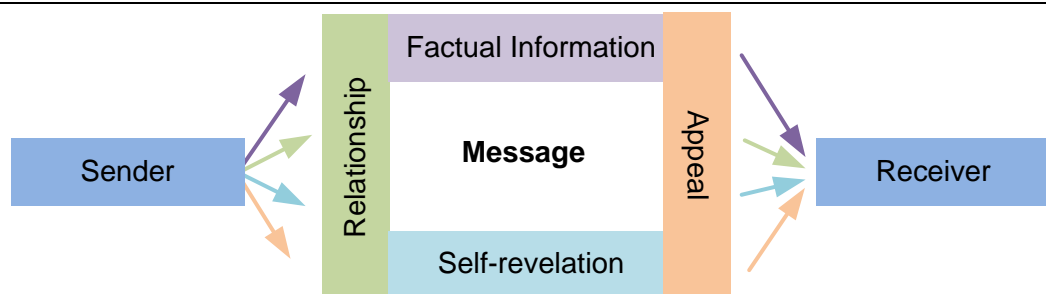
Figure 21: The four-page communication model, source: self-study according to Schulz von Thun (2008)

The four areas of that extended model are explained as follows (Schulz von Thun, 2008):

* the *factual layer* contains statements which are matter of fact like data

* in the *self-revealing or self-disclosure* layers the sender - consciously or unintentionally - tells something about him- or herself, about motives, values, emotions etc.

* the *relationship-layer* expresses how the sender gets along with the receiver

* the *appeal layer* contains the effects that the sender wants from the receiver

Each part of the communication model has the potential to fail and hence cause ineffective, inefficient communication (Byers, 1997; Robbins and Judge, 2010).

Further communication fundamentals include that **communication flows vertically or laterally** (Robbins and Judge, 2010): vertical communication includes downward and upward communication, referring to the different hierarchical levels an organisation has; lateral communication takes place among peer groups at the same hierarchical level. Communication channels used can be formal or informal and can be classified in three ways: Oral, written and non-verbal communication (Robbins and Judge, 2010.

Formal communication is enabled by the set-up of formal organisational and authority structure (Jian, 2013), characterised as a type of verbal presentation or document intended to share information that meets planned and established professional rules, standards and processes and avoids using slang terminology (formal communication, 2018). **Informal communication** refers to emergent, unofficial, and unsanctioned communication among organisational members through informal social contacts (Jian, 2013). Within a business environment, informal communication is sometimes called "the grapevine" (Jian, 2013).

Johnson et al. (1994) focus on the relationship between formal and informal organisational communication. They conclude that even though there is evidence that informal communication might have a bigger impact than formal, which is tightly connected to the importance of informal organisational culture, see chapter 2.2.2.1, the findings reveal rich and complex interrelationships between informal and formal channels but no conclusive determination of the importance can be made. Jian (2013) further stresses that even though there is no overarching model of informal communication, managers must recognize and set up mechanisms to monitor these informal communication activities. Additionally, managers should incorporate informal communication channels when designing organisational communication strategies. Jian (2013) further highlights the positive impact of leveraging the processes and functions of grapevine activities when communicating critical operational and strategic issues.

A further determination that can be made in characterising organisational communication is the role of **technological and spatial factors** within communication. In his essay Johnson (1992) mentions technological and spatial factors impacting communication structure between organisations' entities. The author refers to the work of Hagarstrand who published the intersection of time and space paths as determining the opportunities for communicative encounters. It shows that interactions sharply diminish with the distance from the interacting person's position and other communication channels are used instead of personal interaction. Even though the source defining this communication characteristic is old, it's concept is still valid today (Lenntrop, 2008).

The above shows that organisational communication is a complex matter, subject to many potential barriers and therefore in need of careful facilitation. That is supported by the famous statement that **"we cannot not communicate"** (Watzlawick, Hemlick Beavin and Jackson, 1967, p.49).

It was outlined that communication is an important management task. To quantify this task, the classic study of Mintzberg (1973) needs mentioning. This well-known management researcher followed the question "what do managers do" and analysed work habits and time management of chief executive officers. He watched five managers, each for one week, and recorded their verbal contacts, phone calls, and handling of mail. His five executives studied 659 pieces of incoming mail and generated 231 additional pieces of mail, all of which they interspersed between 368 verbal contacts. He then categorised the purpose of each of these 1,258 items and then collapsed these purposes into a set of ideas about the characteristics and the content of managerial work. The essential findings can be summarised quickly: with respect to the characteristics of managerial work, the data show that the manager works at an unrelenting pace with chronic interruptions, he/she prefers action over reflection and verbal media over written media in his/her contacts. He further concludes that managers spend most of their work time communicating and that they gravitate toward activities that are current, specific, well defined and non-routine. They have a definite preference for "live action" meaning "hot" information, instant communication, gossip, speculation, hearsay, odds and ends of tangible detail, information about events, and "trigger" information (information in the form of concrete stimuli). They do not prefer information about trends, surveys, summaries, mail, and historical aggregated information. Mintzberg concluded, "the job of managing is fundamentally one of processing information, notably by talking and especially by listening". To be a good manager one has to be a good listener (The Economist, 2009). In his essay on Mintzbergs study, Weick (1974) states that much of the evidence for Mintzberg's "live action" hypothesis comes from the repeated observation that incoming mail was given a cursory treatment. Mintzberg (1973) further states that a final implication of the "live action" analysis is that two classic topics in social psychology - non-verbal communication and communicator credibility-may be more important for organisational behaviour than realized. Mintzberg (1973) study is based in the early 1970s and since then the means of communication have fundamentally changed. Where he observed mail handling, e-mail handling would be today's equivalent. But even though time has passed, Mintzberg still vouches for his finding's relevance (Mintzberg, 2015).

These aspects defining organisational communication substantiate the arguments written in the chapter on organisational theory describing organisational communication as a crucial element for managerial and hence organisational success. The next subsections provide more detail on the so far only briefly mentioned communication channels.

2.4.2 Channels

To process information, the manager has five main communication channels at his command: **mail** (documented), **telephone** (purely verbal), **unscheduled meeting** (informal face-to-face), **scheduled meeting** (formal face-to-face), and **tour** (observational) (Mintzberg, 1971). For today **e-mail** (documented) and **meetings via electronic means** (such as Skype) need to be added, as illustrated in Figure 22.
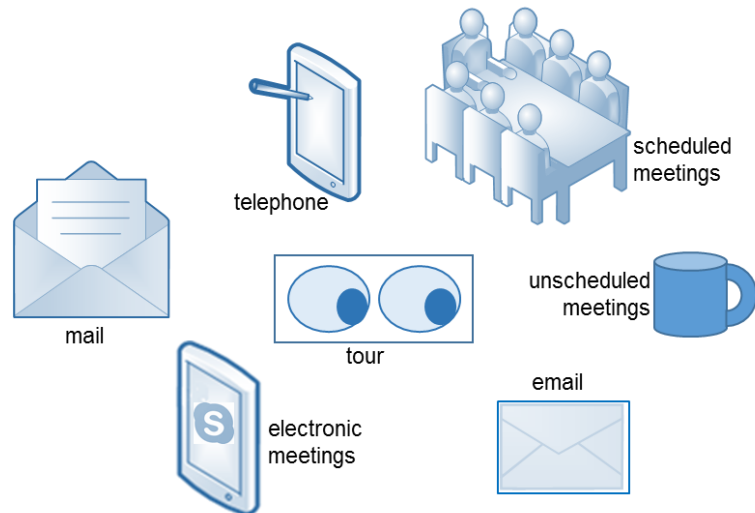
Figure 22: Overview of managers' main communication channels, source: self-study

Axley (2000) points out that the choice of communication channels used by an organisation is often based on available technology and by customer and workforce characteristics. However, undoubtedly, technology and the development of the internet and intranet in recent years have made a great impact on communication channels (Axley, 2000; Brock and Zhou, 2005; Clampitt, 2005). Electronic communication such as e-mail, video-conferencing, instant messaging, and mobile phones mark the way daily work tasks are carried out, with e-mail being the most widely used communication technology over the past decade (Minsky and Marin, 1999; Katz, 2002).

Theoretical and empirical research examining the use of communication technologies in organisations has determined a broad range of influences affecting it as highlighted in an extensive literature review by Kupritz and Cowell (2011). These influences range from taxonomies for general types of messages sent (such as task delegation, project management, reminders, and information exchange) to decision rules for managing e-mails and from medium characteristics to the social environment. A large portion of this research has addressed media choice and use, including those for managers or subordinates, more so than the specific types of messages transmitted or the effectiveness of the particular channel in conveying those messages (Kupritz and Cowell, 2011). But organisations also need to know how their employees are affected by the way in which information is provided to them (Talton, 2001).

The complex, easily ill guided, jungle of available communication channels, requires organisations to identify the most effective channels suitable for their specific organisational environment: According to Argenti (2003) do today's employees want high-tech and sophisticated communications, together with personal contact with their managers. The same author underpins that understanding this fact is the cornerstone of an effective internal communication system. However, despite the benefits which personal face-to-face communication between managers and staff provides, the costs associated with this mode of communication are high. That requires organisations to make decisions about how often scarce resources should be allocated for face-to-face communication and when the alternative, in the long-run less costly,

resource of electronic communication channels can be substituted (Kupritz and Cowell, 2011), decisions that should consider an array of challenges, as outlined in the next subsection.

2.4.3 Challenges

This section takes up challenges associated with organisational communication, because they are frequently mentioned in literature about organisational communication. It starts with a view on an increasingly perceived information overload, presents the essentials of scheduled meetings, e-mail communication and the increasing habit of mobile work and is concluded by stating a series of communication obstacles. Elements that are taken up again in the empirical part of this thesis.

2.4.3.1 Information Overload

The technological developments of the last 50 years have made more information more available to more people than at any other time in human history (Feather, 1998). While there are obvious benefits from easier access to information, research has found that **information overload** can lead to stress and loss of job satisfaction (Lewis, 1996). Kirsh (2000) points out that the flow of information in today's workplace, saturated with profound information overload, multitasking, and interruptions, is "mediated by an ill understood array of technologies, at-hand resources, and shifting teams of people" (p.20). The constant bombardment of information coupled with interruptions and distractions can negatively affect workers' health (Bawden and Robinson, 2008).

The concept of information overload is led by the idea that there is too much information to hand, impaired by the multiple formats and channels available for its communication (Bawden and Robinson, 2008). The same authors state that there is no single generally accepted definition of information overload which is supported by Roetzel (2018). According to Bawden and Robinson (2008, p. 182) the term is usually taken to "represent a state of affairs where an individual's efficiency in using information in their work is hampered by the amount of relevant, and potentially useful, information available to them". The authors further state "the feeling of overload is usually associated with a loss of control over the situation, and sometimes with feelings of being overwhelmed" (p. 183). They summarise their working definition by stating that information overload occurs when information received becomes a difficulty rather than a help, even though the information is potentially useful (Bawden and Robinson, 2008). Roetzel (2018) adds that failing to embrace the accumulation of individual informational cues of differing size and complexity decreases the decision maker's ability to optimally determine the best possible decision.

Edmunds and Morris (2000) reviewed the literature on the problem of information overload, with particular reference to business organisations. The authors reveal that although the problem of information overload has existed for many years, in recent years the problem has become more widely recognised and experienced. Both perceptions and the actual effects of information overload have been exacerbated by the rapid advances made in information and

communication technology, although it is not clear cut as to whether the internet has worsened or improved the situation. A theme stressed in the literature is the paradoxical situation that, although there is an abundance of information available, it is often difficult to obtain useful, relevant information when it is needed. Some solutions put forward to reduce information overload are: a reduction in the duplication of information found in the professional literature or the **adoption of personal information management strategies**, together with the integration of software solutions (Roetzel, 2018).

2.4.3.2 Scheduled Meetings

"A meeting is an event where minutes are taken and hours wasted". – James T. Kirk, Captain of the USS Enterprise (Meeting Quotes, 2019)

A special emphasis needs to be put on the communication channel *scheduled meeting* (formal face-to-face), since it consumes a substantial part of managers' resources (Mintzberg, 1971; Romano and Nunamaker, 2001; Mintzberg, 2015; Allen, Lehmann-Willenbrock and Sands, 2016). Rogelberg et al. (2006) state that a typical employee spends about 6 hours per week in scheduled meetings, a number consistent with other findings, such as OECD (2017b) which surveyed companies with 500 or more employees and reported 17% of working time being spent in meetings. Meinecke and Lehmann-Willenbrock (2015) allocate this channel providing a window into social dynamics in the workplace. Hindle (1998) defines a meeting as two or more people coming together at a predefined time and place to make decisions or resolve problems. Formal meetings are held at a definite place and time for a usually definite duration and are following an agreed-upon agenda (Meeting, 2019). A meeting between two people is referred to as one-on-one (one-on-one, 2019), and within an organisational context typically refers to communication between a manager and subordinates. According to Hedges (2013), such one-on-ones ensure accountability.

Purpose of meetings: Drucker (1967) states a striking definition of a meeting's purpose: *"We meet because people holding different jobs have to cooperate to get a specific task done. We meet because the knowledge and experience needed in a specific situation are not available in one head, but have to be pieced together out of the knowledge and experience of several people."*(p.44).

Hood ((2013) defines the purpose of meetings as explicitly referring to the stated goal of the meeting, which has to be clearly reflected on the agenda as well as informing the meeting structure. Hence, scheduled meetings can be a platform for productive collaboration across disciplines (Romano and Nunamaker, 2001). But, despite this reasonable definition, numerous studies, as highlighted in an extensive literature review by Romano and Nunamaker (2001), reveal that this communication channel is often considered to be costly, unproductive and dissatisfying, also reinforced by recent studies (OECD, 2017b). According to Schell (2010) and Lehmann-Willenbrock, Allen and Belyeu (2016) employees evaluate almost half of their meetings as ineffective. A situation that can, as much as information overload, negatively affect employee health (Luong and Rogelberg, 2005) and organisations' success (Kauffeld and

Lehmann-Willenbrock, 2012). The same authors further state that especially dysfunctional communication in meetings affects these factors and general meeting perception negatively. Dysfunctional behaviour includes employees "whingeing" about the status quo, seeking the guilty party, purposefully devaluing others or losing themselves in details and examples (Kauffeld and Lehmann-Willenbrock, 2012).

Besides the many factors than can go wrong in meetings, literature also offers guiding elements to achieve positive meeting perception. Kauffeld (2014) advocates that communication in meetings benefits from a good meeting design and points out the following factors reducing dysfunctional communication and hence increasing the perceived meeting effectiveness (Leach et al., 2009; Schulte, Lehmann-Willenbrock and Kauffeld, 2014):

- provision of a meeting agenda before the meeting, so that participants can prepare their relevant items
- start and end meetings on time
- use suitable meeting spaces
- chair leads goal-oriented discussion through the meeting

Further it is advised to use structuring statements to reduce "whingeing" during meetings (Kauffeld, 2007; Kauffeld and Meyers, 2009). This includes clarifying statements, concrete proposals for next steps, priority definitions and goal orientation. In addition, the composition of the meeting participants can influence the meeting efficiency. Schulte, Lehmann-Willenbrock and Kauffeld (2014) show that mixed aged participants show less dysfunctional communication than participants sharing a high average age.

Meeting Minutes are often a result of formal meetings. They provide an historical record of an organisation's business, reducing the possibility of disagreement of what exactly was discussed and decided, when and by whom (Waibel et al., 2001; Stanton, 2004). According to Stanton (2004) they provide this information by performing four functions:

- constitutional - as minutes are the authoritative record of the meeting proceedings
- historical - as minutes provide a continuous historical narrative of activities
- executive - as minutes serve as the blueprint of decisions made and actions to be taken and hence act as authority for action
- progressive - when the minutes act as the basis for evolving policy

Meeting minutes are part of internal communication when meeting participants belong to the same organisation (Kaul, 2000). A main goal of internal communication is enabling a shared organisational culture to support organisational goals (Linke and Zerfass, 2011; Tkalac Verčič, Verčič and Sriramesh, 2012; Tkalac Verčič and Pološki Vokić, 2017). Although their format is governed by unit and organisational guidelines, meeting minutes should follow established policies and standards of practice, as displayed in Table 8.

Table 8: Schematic Representation of Meeting Minute Structure, based on Nordquist (2017)

Meeting Minute Structure
Heading The name of the committee (or other unit) and the date, location, and starting time of the meeting.
Participants The name of the person conducting the meeting along with the names of all those who attended the meeting (including guests) and those who were excused from attending.
Approval of previous minutes A note on whether the minutes of the previous meeting were approved and whether any corrections were made.
Action items including unfinished business from the previous meeting
A report on each topic / Agenda item discussed at the meeting. (For each item, note the subject of the discussion, the name of the person who led the discussion, and any decisions that may have been reached.)
Announcements A report on any announcements made by participants, including proposed agenda items for the next meeting.
Next Meeting / Adjournment A note on where and when the next meeting will be held. A note on the time the meeting ended.
Signature line The name of the person who prepared the minutes and the date they were submitted.

The way in which agenda items are minuted depends further on the general type of minutes. Rigley (1996) differentiates four different ones:

- **notes of meeting:** The minimum requirement would be the date, a list of attendants, what was discussed and what actions need to be taken as a result
- **narrative minutes:** present a maximum narration of meetings. Persons giving important contributions are indicated. It shows the decision making process, including the names of proposers and seconders and the exact wording of what is proposed; views for and against the proposition and the decision reached. It also includes a summary of information passed on in the meeting
- **resolution minutes:** in contrast to narrative minutes only the decisions are recorded, without mentioning how these decisions were reached. No information on the contributors is presented
- **action minutes:** display predominantly who will carry out the decision and when the action will be taken place

The writing style in all minute types is suggested to be clear, comprehensive, objective, and diplomatic, without interpreting what happened, just reporting it. It is further advised not to record emotional exchanges between participants, because minutes are the official record of

the meeting, and should reflect positively on the participants and the organisation (Markel, 2010).

Buchanan (2000) summarises the value of minutes poignantly: "*A good set of minutes can give the group a sense of progress; incoherent jottings […] leave everyone bewildered.*"(p.94-95).

2.4.3.3 E-mail Communication

Despite the strong adoption of interpersonal communication methods, such as instant messaging, social networking and chat, e-mail use continues to grow in the business world (The Radicati Group Inc., 2018). In 2017, the total number of business and consumer e-mails sent and received per day was expected to reach 269 billion, and is expected to continue to grow at an average annual rate of 4.4% over the next four years, reaching 319.6 billion by the end of 2022 (The Radicati Group Inc., 2018). Chui et al. (2012) from the McKinsey Global Institute found that an average employee spends 13 hours a week reading and responding to e-mail, this being the most time-consuming work activity. These authors' key takeaway is that e-mail overload is a global epidemic. Apparently less than half of e-mails deserve attention. According to The SaneBox Gang (2016) internal data, the average inbox contains only 38% important, relevant e-mails. This means 62% of the e-mails in the average inbox are not important and can be processed in bulk. Just a few years ago, the breakdown of important vs. unimportant incoming e-mail was 42% to 58%, meaning today's typical inbox has shifted toward more noise than before. This is alarming as e-mail interruptions are a drain on productivity. A study by the Danwood Group (Jackson, Dawson and Wilson, 2003) found that it takes an average of 64 seconds to recover from an e-mail interruption (regardless of the e-mail's importance) and return to work at the same work rate as before the interruption, hence it is critical to batch-process unimportant e-mails. This matches the results of a literature review by McMurtry (2014) revealing that that e-mail overload can decrease work productivity due to constant task interruption to check e-mail, resulting in task fragmentation as well as constant decision making about whether and when to interrupt work tasks to attend to e-mail. A study by the Grossman Group (Grossman, 2012) identified managers agreeing that e-mail can be an effective and necessary communication tool, when used appropriately. The study's respondents said they do not want access to e-mail interrupted to reduce associated stress with e-mail management but they do want policies that address the overwhelming volumes of irrelevant e-mails and that such policies would be very effective in their organization. Without these policies employees tend to make up their own strategies, which in turn do not match (Span, 2007). These sources are not entirely up to date, but considering that the volume of e-mail is likely to increase (The Radicati Group Inc., 2018) it is highly unlikely that their relevance is decreasing.

A challenge for anyone using e-mail is to determine which of the available communication channels to use. Kruger et al. (2005) and LaFrance (2016) suggest that if the same communication can be quickly, easily and effectively shared via e-mail, then an e-mail is preferable to a meeting, while communications that are lengthy, detailed, or complicated (i.e., an e-mail that

is more than 50–125 words) are better suited to a meeting. Kruger et al. (2005) also states that although e-mail is often an efficient means of communication, most people tend to over-estimate the effectiveness of their e-mail communication channel.

2.4.3.4 Communication Obstacles

The above challenges can be accumulated into categories of more abstract communication obstacles, as displayed in Table 9 where these categories are adapted to FM purposes.

Table 9: Communication obstacles adapted to FM purpose; self-study based on Morath and Turnbull (2005) and (2012a)

Physical environment	Professional	Information
Constant Interruptions disrupt flow of communication	Conflicting information expectation due in part to contrasting professional approaches to service delivery	Insufficient, incomplete, and/or omitted information.
Time pressures and work overload fostering multitasking: Creating distraction that can impede communication	Power and status differences may prevent those in subordinate roles from asking questions and/ or challenging faulty assumptions	Poor communication flow among staff, delayed information, mistimed data exchange
Ambiguity about system records due to faulty recording	Desire to show professional competence and gain approval of others may pressure staff into displaying certainty and confidence even when they are unsure of decisions.	Inaccuracies and information overload
Shift-based nature of certain FM professions requires multiple handovers among staff, increases potential for data to "fall through the cracks"	Dysfunctional bureaucracies characterised by isolated silos of professional specialisation, authority by position rather than expertise, fixed rules and decision-making designed to preserve the status quo.	Staff rely on "one-way" communication in which information giving dominates in order to expedite interactions, reduces give-and-take that can clarify areas of uncertainty.

Dennett and Johnson (2018) sum up todays communication challenges fittingly by stating that connected digital technologies have brought managers some amazing tools and information resources. However, at the same time, over the past four decades, managers have become saturated with information and opinion. The fears of missing out and of being wrong are contributing to significantly increased stress levels. The 'smart' phone has become the digital overlord of digital overload (Dennett and Johnson, 2018). Also very fittingly, Vogel and Hultin (2018) state that today's managers are living in a time of unprecedented change and transformation. Hence, today's leaders need to proactively respond to many challenges that result from living in a world that is volatile, uncertain, complex and ambiguous especially due to the constantly evolving digitalisation, influencing organisational communication.

2.4.4 Generic Communication Framework

Since communication plays such an important role in any organisation, it is evident that there are already communication frameworks in place. An established representative is found in the section 7 on support of the ISO 9001:2015 standard, which deals with communication requirements (ISO 9001:2015, 2015). This section states the required decisions on communication which an organisation needs to have in place to support its quality management system (QMS). These requirements state that "the organisation shall determine the internal and external communications relevant to the quality management system." To do so the organisation needs to decide what it considers as relevant communication as part of QMS. Included in this determination of relevant QMS communication are five items forming part of the communication plan (Hammar, 2019): 1. What will be communicated (on product / service performances); 2. When communication takes place (e.g. how long to wait to report on a nonconforming product?; 3. With whom to communicate (stakeholder definition); 4. How communication takes place (use of suitable communication channels); 5. Who communicates (e.g. what the CEO does and what other staff members do). Hammar (2019) also reinforces that communication and reporting are essential components for any effective management system and that poor communication proves detrimental to it. The author further emphasises the importance any organisation should place on establishing and maintaining communication procedures.

2.4.5 Communication in Hospitals

Hospitals are complex organisations (see 2.2.3 p.42). Apker (2012b) states that communication failure can have serious consequences, perhaps even life or death ones. The same author further stresses that the importance of communication in health organisations extends beyond the patient's bedside. As good communication builds cohesive positive work environments bad communication creates barriers that reduce the quality of work life and job satisfaction, negative communication experiences can ultimately affect healthcare delivery (Apker, 2012b). But hospitals' complexity is not conducive to effective communication and the many actor groups involved tend to solve problems in isolation, impeding a facility manager's ability to deliver effective health facilities which satisfy their competing needs (Carder, 1995; Then, 1999; Heng and Loosemore, 2013).

As mentioned, hospitals are facing a series of challenges such as a rapid evolvement of medical technology. This process increases the already high complexity of healthcare and leads to a greater need for the managing of large amounts of information (Haux et al., 2010). Managing this information is particularly difficult in hospitals, where to date there has been a very distinct labour division with a high level of specialisation in different disciplines and a tendency of minimal structuring as well as a high human factor effect (Kriegel, 2012). Johner and Haas (2009) refer to the different thinking and linguistic worlds of doctors, technical staff and economists, which in turn can be a barrier to effective and efficient communication.

To tackle the **complexity of communication in hospitals** health leaders must display a wide range of communication competencies. Based on literature research Apker (2012b) mentions four major competencies particularly relevant to leadership in health organisations:

1. **Empowerment:** a leader's communication provides encouraging participation, involvement and autonomy in ways that develop competence, ability and personal authority among followers. This competency is especially important as no leader can effectively meet all organisational demands alone. The author emphasizes that health leaders who empower subordinates are making their organisations better equipped to address organisational challenges due to the changing environment.

2. **Conflict management:** competences needed to negotiate with interdependent individuals having incompatible goals. Leaders are often third-party conflict managers due to their task of supervising individuals who are in disagreement. The author points out that conflicts are a natural part of life in health organisations as individuals with different backgrounds have to work together.

3. **Collaboration:** in the meaning of working together in a shared intellectual effort. Goal hereby is to interact for the benefit of knowledge and skills to synergistically influence decisions and work for the overall goal of the health institution. It is highlighted that collaborative leadership skills are especially beneficial in healthcare institutions as they draws upon the expertise of multiple constituencies, e.g. workforce from various occupations and specialisations.

4. **Influence:** is stated as the essence of leadership as leaders continually shape attitudes and behaviours of others (Northouse, 2010). Positive communication behaviours – such as those needed in previous competencies – are first steps to developing influencing ability. Of crucial importance therefore is having a clear sense of direction for the organisation within the continuously shifting healthcare environment.

The care of patients now almost inevitably seems to involve many different individuals, all needing to share patient information and discuss their management. Consequently, there is increasing interest in, and use of, information and communication technologies to support health services. Yet, while there is significant discussion of, and investment in, information technologies, communication systems receive much less attention and the clinical adoption of even simpler services like voice-mail or e-mail is still not commonplace in many health services (Coiera, 2006). There remain enormous gaps in the broad understanding of the role of communication services in health care delivery (Coiera, 2006).

However, whereas literature provides insights of patient clinician communication little is available about FM communication in hospitals. This is demonstrated by a literature research on the Emerald Publishing (24.1.2018) which manages a portfolio of nearly 300 journals many of them covering healthcare and FM topics. Key words anywhere for the 2017 period → different combinations of "Hospital", "Communication", "Facilities", "Management". None of the suggested publications met the scope of this study. A result that supports this thesis relevance.

2.5   Conclusion: FM in Hospitals - the Role of Communication

Based on the aforementioned content, organisational communication is considered an important management task in the healthcare system but has not been continuously treated as that in most hospitals (Martini, 2010). Considering the broad and complex scope of FM in hospitals it is evident that communication plays a vital role to process information adequately.

This thesis background chapter took the funnel analogy, see Figure 2, as a guideline to cover relevant topics enabling us to empirically access and discuss an understanding of FM communication in the Swiss hospital context. To round off, Figure 23 sums up the identified themes in the literature review of this background section. Themes that play a crucial role in structuring and influencing FM communication in hospitals. The figure incorporates and draws on models described within the provided theoretical treads. The items displayed in it, not only visually summarise the content of this background chapter but also provide the basis for both the structure of the data collection items, the presentation of the results and the aspired communication framework. The figure consists of the following elements:

- it visualises the **context** of this thesis, FM communication within hospitals' FM department, which again is an important actor within healthcare
- it points at the major **challenges** affecting healthcare, hospitals and their FM among these especially tightening finances are fostering modes of development to optimise effectiveness and efficiency of how FM is provided
- it displays that changes in **modes of development** are enabled by FM communication, which in turn is shaped by the heterogeneous, **diverse organisational structure of FM** by being a field combining processes of different disciplines managed by staff with different professional backgrounds
- it further shows that **structuring forces** (strategy, structure, culture) as well as the specific set-up of **FM processes** and **interaction issues** (resources, norms and values, concerns and interests) influence communication and hence FM as such
- Within the setting of communication, it highlights **elements structuring communication: formal and informal**, **vertical and lateral**, major **communication channels** as well as the influence **subjective experiences and beliefs** have on communication activities.
- and it points out that **communication challenges** are a central element to either obstruct (if poorly managed) or foster (if proactively handled) communication activities

    Hence, it is expected to find evidence of these elements in existing communication activities in Swiss hospitals FM.
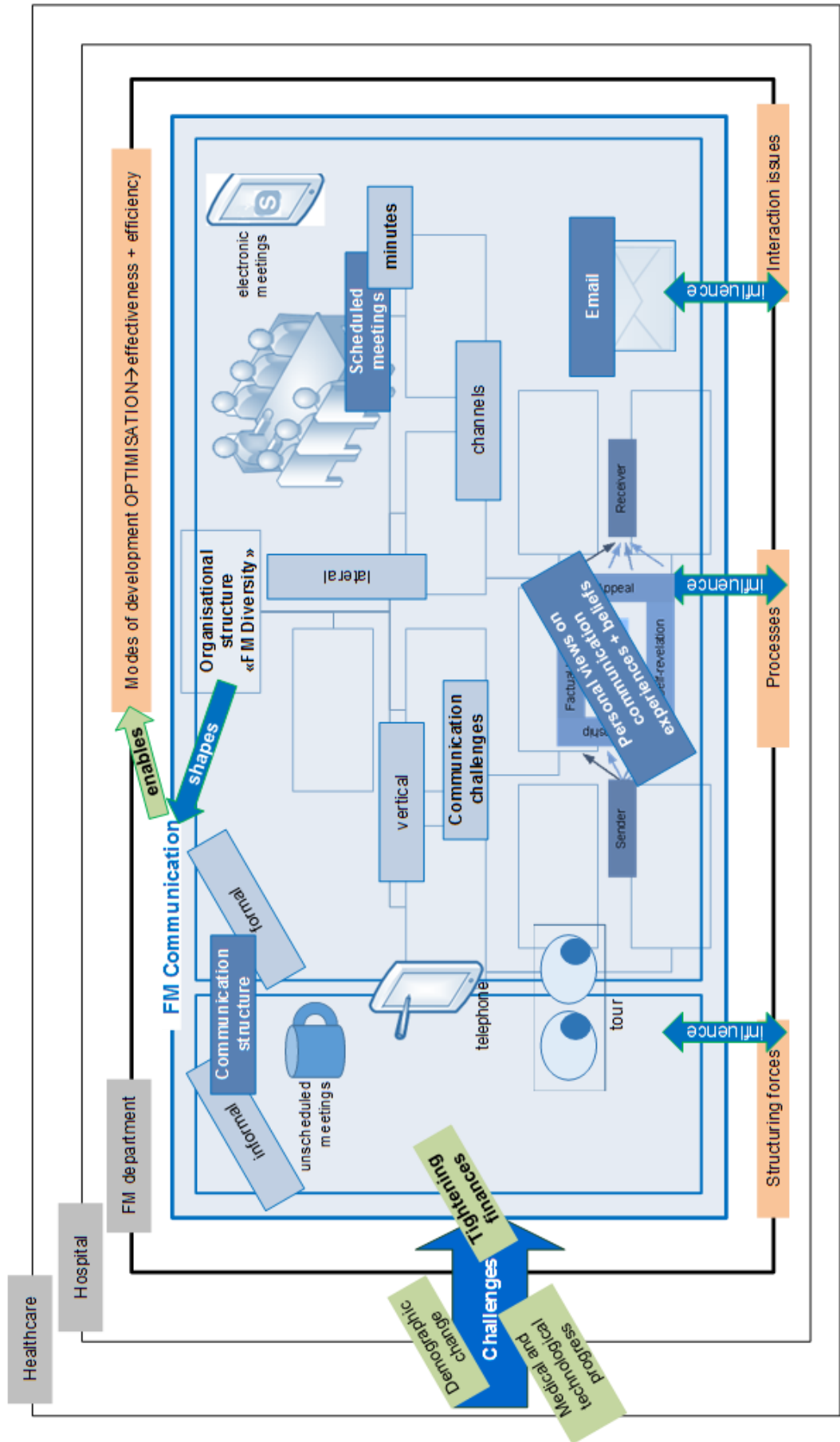
Figure 23: Figurative conclusion of background chapter, source: self-study

The research problem of this thesis states that no equivalent evidence-based research focusing on FM communication in Swiss hospitals exists and the background chapter points out that existing literature and guidelines on organisational communication frameworks are predominantly non-organisation specific. As stated in section 1.2, outlaying the research problem, one of the very few studies explicitly discussing the role of communication in hospitals FM is the one from Heng and Loosemore (2013) which is however not covering the specific research setting of this thesis, being FM communication activities in German-speaking Swiss hospitals.

In light of this background chapter, summarised in this section, it has been demonstrated what is going on in the field of this study. Credentials have been established by identifying, grouping and commenting on existing work. Also the originality and significance of this thesis and how it fits in with existing research and practice has been revealed. Equipped with the required background knowledge to understand this thesis research, the reader is now ready to meet the applied methodology enabling us to operationally investigate the research aim and hence to answer the research question.

3 METHODOLOGY

"Good research is not about good methods as much as it is about good thinking" (Stake, 1995, p.19) this chapter is about transparently laying out the thinking that led to the chosen methodology of this thesis. Methodology refers literally to "the study of, or knowledge about, methods" (Cameron and Price, 2009, p.xxiii). In the context of research Creswell (2013) defines methodology as the process of the research undertaken to answer the questions asked. For this chapter it acts in the academic sense as the heading under which the chosen research approach is justified and described (Cameron and Price, 2009; Gill and Johnson, 2010; Quinlan, 2011). According to Nolen and Talbert (2011) it is especially important for the qualitative researcher to engage in philosophical and theoretical inquiry as a guidepost for the lens that will be applied in design selection, sampling procedures, data collection and data analysis protocols. This is the reason why the methodology chapter of this thesis is substantial.

It starts with a word on business and management research, and then introduces the theoretical framework guiding both structure and content of the methodology applied and through that the following parts of this methodology chapter. These parts explain the rationale behind theresearch philosophy used, approach to theory development, methodological choice, inquiry strategy, time horizon, as well as used data collection and analysis methods. The chapter is completed by discussing threats of qualitative and quantitative data and how these are addressed. Followed by stating ethical considerations with a special emphasis on bilingual research. A figurative action plan summarises and concludes this decisive chapter.

3.1 A Word on Business and Management Research

As outlined in the theoretical background, according to its definition and seen holistically, FM is rather a part of business and management than natural sciences. Especially its connection with organisational theory in the setting of a hospital business, classifies it as part of business and management research, because this view has implications on the chosen methodology, some key aspects of business and management research need to be stated to set the methodological frame.

3.1.1 A Multidisciplinary Field

Literature names the field of business and management research and the knowledge on corresponding methodology in varying forms such as "Business Research Methods" (Cameron and Price, 2009; Blumberg, Cooper and Schindler, 2011; Quinlan, 2011), "Research Methods for Managers" (Gill and Johnson, 2010), "Management Research" (Easterby-Smith, Thorpe and Jackson, 2012), "Business & Management Research" (Hallebone and Priest, 2009) or even "Qualitative Research in Business & Management" (Myers, 2009). Congruence on this research field's definition is deducted based on these sources. Blumberg, Cooper and Schindler (2011) representatively define business research "as a systematic inquiry whose objective is to provide the information that will allow managerial problems to be solved" (p.4).

Sekaran (2003) adds that in essence it provides information allowing managers to make informed decisions to deal with problems.

Myers (2009) states that business and management research focuses on topics that are relevant to business and management disciplines and that these disciplines cover a broad area including economics, human resource management, organisational behaviour, management strategy and operation management. Saunders, Lewis and Thornhill (2012) agree that multisdisciplinarity, also named transdisciplinarity, is a distinctive characteristic of it and state that the transdisciplinary nature of this research has gained in support. They conclude based on the work of Easterby-Smith, Thorpe and Jackson (2012) that using knowledge from several disciplines allows business and management research to gain new insights that cannot be gained through separate disciplines alone. Saunders, Lewis and Thornhill (2012) further state that the selection of different disciplines taken into account to research a particular topic, depends on the background and needs of the organisational issues researched on. To conclude this section Easterby-Smith, Thorpe and Jackson (2012) add a further important factor to the defining characteristic of this research area: the requirement for the research results to have some practical value of benefit to the business.

3.1.2   Relevance and Rigour Discussion

An imperative issue within the discussion around business and management research deals with the so-called "trade-off between relevance and rigour" also called "rigour-relevance dispute" dating back many decades (Gulati, 2007), which is mentioned in both textbooks and research papers. While rigorous research focuses on theoretical contribution, relevant research focuses on practical contribution (Myers, 2009). Toffel (2016) declares relevance when research has the potential to improve the decision making of managers. Other sources classify rigorous research as basic research and relevant research as applied research (Cameron and Price, 2009; Blumberg, Cooper and Schindler, 2011). There are tensions between these two poles as the issue is often considered as an "either or" argument (Gulati, 2007) . Baldridge, Floyd and Markóczy (2004) published a paper with the fitting title "are managers from Mars and academicians from Venus? Toward an understanding of the relationship between academic quality and practical relevance" as one example of many, highlighting the controversy over relevance and rigour. These authors' investigation into empirical studies exploring the relationship between academic quality and practical relevance produced conflicting findings, ranging from a positive to a negative relationship.

Myers (2009) points out that business and management research can potentially gain in relevance when being able "to deal with 'complex', unquantifiable issues that are the reality of business" (p.14). The author further argues that qualitative research provides the value to do that. Qualitative research plays an important role in this thesis methodology as pointed out later on. Saunders, Lewis and Thornhill (2012) nail this discussion down to its core and state that business and management research needs to engage with both the world of theory and the world of practice. Consequently, the problems addressed "should grow out of interaction

between these two worlds rather than either on their own" (Saunders, Lewis and Thornhill, 2012, p.6). Toffel (2016) sees one reason why the world of theory and practice are insufficiently engaged, with negative impact on research relevance, in scholars having little or no work experience in the fields they study and suggests a range of actions to bridge the gap between academic perceptions of workplace and workplace realities. Blumberg, Cooper and Schindler (2011) state that reflecting on researcher experience in an academic work is an action guaranteeing good research. To highlight the relevance of this thesis research, complementing the content of the theoretical background, Toffel (2016) proposes that research actions are matched with the researcher's experience based on evidence she and the academic institution she works in undertake to close this gap. Appendix B p. 275 shows these actions and more reflection on the researcher's experience within the field of this research is presented in Appendix A p. 271 presenting this thesis author's CV.

Hence, the multidisciplinary nature of FM as well as the multidisciplinary nature of hospitals as organisations fits neatly into this thesis doing empirical work within the methodological framework of business and management research. Based on the aforementioned content, it is also evident that this research is both relevant and rigorous due to sound methodology and also based on the researcher's experience to address the academic-practice gap in the research area under study.

3.2   Guiding Conceptual Framework

Research as such is defined as: "the systematic investigation into and study of materials and sources in order to establish facts and reach new conclusions" (research, 2018, para 1). Usually research textbooks represent research as a multi-stage process researchers have to follow in order to plan and conduct a research project (Saunders, Lewis and Thornhill, 2012). However, scholars disagree about the name, the order and the nature of these research stages. Crotty (1998) states that research terminology is "thrown together in grab-bag style as if they were all comparable terms" (p.3).

Hence, a number of different conceptual methodological frameworks exist as guidelines for this process. A conceptual framework is "a visual or written product, that describes, either graphically or in narrative form relevant items under study" (Miles and Huberman, 1994 p.18). The common feature of these models is that their phases are interconnected and decisions on choices made within phases highly depend on and influence the surrounding phases.

Crotty (1998) solution to above-mentioned "terminological mess" is a four-staged framework, see Figure 24. He labels the stages: epistemology; theoretical perspective; methodology; methods. Another example of illustrating such a conceptual framework is the nested approach by Kagioglou et al. (1998) stating constituent elements of research methodology labelled as: research philosophy, research approach and research techniques, see also Figure 24.
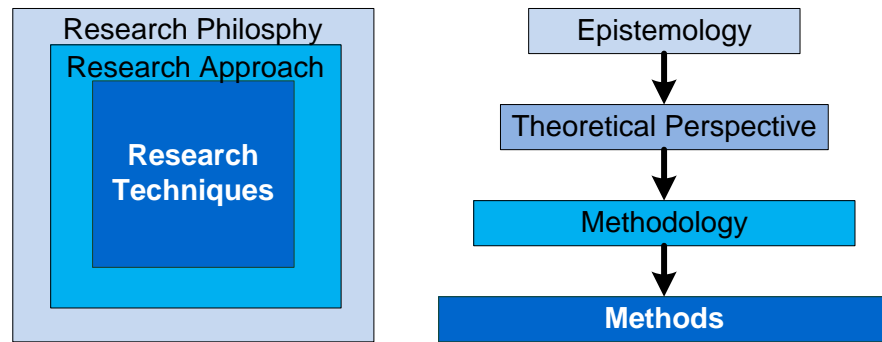
Figure 24: Research frameworks, source: self-study according to Crotty (1998) left, and Kagioglou et al. (1998) right

In contrast to Crotty (1998) and Crotty (2007), Saunders, Lewis and Thornhill (2016) classify research into six stages and name their model "the research onion", see Figure 25. Their stages are labelled as: philosophies; approaches; strategies; choices; time horizons; techniques and procedures. The model extends the concepts of the previous frameworks and additionally visualizes possible choices within the stages.
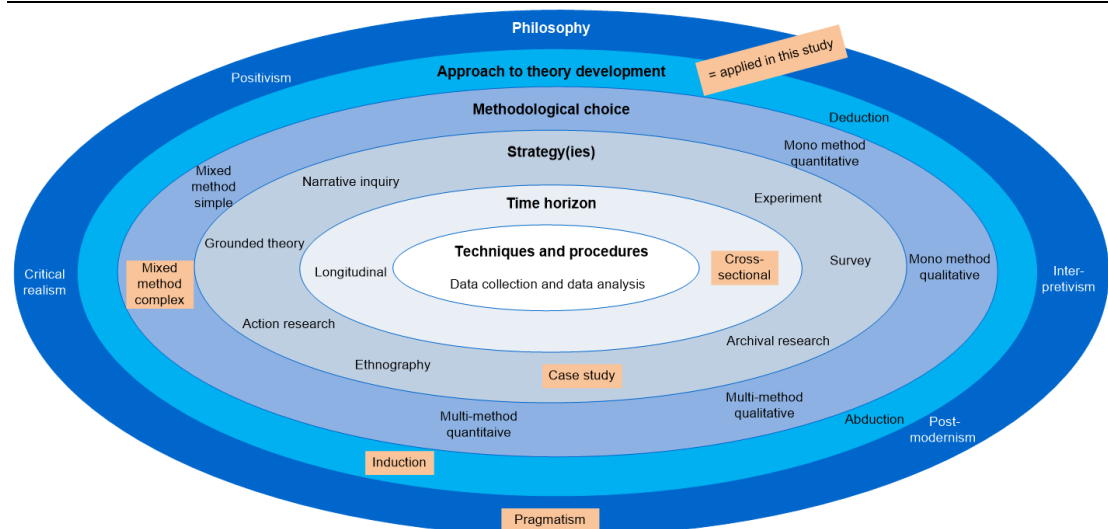
Figure 25: The research onion, source: self-study based on Saunders, Lewis and Thornhill (2016)

While Crotty (1998 and 2007) distinguishes between 'epistemology' and 'theoretical perspective' Saunders, Lewis and Thornhill (2016) put 'epistemology' and 'theoretical perspectives' together under the layer philosophies. Kagioglou et al. (1998) incorporate 'epistemology' and 'theoretical perspectives' under research philosophy. Another model provided by Easterby-Smith, Thorpe and Jackson (2012) represents methodological terms as a tree trunk, starting with ontology and epistemology being at the core, see Figure 26. This might seem like contradicting the research onion which puts these terms in the outer layer. However, given the nature of how trees and onions grow, they both highlight the importance of ontology and epistemology as the starting point of the research process. The significance of whether work starts from the inside and works out or the other way round is unimportant, the meaning of both models is that they focus on and provide consistent background to the research process. This is further

supported by Quinlan (2011) who provides a pyramid as a conceptual methodological framework, placing the fundamental philosophies at its foundation, emphasising the importance of understanding the reality and the basis of knowledge as a basis of any research activity, see Figure 26.
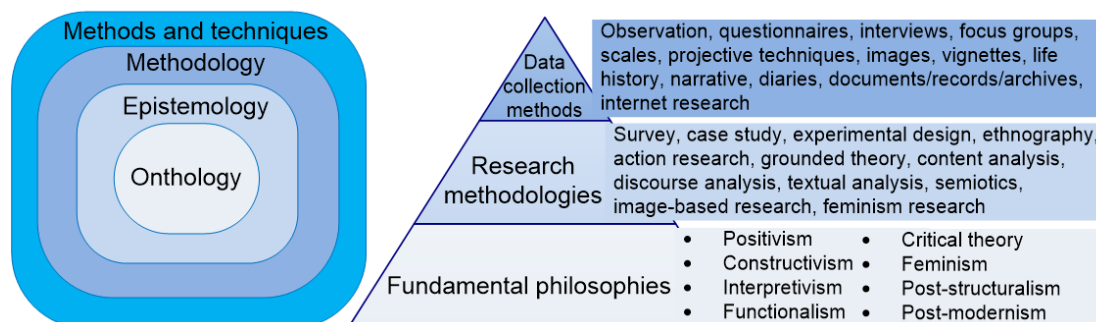
Figure 26: Methodological terms, source: self-study according to Easterby-Smith, Thorpe and Jackson (2012) left and Quinlan (2011) right

This study adopts the research onion of Saunders, Lewis and Thornhill (2016) as the guiding conceptual framework to design its research methodology because of its detailed layering. Justification for this decision is further provided by Bryman (2012), who sees the research onion as an effective guideline through which a research methodology can be designed, because its usefulness lies in its adaptability for almost any type of research methodology and can be used in a variety of contexts.

The following subsections deal with the layers and involve choices of the research onion one by one, starting with the topic of research philosophy. Each section will first outline possible paths and then conclude on the one applied in this thesis' research.

3.3   Research Philosophy

The term research philosophy stands for a system of beliefs and assumptions about the development of knowledge (Saunders, Lewis and Thornhill, 2016). Crotty (1998) states that these assumptions inevitably shape the researcher's understanding of research questions and the methods applied. Research philosophies can be distinguished through a **set of assumptions** attached to each of them (Saunders, Lewis and Thornhill, 2016):

Ontology: what is the form and nature of reality and therefore, what is there that can be known about it ? (Denzin and Lincoln, 2013). Hence, this assumption is concerned with the nature of reality, or the existence of the social world. The researcher is concerned with whether there is one reality or meaning to the social world, or whether multiple realities or social meanings exist (Saunders, Lewis and Thornhill, 2016).

Epistemology: what is the nature of the relationship between the knower or would-be-knower and what can be known? (Denzin and Lincoln, 2013). It concerns assumptions about knowledge, what constitutes acceptable, valid and legitimate knowledge, and how knowledge is communicated to others (Saunders, Lewis and Thornhill, 2016).

Axiology: what is the role of values in the research? (Denzin and Lincoln, 2013), refers to the role of values and ethics within the research process and in particular, the researcher's own values and beliefs, and the role this plays during the research process (Saunders, Lewis and Thornhill, 2016).

Besides the above types of assumptions attached to each research philosophy, Saunders, Lewis and Thornhill (2016) state according to Niglas (2010) that these assumptions and corresponding philosophies are sprinkled along a multidimensional set of continua between two **opposite extremes named objectivism and subjectivism**. Continua is defined as the plural of continuum, which is a "continuous sequence in which adjacent elements are not perceptibly different from each other, but the extremes are quite distinct" (continua, 2018, para 1).

Objectivism: is based on assumptions of the natural sciences where it is argued that social reality is external to researchers and other actors in the social world. Hence, objectivism in its pure form means that there is only one social reality true to all actors in it (Saunders, Lewis and Thornhill, 2016).

Subjectivism: Is based on assumptions of arts and humanities where it is argued that reality is made from individual perceptions and actions of the actors within it. Further, that this reality is constantly changing (Saunders, Lewis and Thornhill, 2016).

Table 10 summarizes the continua with objectivist and subjectivist extremes in relation to the three assumptions.

Table 10: Assumptions in the light of objectivism and subjectivism, source: self-study based on (Crotty, 2007; Denzin and Lincoln, 2013; Saunders, Lewis and Thornhill, 2016)

Assumption Type	Continua with two sets of extremes	
	Objectivism	Subjectivism
Ontology "Nature of reality"	• Real • External • One true reality • Granular (things) • Order	• Decided by convention • Socially constructed • Multiple realities • Flowing (processes) • chaos
Epistemology "what is acceptable knowledge"	• Adopts assumption of natural scientist • Good quality data: facts, numbers, observable phenomena • Law-like generalisations	• Adopts assumptions of arts and humanities • Good quality data: opinions, narratives, attributed meanings • Individuals and contexts, specifics
Axiology "Role of values"	• Value-free • Researcher detached	• Value-bound • Researcher integral and reflexive

The stance of this study within these continua is introduced in light of the chosen research philosophy in the following subsection. However, drawing on the nature of business and management research, as well as on the nature of FM and hospitals it is clear that neither one nor the other extreme within the assumption types fits.

In light of the above outlined set of assumptions, key characteristics of **five major philosophies** used in business and management (Saunders, Lewis and Thornhill, 2016) are presented in Table 11, providing the basis to locate the philosophy applied in this research.

Table 11: Comparison of research philosophies in business and management research, source: self-study based on Saunders, Lewis and Thornhill (2016)

Ontology	Epistemology	Axiology	Typical Methods
Positivism			
Real, external, independent, one true reality, ordered	Scientific method, observable and measurable facts	Value-free research, detached neutral independent researcher	Deductive, highly structured, large sample quantitative methods of analysis
Critical realism			
External, independent, objective structures, layered (the empirical, the actual, the real)	Facts are social constructions, historical causal explanations as contribution	Value-laden research, researcher acknowledges bias and tries to minimise them	In-depth historically situated analysis of pre-existing structures, range of possible methods
Interpretivism			
Complex, rich, socially constructed, multiple meanings	Theories and concepts too simplistic, focus on narratives, new understandings as contribution	Value-bound research, researchers are part of what is researched, subjective	Inductive, small samples, in-depths investigations, qualitative methods of analysis, range of data possible
Postmodernism			
Nominal, complex, rich, socially constructed trough power relations	Truth and knowledge are decided by dominant ideologies, focus on repressed meanings	Value-constituted research, researcher and research embedded in power relations	Deconstructive, in-depth investigations of anomalies, silences and absences, range of data types, preferable qualitative
Pragmatism			
Complex, rich, external, reality as practical consequences of ideas	Practical meaning of knowledge in specific contexts, true theories and knowledge are those that enable successful action, focus on problems, problem solving and informed future practice as contribution	Value-driven research, research initiated and sustained by researcher's doubts and beliefs	Following research problem and question, range of methods: mixed, multiple qualitative, quantitative, action research, emphasis on practical solutions and outcomes

In addition to what Saunders, Lewis and Thornhill (2016) mention as the five typical philosophies for business and management research, Easterby-Smith, Thorpe and Jackson (2012) among others put down constructivism as relevant in this research field. **"Constructivism"** also known as "social constructivism" is the recognition that reality is a product of human intelligence interacting with experience in the real world rather than by objectives and external factors (Easterby-Smith, Thorpe and Jackson, 2012). Hence it is most important to consider the way social actors (people) make sense of their experience (Easterby-Smith, Thorpe and Jackson, 2012). Along with the mentioned inconsistency in presenting terms of research methodology, these approaches may be outlined in other forms and also include further distinctions such as structuralism or feminism (Quinlan, 2011; Bryman, 2012; Easterby-Smith, Thorpe and Jackson, 2012; Creswell, 2013; Denzin and Lincoln, 2013) but in their core the definitions as such are consistent.

This study applies **pragmatism** as its underlying research philosophy. Justification for this decision is provided in the following passages. Regarding the previous discussion on the nature of business and management research Saunders, Lewis and Thornhill (2016) highlight the coexistence of multiple research philosophies due to the multidisciplinary nature of this research field. Also Easterby-Smith et al. (2012) state that pragmatism allows us to work with different philosophical assumptions. Hence, it allows the effective use of different assumptions at different stages of the research. This includes a post positivism approach attached to the quantitative element and a constructivist view for the qualitative component of this study. Therefore, pragmatism is consistent with this study's nature, its aim and objectives.

Referring back to the rigour relevance debate in business and management research Barrett and Barrett (2003) fittingly state that what practitioners want are findings from research to 'tell them what to do', so that they are able to '[do] better things' and '[do] things better' (p.755). To achieve this, Morgan (2007) suggests pragmatism as a fitting research philosophy in business and management research. The author states that pragmatism is fitting because it sidesteps the contentious issue of truth and reality, and accepts that there are singular and multiple realties open to empirical inquiry, and it is oriented towards solving practical problems in the real world. Saunders, Lewis and Thornhill (2012) back this up by stating that pragmatic science is both theoretically and methodologically rigorous and relevant. To be particular: of interest is the complexity of FM communication in Swiss hospitals. A complexity constructed from elements of organisation theory and various actors within it (supporting constructivism). It is not possible to narrow it down to specific variables (not positivism). However, in order to contextualise the constructivist explanatory research, there are variables that can be derived from the theoretical framework that form the quantitative enquiry (post positivism). Table 12 summarizes the suitability of pragmatism for this study.

Table 12: Pragmatism and its assumptions, source: self-study adapted for this research from Saunders, Lewis and Thornhill (2016) and Creswell (2013)

Assumption	Key Characteristics of Pragmatism	Implications to this study – why it fits
Ontological	• Reality is, rich and complex, based on processes and experiences	• Reality takes part within the diverse and complex discipline of management research and within that within the FM and hospital environment
Epistemological	• Practical meaning of knowledge in specific contexts	• The thesis produces a highly practical result (communication framework) within the specific context of FM in hospitals
Axiological	• Research driven by researcher's beliefs	• The researcher's passion for and experience in FM in healthcare enables a rigorous conduct of this study

3.4   Approach to Theory Development

The second layer of the research onion deals with the approach to theory. Literature distinguishes between three ways of approaching theory in research. Table 13 shows, based on Saunders, Lewis and Thornhill (2016), Bryman (2012) and Blumberg, Cooper and Schindler (2011), the main characteristics of these ways in regard to their logic, generalisability, use of

data and theory. Blumberg, Cooper and Schindler (2011) state that a combination of these approaches is common within research projects.

Table 13: Overview of approach to theory development, source: self-study based on Blumberg, Cooper and Schindler (2011), Bryman (2012) and Saunders, Lewis and Thornhill (2016)

	Deduction	Induction	Abduction
Logic	True premises lead to true conclusions	Known premises lead to untested conclusions	Known premises are used to generate testable conclusions
Generalisability	From the general to the specific	From the specific to the general	From the interactions between the specific and the general
Use of data	Data collection used to evaluate propositions and hypotheses related to existing theory	Data collection used to explore things, identify themes and patterns to create a conceptual framework	Data collection used to explore things, identify themes and patterns to create conceptual framework and test this through subsequent data collection
Theory	Theory verification or falsification	Theory generation and building	Theory generation or modification, use existing theory to build new or modify existing theory

Driven by the initiating qualitative component of the research design, a **primarily inductive approach is applied**, because data collection is used to explore FM communication in Swiss hospitals to identify themes, patterns and eventually conceptualize a general framework out of specific data (Saunders, Lewis and Thornhill, 2012, p.144). However, the lighter weighted quantitative component of the research involves also a **small portion of deduction**. Propositions derived from the theoretical threads and from the qualitative element are used to get a general overview of the subject in query (Saunders, Lewis and Thornhill, 2012, p.144) in order to sub-sequentially conduct the inductive research.

Another important factor to be considered of the major qualitative research procedures within the embedded mixed-method design, (see section 3.5 Methodological Choice), is that it fits the traditional linear logic of research only in a limited way (Flick, 2009). While quantitative research follows the linear model of the research process (theory – hypothesis - operationalisation – sampling - collection – interpretation - validation) qualitative research is characterised by a circular research process (Flick, 2009). The same author states the potential of qualitative research by interlinking research steps, allowing for going back and forth to strengthen the design. Iteration between the used data collection methods also provides opportunities for cross-method correction and revision to strengthen the final outcome (Dunning, 2007). Hence, also this research is of a highly **iterative** nature, as clearly indicated on Figure 34: Overview methodology, p. 122.

3.5   Methodological Choice

The third layer of the research onion deals with methodological choices in research projects. Within this topic, there is always the discussion on the nature of quantitative and qualitative data and their corresponding research methods. Saunders, Lewis and Thornhill (2016) state that the distinction of quantitative and qualitative research methods solely based on the nature of their data, meaning numbers (mainly quantitative) or words (mainly qualitative), is too narrow as many data collection instruments contain elements of both. The authors suggest distinguishing these research methods through their association with philosophical assumptions. The choices made for this study are based on this suggestion.

To start with, an overview of methodological choices as distinguished by Saunders, Lewis and Thornhill (2016) is provided in Figure 27. In orange is the path applied in this study, reasoned in subsequent sections of this chapter.
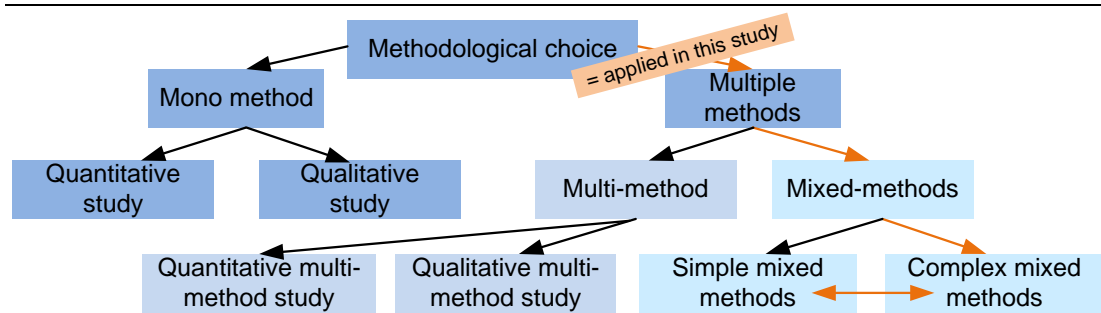
Figure 27: Pathway of methodological choices, source: self-study based on Saunders, Lewis and Thornhill (2016)

Figure 27 further shows the distinction of mono-method studies where one single data collection technique / instrument is used from multi-method studies where several either quantitative or qualitative techniques are applied but not mixed and from mixed method studies where quantitative and qualitative data collection techniques and analytical procedures are mixed. Table 14 presents key characteristics of qualitative and quantitative data, taking up previously presented content, such as approach to theory development or research philosophies (Bryman and Bell, 2011; Bryman, 2012; Easterby-Smith, Thorpe and Jackson, 2012; Denzin and Lincoln, 2013; Saunders, Lewis and Thornhill, 2016).

Table 14: The nature of qualitative and quantitative data, source: self-study based on above authors

Qualitative data	Quantitative data
Words / Text as data to work with.	Numbers as data to work with.
Not generalizable as such and if in an Inductive way.	Generalizable based on statistical matters.
Subjective: based on arts and humanities: There are several realities.	Objective: based on natural sciences: There is one countable reality.
How, What, Why questions: Aim is to explain the meaning of issues, which cannot be done through numbers.	How many questions: Aim is to explain issues quantitatively.
Interpretivism – as one exemplary philosophy.	Positivism – as one exemplary philosophy.

Bearing in mind the nature of both quantitative and qualitative data, the **nature of mixed method research** as outlined by Creswell (2014) makes sense. The author states that the

"mixing" of data provides a stronger understanding of the problem or question than either method due a combination of their individual strengths. Within the mixed method research, there are different types of design as mentioned by various authors such as Denzin and Lincoln (2013), Creswell (2014) and Saunders, Lewis and Thornhill (2016), which are presented here as this study is rooted within them.

- **Convergent (or parallel or concurrent) mixed methods:** both quantitative and qualitative data are collected, separately analysed and the results compared to see if they confirm or disprove each other. The key assumption is that both elements provide different types of information but together they yield results that should be the same.
- **Sequential mixed methods:** here one dataset build on the results from the other. An **explanatory sequential design** involves collecting quantitative data in the first phase analysing the results and then using them to inform the second qualitative phase. This procedure enables qualitative data in assisting to explain in more detail the initial quantitative results. In reverse, **the exploratory sequential design** firstly explores qualitative data and then uses the results in a second quantitative phase. The intent here is to see if data from a few samples (in the qualitative phase) can be generalised to a large sample of a population. Creswell (2014) explicitly mentions a three-step procedure with the first phase as exploratory, the second as instrument development and the third as administering the instrument to a sample of population.
- Three advanced mixed methods designs are incorporating the elements of the above two main types by adding further elements into the overall procedures:
    - **Embedded (or nested) mixed methods**: nests one or more forms of data within a larger design. Creswell (2014) mentions for example a narrative study, ethnography, an experiment. As case study is defined on the same level of design as these examples (Saunders, Lewis and Thornhill, 2016) it can be concluded that it also acts as an embedding reason which is also supported by Creswell and Plano Clark (2011).
    - **Transformative mixed methods:** here elements of the above main types are incorporated within a social justice framework (e.g. feminist) framing many aspects of the design (e.g. research question, data collection) to help a marginalized group (Creswell, 2014).
    - **Multiphase mixed methods**: here multiple phases of data collection and analysis (e.g. qualitative followed by quantitative followed by a further phase of qualitative) are involved (Creswell, 2014).

To find the best fitting of these basic types of mixed methods designs, there are a number of considerations to take. The next section takes these to provide a justified choice why the mixed research method and which of its type fits this study.

Quantitative and qualitative research and hence mixed methods research can be used within the pragmatist philosophy (Bryman and Bell, 2011; Bryman, 2012; Saunders, Lewis and Thornhill, 2016). Bryman and Bell (2011) as well as Gill and Johnson (2010) advocate for the

use of multiple methods within business and management research as it is not only likely to overcome weaknesses associated with using only a single or mono method, but as well provides scope for a richer approach to data collection analysis and interpretation. Based on these advantages, **this study's overall research design to investigate the research question is based on a mixed methods design**. In addition to the above stated nature and advantages of mixed-method research this choice is justified by reasons academically identified by Bryman (2006 cited in Creswell and Plano Clark, 2011, pp.62-63):

- **completeness** as it allows a more comprehensive account of the area of inquiry by using both quantitative and qualitative methods
- **explanation** as the qualitative findings assist to collect data and explain findings of the quantitative study
- **instrument development**, as the data collection tools are developed with insights of the preceding inquiry
- **illustration** as qualitative data are used to illustrate quantitative findings and with iteration vice versa
- **sampling** as the quantitative N assists in facilitating the sampling of the qualitative cases

Another basic consideration in fitting the mixed method design is the choice between fixed and emergent designs. In a fixed design, the methods are predetermined at the start of the research process. There exists a specific intent to mix qualitative and quantitative approaches at the start of the study. In an emergent (or cyclical) design, the methods emerge during the process of the research rather than being predetermined at the outset of the study. The study has three predetermined phases, named fieldwork part 1: qualitative ,part 2: quantitative and part 3: qualitative, see Figure 34: Overview methodology, p.122. This indicates a fixed design. However, as the design of the quantitative data collection instrument is informed by results of the qualitative phase, also an emergent element is included in this study, with regard to the data collection techniques not to the overall decision, which is fixed. Hence, the study combines **elements of both** an **emergent and fixed mixed method design**. According to Creswell and Plano Clark (2011, p.55) this is a common combination in mixed method designs.

The same authors suggest four key decisions to be made in order to find the mixed method design best fitting the research questions (Creswell and Plano Clark, 2011), these are presented with regard to this study:

- **the level of interaction** between the quantitative and qualitative elements: As the results of the qualitative and quantitative elements from fieldwork part 1 and 2 are mixed before the final interpretation in the discussion chapter, there is an **interactive level of interaction**
- **the priority** of the qualitative and quantitative elements: The study has a clear qualitative priority as the focus lies in a deep understanding of the inquiry area and the quantitative element serves to test findings of the qualitative element

- **the timing** of the qualitative and quantitative elements: As the main qualitative element takes place before the quantitative sequential timing is applied

- when and where to mix the elements – the **point of interface** (Morse and Niehaus, 2009) of qualitative and quantitative elements: There are three points of interface in this study. One occurs during data collection within the instruments used, as both (interview guideline and survey) contain both quantitative items and qualitative open-ended questions. The second and more significant one occurs when interpreted qualitative data directly feed into the development of the quantitative data collection instrument and the third one occurs when results of the quantitative analyses are discussed with themes that previously emerged from the qualitative data

In light of these decisions, the best fitting type of mixed method design for this research is the **exploratory sequential mixed methods design**. The above stated three-step procedure as mentioned by Creswell (2014) is applied. The first phase exploratory by qualitative data, the second as instrument development (qualitative data informs quantitative survey) and the third by administering the quantitative survey to the population. Saunders, Lewis and Thornhill (2016) mention that research questions asked in exploratory studies typically start with "What" - which is clearly the case in this thesis research question, strengthening the chosen mixed methods design to be a right fit.

Adding the important element of the "case study" as the chosen enquiry strategy (see section 3.6) within which the data are nested, this study adopts one of the advanced mixed methods designs: An **embedded mixed methods design**, where the exploratory sequential design is embedded into the case study, visualised in Figure 28. As no overarching social justice framework is applied, the transformative mixed methods design is not fit. Neither is the other advanced design, the multiphase mixed method design as only two phases of data collection in a single project are applied. The other main type of mixed methods, the convergent (or parallel or concurrent) mixed methods design, is not fit either, because the qualitative data informs the collection of the quantitative and hence the data do depend on each other and cannot be analysed totally separately. However, as the qualitative data collection and analysis not only builds on the quantitative data collection and analysis followed by the main interpretation, but also presents results and interpretation on its own, there is also a hint of the convergent mixed methods. However, not as a type on its own because the qualitative and quantitative data are discussed and mixed before their final interpretation.
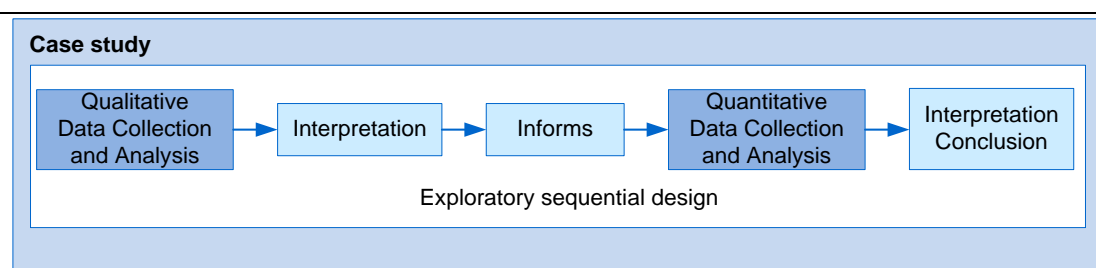
Figure 28: This study's methodological choice: Exploratory sequential mixed methods design embedded into case study, source: self-study according to Creswell and Plano Clark (2011)

To summarise the methodological choice: The main emphasis on explanatory qualitative data collection procedures informs the sequential quantitative data collection procedure. The initial qualitative sequence is fitting because qualitative research promises practically relevant findings since this method uses different sources of evidence to demonstrate the full richness of the real-life context in organisations Eisenhardt (1989) and Yin (2003) in Wolf and Rosenberg (2012). Based on the literature review, Wolf and Rosenberg (2012) further note that qualitative research articles are relatively often found among the most influential publications in management research. Creswell and Plano Clark (2011) state that a challenge in using the embedded design is that the researcher needs to have expertise in both quantitative and qualitative procedures. As stated earlier this thesis researcher has profound expertise to conduct this research design, as seen in her CV in appendix A. The chosen research philosophy of pragmatism supports research designs combining qualitative and quantitative methods (Morgan, 2007; Saunders, Lewis and Thornhill, 2016) and also this study's previously outlined approach to theory development fits with the embedded mixed-method design (Saunders, Lewis and Thornhill, 2016).

3.6 Inquiry Strategy

Referring back to the research onion, the strategy of inquiry is the next layer to be decided on. It provides the link between philosophical assumptions and subsequent choice of methods of data collection and analysis (Saunders, Lewis and Thornhill, 2016). Literature on business and management research favours a number of inquiry strategies, as shown in Table 15, which is based on numerous authors (Cameron and Price, 2009; Hallebone and Priest, 2009; Myers, 2009; Gill and Johnson, 2010; Bryman and Bell, 2011; Easterby-Smith, Thorpe and Jackson, 2012; Creswell, 2013; Denzin and Lincoln, 2013; Saunders, Lewis and Thornhill, 2016). These strategies are not mutually exclusive, especially within a mixed-methods design (Saunders, Lewis and Thornhill, 2016).

Table 15: Inquiry Strategies and their characteristics, source: self-study based on above mentioned authors

Inquiry Strategy	Characteristics	Suitability for this study
Experiment	Roots in quantitative natural science, laboratory based, to study how independent variable impacts dependent variables, uses hypothesis rather than research questions, positivism.	Not suitable as a particular complex phenomenon (FM communication) and no single variables in a real-world setting (hospitals) are considered.
Survey	Research strategy that involves the structured (mainly quantitative) collection of data from a sizeable population. Although the term is often used to describe the collection of data using questionnaires, it includes other techniques such as structured observation and structured interviews, positivism.	Not as a main strategy because the methodological choice is predominantly qualitative and semi-structured but as a data collection tool within the mixed-methods design.
Archival Research	Primarily qualitative, focuses on analysing administrative records and documents as principal sources of data because they are products of day-to-day activities, constructivism, interpretivism.	Partly because records of communication activities (minutes, e-mails) are considered but similar to survey strategy not as a main strategy.

Ethnography	Primarily qualitative, emphasizes on gaining data access through the perspectives of organisational members to describe and interpret the social world, interpretivism, constructivism.	Partly because perspectives on communication experiences are analysed via survey and interviews but also not as a main strategy.
Action Research	Seeks understanding through attempting to change the situation under study, researcher often involved in change, interplay of research and actions, constructionism, interpretivism.	Not suitable as no actions are undertaken to change the way of communication during the study in the selected settings.
Grounded Theory	Links key variable\codes out of theory and empirical data into a more holistic theory that contributes knowledge in particular domain, used under positivism and particularly constructivism assumptions.	Not as an overall inquiry strategy but as part of qualitative data analysis as findings are based on assertions that are rooted or "grounded" in the empirical data (Saldana, 2016)
Narrative Inquiry	Mainly qualitative, focuses on collecting stories told among organisational members, constructivism.	Not suitable as data collection not primarily focused on stories told but on the triangulation of different techniques.
Case Study	Analysis in depth one or a small number of organisations or units\ phenomenon within them, possible in all epistemological assumptions.	Highly suitable, **provides the best fit as an overall strategy** to explore FM communication activities in Swiss hospitals within the determined research philosophy, approach to theory development and methodological choice.

Supporting case study research as the best fitting enquiry strategy for this study are Gill and Johnson (2010) calling case study research as the most significant means of using mixed-methods within business and management research. Yin (2009), as best known exponent of case study research (Easterby-Smith, Thorpe and Jackson, 2012), and Cameron and Price (2009) as well as Myers (2009) state that case study research is common among business research, allowing the researcher to focus on "how" and "why" research questions. Bartunek, Rynes, and Ireland (2006) in Wolf and Rosenberg (2012) mention that publications building theory from cases are often regarded as the "most interesting" research.

Despite its positive fit, Wolf and Rosenberg (2012) mention that a frequent argument against case study research is that it could lead to highly situational and individual findings. Siggelkow (2007) agrees with this objection stating that an individual case cannot prove a theory. Easterby-Smith, Thorpe and Jackson (2012) in common with many scholars mention not only this lack of generalisation but also the possible collection of huge amounts of data from single cases that allow researchers to make any suitable interpretations. Yin (2009) discusses these criticisms too, mainly occurring from positivist assumptions. In response to it, he suggests that any case study research needs a clear design produced before any data is collected and that is exactly what the next paragraphs address.

As the strategy of inquiry, providing procedural direction for the research, a **mixed methods case study is applied within the embedded mixed methods design**. According to Luck et al. (2006 cited in Creswell and Plano Clark, 2011, p.95) this approach is an embedded design variant and hence fits the previously explained methodological choice. This study takes the prominent case study definition from Yin (2009), who according to various authors e.g. Myers (2009) provides one of the best methodological guidelines to the case study inquiry. Yin (2009) provides a twofold technical definition of case studies, which is displayed in Table 16, directly connected with this study's intentions to strengthen its best fit as the applied inquiry strategy:

Table 16: Case study fit, source: self-study

Case Study definition of (Yin, 2009) p.18	Fit to this study
1. A case study is an empirical enquiry that • investigates a contemporary phenomenon in depth and within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident	This Study enquires • communication within FM departments in hospitals • communication within FM departments highly depends on factors happening in the whole hospital organisation and these again are influenced by the healthcare system
2. The case study inquiry • copes with the technically distinctive situation in which there will be many more variables of interest than data points, and as one result • relies on multiple sources of evidence, with data needing to converge in a triangulating fashion, and as another result • benefits from the prior development of theoretical propositions to guide data collection and analysis	This case study inquiry • copes with the complexity of factors influencing communication (see theoretical background) • multiple sources of evidence are reflected in the chosen methodological choice "mixed" methods featuring interviews, survey, and document research • the chosen theoretical threads evidently guide both data collection and analysis as pointed out in these respective sections

Directly relating to business research Myers (2009) proposes his own case study definition where the links to this study are added in brackets: "Case study research in business uses empirical evidence from one or more organisations [hospitals] where an attempt is made to study the subject matter [communication] in context [FM department]. Multiple sources of evidence are used, although most of the evidence comes from interviews and documents [mixed methods design]" (p. 76).

This choice of inquiry strategy is also in line with the primarily inductive approach of this study as case study research enables us to draw generalisations from the cases in order to form an overarching theory (Yin, 2009) and that fits the aim of this research: To form an overarching FM communication framework. According to Yin (2009) case studies enable us to explore and collect detailed information, through different data collection methods, which strengthens the choice of mixed method research.

These definitions and the corresponding elements of this study to these definitions, provide strong justification why this strategy of inquiry fits. To gain the needed clear case study design, Yin (2009) recommends **five components** to be dealt with:

1. **A study's Question:** case study method is most likely to fit "how" and "why" questions – hence, the nature of this study's guiding sub-question: "*How* does communication in hospitals' FM departments look?" does match this qualification.
2. **The study's propositions (if any):** it is reasoned that propositions direct attention to something that should be examined within the scope of the study, because the question alone does not point directly to what should be studied. Propositions for this study are derived from its operational research objective B, as outlined in Table 17.

Table 17: Case study propositions, source: self-study based on Yin (2009)

Operational objective B	Propositions
Establish existing communication activities in hospitals' FM departments. To state current communication procedures in terms of channels used, responsibilities and content.	• There is communication within FM departments • Communication depends on FM departments' organisational structures • Communication takes place in different channels • Communication involves responsibilities • Communicated content matters as it influences effectiveness and efficiency of FM services

These propositions reflect on theoretical issues, here communication in an organisation, to which the content of the theoretical background is linked (such as FM department, hospital, healthcare) and assist in defining where to find evidence to answer the research question.

3. **The study's unit(s) of analysis:** this component relates to the essential issue of defining what the "case" is. The posed research question and propositions assist in their definition. Yin (2009) emphasises that the more specific these are, the more the case study stays within feasible limits. The author further states that the key is to define a case, which can be bounded by or described within certain parameters, such as a specific place and time. Other authors such as Stake (2005) agree with that. In line with the above stated relations of case study definitions to this study, the unit of analysis for this study is defined as *Communication activities within hospital's FM department*. Whereas the previously used term 'research setting', see 2.1 states this study investigating the context of Swiss hospitals does the definition of 'case' goes in more detail by specifying the unit of analysis for this research as communication activities taking place within Swiss hospitals FM departments'. Hence, the case is bounded by the organisational structure of the FM department in hospitals and of main interest are communication activities within these boundaries. However, as stated in Table 17, these boundaries are not clearly evident, e.g. do FM leaders also communicate beyond their departments. Data collection as well as analysis has to factor in trans-boundary issues as well.

Now that the case is defined, further decisions to refine the unit of analysis have to be made on:

• the **intent** of conducting the case study. Stake (1995) as cited in Creswell (2013) distinguishes between intrinsic cases where an illustrative unique case is in focus and instrumental cases whereas a specific issue is of interest and cases are selected to best understand it. Based on above definition of this study's intentions it can be classified as an **instrumental case** where the issue of FM communication is of specific interest**.**

• the **type** of case study. Yin (2009) differentiates single-case and multi-case designs, Stake (2005) calls it collective case study where the issue of interest is analyised in multiple case studies to illustrate it. As FM communication depends on the department's organisational structure and this is different in different hospitals, this study collects and analyses evidence from collective cases / **multiple-case design.**

Now that the intent and type of case study is defined, the next step is to decide on the number of cases analysed in the multiple-case design (Yin, 2009). This decision is aligned with the chosen exploratory sequential mixed methods design. Hence, sampling has to be decided for both the qualitative and the quantitative sequence. Yin (2009) points out that the word "sampling" is misleading in case studies as these are mostly purposefully selected and not according to statistical sampling logic as commonly used in surveys. Therefore, a strong rationale for the purposeful sampling technique is a must (Yin, 2009; Creswell, 2013).

Case sampling qualitative sequence: the sampling rationale is rooted on the acute care hospital N in German speaking Switzerland, see Table 4 in the background chapter. The focus on German speaking hospitals is reasoned by the fact that this study's resources do not allow to include translation activities to and from French language. This does not diminish the research focus as the majority of Swiss hospitals are located in the German speaking area of Switzerland (BAG, 2017). Based on characteristics of hospitals (BAG, 2017) two distinctive settings of FM departments within hospitals can be made:

- FM departments serving 1 hospital = 1 site hospitals
- FM departments serving organisationally joined hospitals = multiple sites hospitals (sites in different locations)

Along with the proposition of this case study that communication depends on the FM department's organisational structure, these two distinctive settings serve as the respective N's for the qualitative part. Out of these two settings, one case each was purposely selected that typically represents the FM organisational structures of these two settings, as visualised in Figure 29 and reasoned in Table 18. The purposeful selection of the two distinctive settings serves as one part reasoning the representativeness of the two cases. The other part is reasoned by the 1 sited hospital representing a typical small-medium sized hospital. A category of which the majority of 1 sited hospitals in Switzerland belong to. The choice for the multiple sited hospital is reasoned by the reputation of its FM department as one of the industry leading ones (source cannot be stated for confidentiality reasons). Which implies that communication structures within this case's FM department could already be at a very high level, which in turn could deliver valuable results for the benefit of this study.
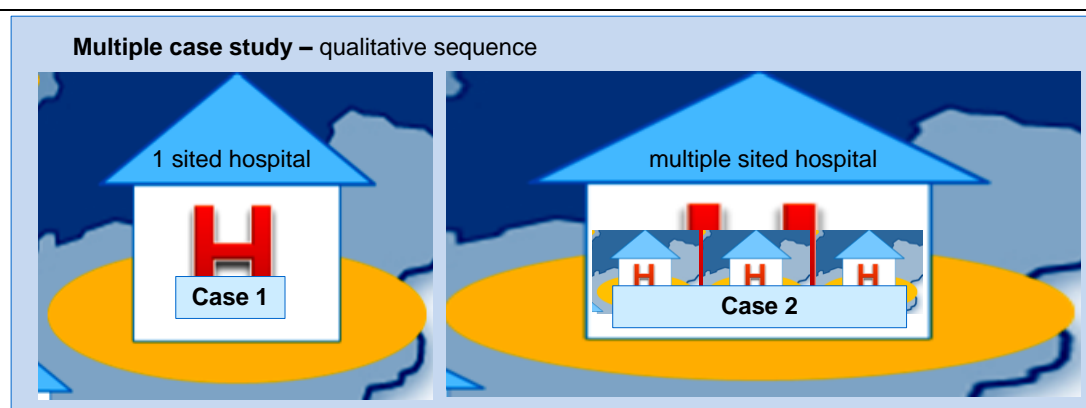
Figure 29: Multiple case study design applied in this study, source: self-study based on Yin (2009)

Table 18: Sampling rationale qualitative sequence, source: self-study

N acute hospitals in German speaking Switzerland: 71 (BAG, 2017)	
1 sited Organisations: 56	Multiple sited organisations: 15
Qualitative sequence	
➜ N=1➜ Sample Case 1	➜ N= 1➜ Sample Case 2

To get case access, existing contacts with FM executives from the researcher's academic position were used and thereby the accumulated positive reputation of previous work for and with practitioners was of great help. For each case the head of the FM department acted as **gatekeeper**. The researcher went to introduce the study in person and obtained their willingness to take part in the announced data collection methods. In addition to the gatekeeper information sheet and consent form (see appendix C, p. 276), also a concise information sheet on expected resources was explained and handed over (see appendix C, p. 276).

Case sampling quantitative sequence: N = 71 Swiss acute care hospitals in German speaking Switzerland minus the two cases of qualitative sequence = N quantitative sequence 69, as outlined in Table 19, because (Creswell, 2013) states that that good procedure is to draw both samples from the same population but making sure that the individuals for both samples are not the same because this would lead to unwanted duplication of responses in the study.

Table 19: Sampling rationale quantitative sequence, source: self-study

N actue hospitals in German speaking Switzerland: 69 (BAG, 2017)	
1 sited Organisations: 55	Multiple sited organisations: 14
Quantitative sequence N=69	

Authors of case study literature such as Stake (2005), Yin (2009), and Creswell (2013) point out that good case study research involves a description of the selected cases, which is part of the findings section. Sampling procedures to determine the application of the data collection techniques within the cases are presented in upcoming sequences on the applied methods and in their respective findings sections.

4. **The logic of linking data to the propositions:** the fourth of Yin's (2009) suggested components to define a case study foreshadows, together with the fifth one, the data analysis steps. Yin (2009) points out that the main concern during the design phase is to be aware of the main choices of the analytic techniques in order to provide a solid foundation for the later analysis. In this study, it was clear that a rigorous coding technique must be applied to receive solid qualitative results serving the quantitative survey.

5. **The criteria for interpreting the findings: s**ee above under component 4.

To conquer the previously mentioned critiques of case study Yin (2009) emphasizes that case study designs need to demonstrate their quality through: construct validity, internal validity, external validity and reliability – these issues are addressed in the subsection about common threats of qualitative and quantitative data.

3.7 Time Horizon

Back to the layers of the research onion: the next layer addresses the time horizon of the study. Literature differentiates between cross-sectional and longitudinal studies (Creswell, 2014; Saunders, Lewis and Thornhill, 2016). Cross-sectional refers to the study of a particular phenomenon at a particular time, whereas longitudinal studies consider the phenomenon repeatedly over long periods of time. This study is classified as **a primarily cross-sectional study** as the phenomenon under consideration (communication within FM departments) is analysed, at a particular time. This choice was made based on the chosen data collection and analysis techniques and further based on the data's availability and resources requested from the two cases.

- Interviews: Where held in the months July and August of 2017 and asked interviewees opinions once and not multiple times over time.
- Document analysis: To get rich data, this covered minutes taken in the period of one year. Hence, it can be classified as a longitudinal view on company documents.
- Self-administered observation: Collected data of one week of e-mail traffic and not over a long period of time because this one week 'snapshot' provided the required data on e-mail amount FM executives have to deal with.
- Survey: Asked participant's opinions on communication subjects once and not multiple times over time because emphasis laid on their current opinions and not on potential changes based on measures taken.

More details on these techniques are provided in following chapters.

3.8 Data Collection and Analysis - Introduction

This section introduces the core layer of the research onion. It deals with the techniques and procedures applied to collect and analyse data (Saunders, Lewis and Thornhill, 2016). In line with the chosen methodological approach and inquiry strategy along with the other aligned

elements of the research design, multiple tools are used to get robust data. As already mentioned, most of the empirical evidence in case study research in business derives from interviews and documents (Myers, 2009). Hence, data collection techniques for this research consisted of reviewing documents used for communication purposes within hospitals' FM departments, carrying out interviews and a survey. This choice is enriched with a self-administered structured observation of executives' volume of e-mail correspondence.

The following subsections reason in detail the choice of the four data collection methods for this study with their corresponding methods of data analysis. This includes explanation on sampling and data access. For data analysis, the main procedures are outlined, however more detail e.g. what themes emerged from the qualitative data and how they fed into the quantitative data collection instrument is presented as a vital part of the result chapters.

3.9   Data Collection and Analysis – Literature Review

Starting the section on data collection and analysis is this section on literature review because it provides the backbone of the theoretical framework, which in turn is a crucial element in conceptualising case study data. Hence, its procedures need to be transparent.

The literature review enables us to set up the theoretical background which acts as a framework in any thesis (Cameron and Price, 2009), but is especially crucial in a PhD thesis (Dunleavy, 2003). Almost every textbook on research methods contains a section on literature review and there are of course specific books on literature review too, such as Machi and McEvoy (2012), Fink (2010) or Booth, Papaioannou and Sutton (2012). These authors agree on key points for a literature review: it should be coherent, present a logical debate and is systematically structured; it is critical and recognises strengths and limitations, it is contemporary and it further should be conclusive by presenting well-reasoned conclusions.

These textbooks also provide many tips on how to conduct a literature review. As one example, Machi and McEvoy (2012) **propose a six-step literature review model** guiding researchers thorough the process. Some authors also state literature review to be a data collection technique on its own for example Bryman and Bell (2011). Hence, for the sake of transparency and traceability, an important aspect in case study research, key actions and outcomes of the literature review using the six-step model by Machi and McEvoy (2012) are outlined as followed. This model was applied in this thesis because it provides a guiding path through the enormous task of assembling a suitable literature and hence background chapter of this thesis.

1. **Step topic selection:** The research topic of this thesis is a result of the author's deep interest in the practical challenge to provide efficient and effective FM services in healthcare institutions, and a result of personal experiences (see appendix A, CV). As outlined in the background chapter, communication plays a vital role to achieve that. The topic not only initiates the thesis research process as a whole, but within that provides the direction for step two of the literature review process model. To detect which theoretical

threads have to be followed to provide a fitting theoretical framework, the research question was plucked into its semantic pieces, resulting in the theoretical threads being included in the background, see Figure 2 displaying the funnel analogy.

2. **Step literature search:** literature providing evidence to support the thesis was searched using the suggested skills of scanning literature previews, skimming content selections and organising data (Machi and McEvoy, 2012). Thereby it was acknowledged that various types of topic content exist: theoretical foundations and definitions, discussions and debates, current issues, field problems and functional applications (Machi and McEvoy, 2012). Table 20 places the types used in this study on a sequence based on publication type and time frame.

Table 20: Types of references used in this thesis, source: self-study based on Machi and McEvoy (2012)

Currency	Years	Months	Weeks	Days	Current
Publication Type	Books	Referred journals and trade magazines	Popular and trade magazines	Newspapers	Websites
Content Type	Theoretical foundations and definitions, key concepts and constructs	Recent research, theoretical discussion and debate	Current issues, debates, application, practices and field problems	Current issues, debates and field problems	Up to date issues, debates, practices and applications
Databases Suggested	Library catalogues and provides e-libraries	Library based and accessible databases	Online Web Indices, Physical in Library	Online Search Engine	Online Search Engine
Databases Applied	LJMU and ZHAW accessible,	LJMU and ZHAW accessible, web of Science			Google

However, such definitions need to be considered with care, especially when websites are classified as current but their content can still be out of date.

Parameters for paper search within scientific databases, which were primarily accessed by using the LJMU library search engine 'discover') included the use of index terms assisted by Boolean search operators. These index terms included the key words: "facilities", "facility", "management", "communication", "hospital", "healthcare" to explore the research gap. And other key words to obtain relevant content for the literature used in the various chapters of this thesis such as "organisational", "organizational", "communication". Besides the direct approach via databases, snowball search technique was used by exploring sources mentioned in individual papers. Referred journals in the field of FM are: "Facilities", "Journal of Facilities Management" or "International Journal of Facility Management". The references chapter provides a substantial insight into which types of references were used for this thesis.

3. **Step development of argument:** here the forming and presenting of the "case" is of relevance. The claims have to be arranged logically. To do so the "funnel analogy" was applied, see chapter 1.6 Thesis Structure.

4. **Step literature survey:** this step contains the assembly, synthesising and analysis of the obtained data from the literature to build the argument on the current knowledge on the topic.

5. **Step literature critique:** in this step, the literature found to be fitting for the thesis topic was critically interpreted in relation to its contribution to answer the research question.

6. **Step review writing:** this step acts as a transmitter as the coherent knowledge obtained through the previous steps is written down to make it eventually accessible for others. The funnel analogy was applied here too to form a consistent structure.

The six-step model could give the impression of being linear but this is not the case. The **literature review process is highly iterative** (Booth, Papaioannou and Sutton, 2012). Results of both the search and critical analysis as well as the writing up are condensed over time. Supporting that, is that from the time a thesis starts until it is handed in, constantly new literature develops which has to be considered almost to the time the thesis is handed in.

The use of **a reference management software** is highly advised to manage the scale of references (Machi and McEvoy, 2012; Saunders, Lewis and Thornhill, 2016). This thesis has been written with the assistance of **EndNote**. This not only easily enables the researcher to appropriately cite references but foremost to map the found literature in order to build the argument. To ensure an efficient way of working, the structure used to store the references in the software represents the structure of the main chapters of the thesis. Referring to the nature of such a thesis the vast majority of sources were used to present the main threads of the theoretical background. Wherever possible the PDF file (e.g. paper) was attached to the references, where the used content of the sources was highlighted. A total of **358 references** were carefully selected and suitably placed and cited within this thesis.

3.10 Data Collection and Analysis: Applied – Qualitative Methods

Within the first phase of the sequential mixed methods design, qualitative data is obtained from two main sources: interviews and documents. Embedded within fieldwork phase 1 was a further quantitative element dealing with executives' volume of email, see section 3.11.1 for respective methodological explanations.

3.10.1 Semi-Structured Interviews

The aim of the interviews was to obtain an overall picture of communication structures experiences and opinions within FM departments. Therefore, the interviews were designed to achieve these objectives. They were aimed at collecting empirical evidence on the existing communication structures within the FM context and at investigating the experiences and values FM executives have on this matter. A series of FM executives were interviewed in both cases, (for details see section 3.10.1.2 Sampling). The justification why qualitative interviews fit this study is already extensively discussed in the context of management research and mixed-method research. Additionally, it has to be stated that the interviews were semi-structured to allow a similar structure over all of them, which ensured that data was obtained to the

defined issues, from all interviewees. Further semi-structuring allowed additional and probing questions to be asked during interviews to clarify and/or further expand certain issues (Myers, 2009; Saunders, Lewis and Thornhill, 2016). The interviews were conducted face-to-face as this still provides the best mode to obtain interview data (Flick, 2015; Saunders, Lewis and Thornhill, 2016). They were also conducted in a familiar surrounding for the interview (office or designated room) on the hospital site. The interview guideline contained opening and ending sections to break the ice and create an open, comfortable environment. Informed consent ensuring confidentiality was obtained, by providing a participant information sheet and consent form (see appendix E, p. 279). The interviews were announced with a maximum duration of 30 minutes. This was decided regarding the feasibility of both interviewees' and interviewer's time, and also with respect to data analysis. This timeframe was sufficient to collect the data required, which stands above any feasibility reasons. Actual time used was less than 30 Min. in most of the interviews. The interviews were conducted in German / Swiss German. This raises translation issues, which are dealt with in section 3.13.2. Special Emphasis on Bilingual Research.

3.10.1.1 Data Collection Instrument

The challenge was to create an interview guideline that allowed capturing complex communication structures and experiences, aligned with the overall research objectives of this study, with as simple questions as possible. The structure is justified directly on the guideline, which is schematically presented in Table 21. For the original, more detailed and formatted guideline in German and its English translation see appendix F, p. 281. The interviewer used a slightly extended guideline, where procedural information was noted (marked in **blue** on Table 21), ensuring that any ethical requirements were followed. The guideline was developed considering methodological advice of many well rated textbooks (Rubin and Rubin, 2005; Myers, 2009; Creswell and Plano Clark, 2011; Quinlan, 2011; Easterby-Smith, Thorpe and Jackson, 2012; Creswell, 2014; Flick, 2015; Saunders, Lewis and Thornhill, 2016).

Table 21: Justification interview guideline, source: self-study based on above mentioned textbooks

Content Guideline	Justification / Explanation
Context Information Date / Time / Location / Name Interviewee Goal of Interview = Capturing Communication structure and associated experiences; Perspective of interviewee's position	Provides interviewee and interviewer with information on interview setting and goal. Acts as a written ice-breaker.
Procedural Explanations *Start* • Background / motivation dissertation • Sign / Hand over signed participant information sheet: Whose core is confidentiality and obtaining permission to record interview • Information on Interview: Three parts, discussion not possible, interviewer probes where necessary • Clarify remaining questions if any • *Start recorder*	Works as an ice-breaker between interviewee and interviewer, ensures that informed consent is obtained and interviewee is fully informed on what to expect in the next half hour. This part is extremely crucial because being interviewed is not an everyday situation. The *start recorder* hint acts as a reminder for the interviewer, whose concentration might be very focused on the interviewee, not to forget this crucial action.
Introduction Short definition what this study considers as communication.	Above the study as a whole was outlined, here the explanation targets directly what is of interest in the interview. It is important to level out different perceptions of what communication is.
Part 1 – Context Interviewee Position, Number of subordinate employees (direct and indirect), years of service in organisation, educational background	Collects attributes to classify and compare / contrast data (Saunders, Lewis and Thornhill, 2016). More importantly also acts as an important ice-breaker: First time in interview that interviewee explains things and that is a topic he/she is very familiar with, which builds confidence for the upcoming parts.
Part 2 – Capturing of Communication Structure Leading question: How does it look from your perspective? • Formal Communication • Informal Communication • Are there any guiding processes QM/ISO, …) defining and supporting communication activities?	Here the interviewees described the communication structure in their area of responsibility. Which led to an important backbone of data required. The structure of this part contains and refers to the cornerstones of communication activities within an organisation, described in detail in the theoretical background. Particularities of FM communications are captured with this part.
Part 3 – Experiences (referring to part 2) • What do you consider as "effective" communication? • What are for you challenges in communication? • What works well? • What could work better? • How does communication look in 10 years?	Whereas part 2 encouraged the collection of descriptive data, part 3's main goal is to collect personal experiences and viewpoints on communication aspects. As the goal of this study is to provide a communication framework it is needed to detect where practitioners see deficiencies, what they regard as effective and what they see as challenges – depending on the data analysis, this will assist in determining the level and content of the framework. The questions have been phrased as simply as possible and were well understood.
Procedural Reminders *End* • Obtain possibility to inquire in case of unclarities during data analysis • Require documents (minutes whose responsibility lies within interviewee's position) • Outlook: Self-administered structured observation of email volume • Give complimentary gift	These procedural explanations act as reminders for the interviewee. They turned out to be very useful as interviewing draws a lot of energy and not having them written down might have led to forgetting some important bits, such as asking for documents or giving the gift.

The interview guideline, together with the participant information sheet, was sent to the interviewees by email beforehand in order to provide them with initial information on what to expect.

3.10.1.2 Sampling

Sampling for the interviews took place purposely within the organisational FM structure of the two selected cases, see section 3.6 Inquiry Strategy. Purposive sampling is common and acceptable within qualitative studies (Rubin and Rubin, 2005; Flick, 2009; Saunders, Lewis and Thornhill, 2016). In line with the feasibility of the study but foremost also with the previously explained circumstance that executives have a communication responsibility, it was determined that the interview sample is made up from FM executives of three hierarchical levels, because three hierarchical levels are the common hierarchical thread of the two hospitals. The total number of interviews in case 1 is 13. The total number of interviews in case 2 is 26. Details are provided in the case description in the results chapter.

So far the term 'FM executive' has been used several times in this thesis. To clarify what is meant by it, the following definition of "executive" is consulted: "someone in a high position, especially in business, who makes decisions and puts them into action" (executive, 2020). Combined with the previously introduced meaning of FM, see chapter 2.3 in healthcare, it can be defined that the term 'FM executive' in this thesis refers to a senior position within the FM department, which takes part in running the hospitals FM department. Regarding the different levels of FM, see Figure 15, these positions take part in decision making on strategic and tactical level and hence enable operational activities.

Within qualitative research there is no "right number" of interviews (Rubin and Rubin, 2005; Flick, 2009), their purpose is fulfilled when interviewees represent diverse perspectives within an organisation (FM department) enabling the researcher to gain rich insights (Myers, 2009). It can be stated that the number was sufficient for the purpose within the mixed-method design. The fit of interview participants is also displayed in appendix H, by providing information on their backgrounds and position within their hospitals' FM.

3.10.1.3 Data Access

Access to interviewees was obtained through the two gatekeepers and all necessary ethical requirements were fulfilled.

3.10.1.4 Data Analysis

As a prerequisite for analysis, the oral data from the interview recordings had to be **transcribed** into written data. Transforming audible data into written form is an interpretive process which is therefore the first step in analysing data (Bailey, 2008). This step requires thoughts on the level of detail a transcript contains (Saunders, Lewis and Thornhill, 2016). Decisions about transcribing are guided by the methodological assumptions underpinning a particular research study (Bailey, 2008). For the purpose of this study, the transcript does not need to capture non-verbatim features of talk such as emphasis, speed, tone of voice, timing and pauses. This decision is based on the nature of research questions where the focus lies on pragmatic management research and not on psychological implication, where non-verbatim

aspects are often of crucial importance (Flick, 2009). The 39 Interviews of approx. 30 minutes each, took about **100 hours** in total to transcribe, with the help of a transcription software providing a foot pedal. The researcher did it all herself, as an important element of data familiarisation. An excerpt of a transcript, demonstrating how they look is visible in appendix I, p.283.

With the transcripts in place, **a coding process** for qualitative data analysis was applied. According to many advocates for qualitative research this is a fitting way to analyse qualitative data (Rubin and Rubin, 2005; Flick, 2009; Myers, 2009; Saldana, 2016). Critiques against coding are discussed by Saldana (2016) reassuring that it is a purposeful analytic approach to voluminous amounts of qualitative data. Guidance for the qualitative data analysis was taken from *"the coding manual for qualitative researchers"* by Saldana (2016). In his review Wicks (2017) attests Saldana (2016) doing a good job of balancing the art and science of coding. Still, to avoid the risk of taking the wrong guidelines, Saldana's propositions have been checked against propositions on how to code made in other handbooks (Rubin and Rubin, 2005; Flick, 2009; Myers, 2009; Saunders, Lewis and Thornhill, 2016). No major discrepancy was detected hence confidence in rigour of the chosen procedures was obtained.

The coding process: Figure 30 illustrates simplified the process of coding from codes and categories to theory. For a comprehensive, transparent understanding of how this qualitative data analysis was conducted, semantics and basic approaches of qualitative coding, elements of Figure 7, are defined and explained in the following sections.
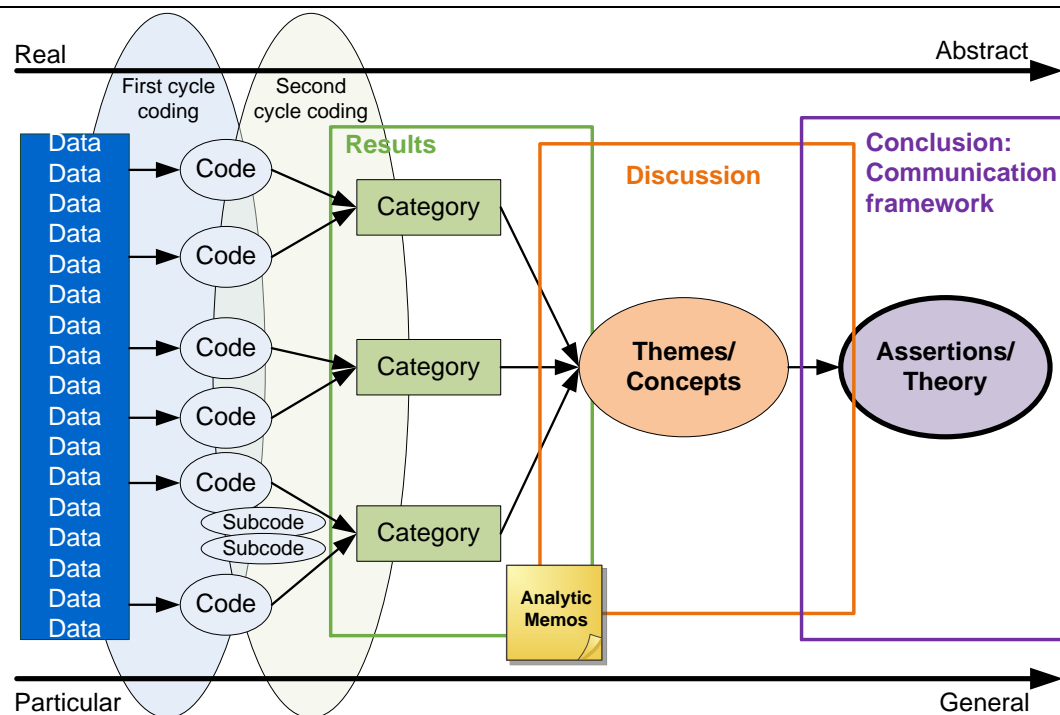
Figure 30: A simplified codes-to-theory model for qualitative inquiry, source: self-study based on Saldana (2016) p.14 and p. 56

A code: is a word or short phrase symbolically giving a summative, salient, essence-capturing, and/or evocative attribute for a portion of language-based data (Saldana, 2016). The author

adds that "coding is not a precise science. It is primarily an interpretive act" (p.5).Or as Vogt et al. (2014) put it: "A code is a researcher-generated construct that symbolizes or "translates" data and thus attributes interpreted meaning to each individual datum for later purposes of pattern detection, categorization, assertion or proposition development or other analytic processes" (p.13). Codes were determined a priori (deductive), based on theoretical deduction, supplemented with emergent data-driven choices (inductive) based on empirical observation, which also fits this study's approach to theory development, see section 3.4.

Code list: provides an overview of the codes and sub-codes used and provides an analytic opportunity to organise and reorganise codes into categories. Developed codes and categories are introduced in the results chapter.

Coding / codifying: is the process of labelling qualitative data with codes – there are different methods to do that, the ones chosen for this study are explained in Table 22. It enables us to organise and group similarly coded data into **categories**, because they share some characteristics or in other words **a pattern**→ see second cycle coding (Saldana, 2016). There is no agreement among qualitative scholars regarding how much of the total available data should be coded (Saldana, 2016). It depends on the data, the underlying research questions and the coding methods applied (Saldana, 2016). Harding (2013) states that "codes can be placed in more than one category or sub-category" (p.102).

Coding cycles: refer to the cyclical, iterative nature of qualitative data analysis (Rubin and Rubin, 2005; Flick, 2009; Saldana, 2016). *First cycle* methods happen during initial coding of data. *Second cycle* methods require analytic skills to conceptualise first cycle results into pattern detection, categorisation, and assertion or proposition development to answer the research questions.

First cycle coding methods: Saldana (2016) provides a wide range of coding methods. They act as systematic guidelines to develop and apply codes to the data as well as analysing detected coding material. Justification for the ones used in this study is outlined in Table 22. That refers directly to the structure of the interview guideline (Table 21) as the nature of data informs the coding decision, referred to as "research question alignment" by Saldana (2016).

Table 22: Applied first cycle coding methods interviews, source: self-study with definitions based on Saldana (2016)

Content interview guideline	Applied first cycle coding methods
First step: applied over whole interview guideline	**Holistic coding:** acts as a data management technique and enables a "grand tour" overview. Justification: Answers = text of each question were gathered in separate "data containers" (in NVivo) and hence were prepared to apply below described coding techniques which are research question specific. → First and Second Level Nodes
Context information Date / Time / Location / Name Interviewee Goal of Interview = Capturing Communication structure and associated experiences; Perspective of interviewee's position	**Attribute coding:** Acts as a data management technique and is the notation of basic descriptive information. It provided essential participant information and contexts for analysis and interpretation. Justification: Was done because it provides the opportunities to query and compare coded data by the attribute variables.
Part 1 – context interviewee Position, Number of subordinated employees (direct and indirect), years of service in organisation, educational background	**Attribute coding:** See above Justification: See above→ Resulted in case classification "leader attributes" used for queries across and within the cases.
Part 2 – capturing of communication Structure Leading question: How does it look from your perspective? • Formal Communication • Informal Communication	**Descriptive coding:** Summarises in a word or short phrase the basic topic of a passage of qualitative data. Justification: The aim is to describe how communication takes place, especially what kind of communication practices take place, hence descriptive codes enabled that. → Led to figures of communication structures
Part 3 – experiences (referring to part 2) 1. What do you consider as "effective" communication? 2. What are for you challenges in communication? 3. What works well? 4. What could work better? 5. How does communication look in 10 years?	**Values coding (for questions 1, 3, 4):** Is the application of codes that reflect participants' values, attitudes and beliefs representing their view on a particular subject. Justification: Participants perception of "effective communication" as well as "good" (what works well) and "bad" experiences (leading to opinions what could work better) with communication is based on their cumulative experiences on that topic, hence values coding is according to its definition fitting. **Structural coding (for questions 2, 5):** Applies a conceptual phrase representing a topic of inquiry to a segment of data relating to / is driven by a specific research question→ which is: CHALLENGES IN COMMUNICATION and FUTURE COMMUNICATION Justification: These structural phrases enabled the researcher to capture the main chunks of data to answer these questions and provided a basis to reveal particular content through sub-coding within these structures.

Between first and second cycle coding: between the two cycles a transitional process takes place to digest results from first cycle and by that prepare them for second cycle coding (Saldana, 2016). Analytic memo writing (see below) assisted in this phase.

Second cycle coding methods: Figure 30 states that codes and sub-codes from first cycle coding) are in the progress of second cycle coding eventually transformed into categories, which then develop towards themes/concepts and then into assertions (Saldana, 2016). Whereas categorising is to move from diverse data to containers of things they represent, concepts/themes present more general, higher-level and more abstract constructs (Richards and Morse,2013) in Saldana (2016). Corbin and Strauss (2015) in Saldana (2016) add that explaining how such themes and concepts interrelate leads towards theory development or assertions. Assertions because theory development is not always a prerequisite outcome for

qualitative inquiry (Mason 2002 in (Saldana, 2016). This study uses pattern coding as a second cycle coding technique.

A pattern is regular, repetitive, or consistent incidence of data that appears more than twice (Saldana, 2016). Hatch (1995) in Saldana (2016) characterises a pattern by:

- Similarity (things that happen the same way)
- Difference (they happen in predictably different ways)
- Frequency (they happen often or seldom)
- Sequence (they happen in a certain order)
- Correspondence (they happen in relation to other activities or events)
- Causation (one appears to cause another)

Bernard (2011) in Saldana (2016) explains analysis as the search for patterns in data and for ideas that help explain why those patterns are there.

Pattern coding: is a way to group summarised segments of first cycle coding and the results of the transitional process into a smaller number of categories, themes or concepts in order to provide more meaningful units of analysis (Miles and Huberman, 1994). That process involves reviewing first cycle codes to assess their commonality and assign them various pattern codes The pattern code acts as a stimulus to develop a statement that describes a major theme, a pattern of action, a network of interrelationships or a theoretical construct from the data (Saldana, 2016).

Analytic memo writing: as indicated in Figure 30, this plays a crucial part in the process of data analysis. It reflects on the coding process and code choices, how the process of inquiry takes shape and on the emergent patterns, **categories** and concepts of the data (Saldana, 2016). Or as Clarke (2005 p. 202) in Saldana (2016) puts it: "Memos are a conversation with ourselves about our data". Memo writing and coding are parallel qualitative data analytic activities (Saldana, 2016). A code is a trigger for written reflection on the deeper meaning it induces, a meaning handled in such analytic memos (Saldana, 2016). See appendix K, p. 285 for an sample of analytic memos guiding the pattern codes process, which led to categories.

Eventually, the defined **pattern based categories** are discussed with reference to the theoretical background, leading to the analytic goal (Saldana, 2016) of this study: The development of overarching and integrating themes weaving knowledge from the data corpus and theory together by forming the communication framework.

Data analysis, as described above, was assisted by the use of the CAQDAS software **NVivo**.

3.10.2 Document Analysis

In addition to the interviews, further dimensions of data were obtained through the analysis of non-publicly accessible company documents. This technique was chosen to complement data collected from the interviews and observations, in accordance with the mixed-methods design, as suggested by Flick, (2009) and also because documents are suggested to be a valuable

data source within business and management research (Myers, 2009). These documents were minutes of diverse meetings, taking place within the two cases, (see section 3.10.2.2 Sampling). Whereas interview data was collected throughout this thesis by the researcher and therefore is classified as primary data, minutes are taken by other persons than the researcher. This classifies this sort of data as **"secondary data"** (Saunders, Lewis and Thornhill, 2016). Document secondary data are defined as data that, unlike the spoken word, endure physically as evidence, allowing data to be transposed across both time and space and re-analysed for a purpose different to that for which they were originally collected (Denscombe, 2007; Lee, 2012). The issue that these data are originally collected for another purpose than to answer research questions is to be kept in mind regarding the common threats of data, (see section 3.12). Vartanian (2011) states that the main advantage of using secondary data is the enormous saving in resources, such as time and money collecting them. A further advantage is that for many research projects time constraints mean that secondary data provide the only possibility of undertaking longitudinal studies (Saunders, Lewis and Thornhill, 2016). This advantage allowed the researcher to analyse minutes from the year 2016.

3.10.2.1 Data Collection Instrument

As per the above definition, secondary data are already collected, no data collection instrument had to be designed to collect them. However, it had to be defined what kind of secondary data fed into this study and how they were retrieved, as explained in the next subsections.

3.10.2.2 Sampling

The sampling was purposive. During the interviews, it became clear which content of the respective communication structures have written evidence, in the form of minutes, available. These documents are minutes of department, division and subdivision meetings. To get rich data on these, the period of a whole year – at the point of data collection this was 2016 - was analysed. Hence, it can be classified as a **longitudinal view** on company documents and the above mentioned advantage of secondary data was benefited from. For detailed information about how many documents were analysed, see section 4.5.1. Case Description / Sampling - Documents.

3.10.2.3 Data Access

Access to the documents was obtained through the two gatekeepers in the first instance and then directly in the interviews by asking the FM executives to either send or directly hand over the documents. All necessary ethical requirements were fulfilled.

3.10.2.4 Data Analysis

Analysis for the documents was similar to the interview data. Hence the detailed explanations from the aforementioned section 3.10.1.4 Data Analysis, are also valid here, with the exception that the data did not need to be prepared as the minutes are already presented in written form.

Whereas applied coding methods previously were guided by the nature of the interview questions and their respective answers, here they were guided by the general appearance and content of minutes, as outlined in Table 23, which led to a different choice of first cycle coding methods.

Table 23: Applied first cycle coding methods documents, source: self-study with definitions based on Saldana (2016)

Content Minutes	Applied first cycle Coding Methods
Context information Meeting Date / Time / Location / Meeting participants	**Attribute coding** was used for a statement on the formal structure of the document.
Agenda items which the minutes are based on	**Evaluation coding:** Applies codes that assign judgements about merit, worth, significance of programs or policies. Justification: In this study meeting minutes are seen as policies and are judged against / evaluated for the a priori proposition that they do contain agenda items reflecting the structure of the hospital's FM organisation and do address some of the challenges healthcare and hence FM face. Hence, a priori and emerging codes were expected to address such content. The evolved code list is introduced and discussed in the findings chapter

The mentioned activities between first and second cycle coding apply also for the document analysis. The chosen second cycle coding method (pattern coding) for the interviews also fitted for the analysis of the minutes data, enriched by NVivo supported automated query methods, such as text search. Analytic memo writing guided this analysis too. The developed code list is shown in section 4.5.2.

3.11 Data Collection and Analysis: Applied - Quantitative Methods

As the quantitative data collection occurs in fieldwork part 2 of the exploratory sequential mixed method design, Creswell (2014) mentions the challenge on how to use the information from the qualitative phase to inform the quantitative phase. Thereby the goal is to develop an instrument with good psychometric properties, such as validity and reliability. The author mentions further that the qualitative data analysis yields quotes codes and themes, which can be used to write items for an instrument, which has been done in this study. The following content informs transparently about the conducted quantitative procedures in this study.

3.11.1 Self - administered Structured Observation

This method is the quantitative element nested in the qualitative fieldwork part 1. The purpose of why this method was chosen is rooted in the theoretical background, where e-mail communication is stated as a time-consuming task in executives' routines. Hence, this study took the opportunity to shed light into this aspect by evaluating the number of emails FM executives in Swiss hospitals deal with. This via the use of a self-administered structured observation. According to Saunders, Lewis and Thornhill (2016) this method is suitable to quantify behaviour. Behaviour is this study is seen as the use of e-mail communication during a defined period of time. It is therefore a snapshot of activities and no longitudinal study. The function of structured observation is to tell you how often things happen rather than why they happen (Saunders,

Lewis and Thornhill, 2016), hence the method fits the study's purpose. The reason why this part of research is rooted within the fieldwork part 1 is that its results feed into the development of the quantitative survey by providing reasoned answer scales to obtain email volume over the quantitative sample.

3.11.1.1 Data Collection Instrument

Matching to the method, a simple structured observation schedule was designed for the users to fill out self-administered. Its core is presented in Figure 31. For the original, more detailed (including introduction and instructions) and formatted data collection instrument in German and its English translation see appendix L, p.286.

Name:					
Period of data collection (ideally last week in September / first week in October from Monday: to Sunday:)					

	To - Sent			**From - Received**	
Amount	Internal Receiver	External Receiver	Internal and External	Internal Sender	External Sender
Example	*14*	*8*	*3*	*12*	*5*
Monday					
Tuesday					
Wednesday					
Thursday					
Friday					
Saturday					
Sunday					

Figure 31: Observation schedule for email amount, source: self-study

Additionally to count e-mails in their chosen **time period of seven days**, the executives were asked whether their e-mail programme is open constantly at the time their PC works or if they purposely just open it occasionally to avoid constant distractions due to incoming e-mails.

3.11.1.2 Sampling

The sampling is the same as already applied with the interviews, see Table 18: Sampling rationale qualitative sequence. Due to the fact that in case 1 three interview participants do not use an e-mail account, and three did not respond to the task, the total amount of received data was for **case 1** is **7**.The total amount of received data for **case 2** is **25**, with one participant not responding to the task. This provides a sample of **32 FM executives'** e-mail volume.

3.11.1.3 Data Access

Access to spread the self-administered observation task was obtained through the two gate-keepers who did send the data collection instrument to the respective persons. After fulfilling the task, the participants sent the filled-out observation schedule directly to the researcher. All necessary ethical requirements were fulfilled.

3.11.1.4 Data Analysis

For this element of data, analysis was very much straightforward. The received data was manually entered into the Statistical Package for Social Sciences (SPSS). From SPSS data was exported into Excel from where descriptive and test-statistics were computed and figures were made. Descriptive statistics were used to describe the basic features of the data. Features suited to fittingly display the e-mail volume FM executives have to deal with. These included the use of frequency distributions, display of distributions' central tendency by stating their mean and analysis of the distributions dispersion, for which the standard deviation was chosen as it is more detailed and accurate than the range. Test-statistics, also known as inferential statistics were used to analyse data for conclusions reaching beyond the immediate data alone. There was one such statistical analysis applied: the independent t-test. That test enabled to test whether the means of two groups collected from independent samples differ significantly, a choice that was made based on the nature of the available data.

Result section 5.5 E-mail Volume provides detailed information with corresponding figures of how these statistical measures were applied.

3.11.2 Survey

The aim of the survey was to obtain an overall picture on communication structures experiences and opinions within hospitals' FM departments based on, but beyond, the two cases analysed in detail during the qualitative methodology in this study. To address this aim, survey research provided the best fit as it enables a large number of respondents to report directly on their own thoughts, feelings, and behaviours (Saunders, Lewis and Thornhill, 2016). Survey research can be done through different modes, such as post, telephone, online or face-to face (Saunders, Lewis and Thornhill, 2016). When considering the best mode for this survey, constraints including geographical spread, time, budget, target characteristics were considered as suggested by Hughes (2006). The evaluation resulted in the choice of an online survey. Online surveys can either be conducted via email or web-based (Hughes, 2006). Web-based was the right fit for this study as it is a speedy mode, allowing a generic link to be send to numerous respondents and usable on different devices, IT-systems. This corresponds with research ethics providing anonymity to the respondents (Hughes, 2006; Saunders, Lewis and Thornhill, 2016).

The online software used to administer the survey was **LimeSurvey**, a worldwide leading open source survey software. For extra security and ease of use, the LimeSurvey instance hosted by the IT department of Zurich University of Applied Sciences was used.

3.11.2.1 Data Collection Instrument

The development of the **questionnaire** is based on the results and interpretation of the qualitative data. Hence, this section should more appropriately appear after these chapters in this thesis. However, for the sake of a complete methodology chapter it was decided to place this information at this stage of the thesis.

The challenge was to create a questionnaire that allows capturing complex communication structures and experiences, aligned with the overall research objectives of this study, with as simple items as possible. Bearing in mind that respondents' time and patience to fill out questionnaires is restricted. The design of each question (in quantitative surveys also referred to as item) should be determined by the data you need to collect (Saunders, Lewis and Thornhill, 2016). According to Bourque and Clark (1994) designing individual items is based on three ways, which have been used in this study as well:

- adopt questions used in other questionnaires
- adapt questions used in other questionnaires
- develop own questions

Another distinction supporting item design is the distinction between three types of data that can be collected through questionnaires as stated by Dillman, Smyth and Christian (2014):

- **factual:** contain data that are readily available to the respondent and are likely, assuming the respondent is willing to disclose, to be accurate
- **attitudes and opinions:** contain data that respondents may have needed to think about before answering, likely to be influenced by the context in which the item is asked
- **behaviours and events:** are also likely to be influenced by context. They contain data about what people did (behaviours) or what happened (events) in the past, is happening now, or will happen in the future

A further important aspect to consider while designing a questionnaire is the type of items that can be posed. Saunders, Lewis and Thornhill (2016) highlight different types of questions used in this survey:

- closed question: **List**, where the respondent is offered a list of items, any of which may be selected
- closed question: **Category**, where only one response can be selected from a given set of categories
- closed question: **Rating**, in which a rating device is used to record responses;
- open questions: Enable **free text** entry by respondents

Table 24 schematically presents the questionnaire including justification for the designed items referring to above distinctions. The table further provides information on how the quantitative items evolved from literature and qualitative work. The questionnaire has four parts with linked items providing a path for respondents with and without managerial function. For the original guideline formatted as used in LimeSurvey, presenting all answer scales see appendix N, p. 289. In addition, the results section gives detailed insight on the items. As with the qualitative interview guideline, also this quantitative questionnaire was developed considering the methodological advice of many well rated textbooks (Bourque and Clark, 1994; Rubin and Rubin, 2005; Myers, 2009; Creswell and Plano Clark, 2011; Quinlan, 2011; Easterby-Smith, Thorpe and Jackson, 2012; Creswell, 2014; Flick, 2015; Saunders, Lewis and Thornhill, 2016).

Table 24: Justification survey questionnaire, source: self-study

Items	Justification / Explanation
Part 1: Start – Use of Communication Means • Managerial function (factual, list)→ to structure data analysis • Use of communication means (factual, list)→ qualitative work enabled to provide a list of means used in the hospital setting. • Documents supporting communication available (factual, list/ do not know)→ Literature suggests to have such documents in place. • Communication challenges (opinion, list)→ Evolved from generic communication challenges as outlined in the literature section aligned with experienced challenges from the interviewees in the qualitative setting. • Level of digitalisation (behaviour, category)→ Literature states an evolving digitalisation, whereas qualitative work indicates a highly heterogeneous approach to digitalisation.	To gain an understanding of the general use of means as well as characteristics of participants' communication setting.
Part 2: Focus Meetings → Literature states a high degree of time from executives devoted to meetings, which was confirmed in the qualitative work, meetings share particular characteristics, as outlined in chapter 2.4.3.2 and confirmed in the qualitative work, hence these wanted to be analysed in the greater scale of the quantitative work. The same origin have the items of meeting satisfaction, aiming to analyse whether participants feel time is well spent or not. • Number of chaired meetings (factual, linked with managerial function, list) • Characteristics of each chaired meeting (factual, list with categories) max. 5 • Number of meetings participating (factual, list) • Characteristics of each participating meeting (factual, list with categories) max. 5 • Satisfaction with meeting duration / time (opinion, category) • Satisfaction with meeting preparation (opinion, rating) • Satisfaction with meeting structure (opinion, rating)	To get insights on time spent in meetings, meeting characteristics and rating questions on meeting satisfaction adapted from (Rausch, 2008) to gain insights on how meetings are perceived by participants.

• Satisfaction with meeting content (opinion, rating)	
• Characteristics and number of one-on-ones (factual, linked with managerial function, list with categories)	
• Characteristics of one-on-ones (factual, linked with non-managerial function, list with categories)	
• Structure of chaired meetings (factual, linked with managerial function, list)	
• Regular analysis of meeting efficiency (factual, list)	
Part 3: Focus E-mail • Rules on e-mail handling available (factual, list /do not know)→ Literature suggests that challenges can be mitigated with clear rules, whose existence the qualitative work could not thoroughly confirm. • Number of daily e-mail volume (factual, category)→ categories evolved from results of the self-administered observation • Opinions to e-mail communication (opinion, rating)→ options evolved out of literature, mainly chapter 2.4.3.3 and result of qualitative work where e-mails triggered a lot of emotion.	To get insights on e-mail volume participants have to deal with and their opinions on that topic.

Part 4: End – Future of Communication
 	
• Future communication (opinion, open question)→ literature suggest that communication evolves over time, e.g. increase of digitalisation, in order for the framework to contain an element of future communication this item was developed.
 	
• Demographic characteristics (factual)→ to structure data analysis
  o Sex (list)
  o Age (category)
  o Level of education (list)
  o Employer (list)
  o Length of current employment (categories)
  o Number of subordinated staff (linked with managerial function, category)
  o Managerial responsibility - FM disciplines (linked with managerial function, category)
  o Area of work – FM discipline (linked with non-managerial function, category)
 	
• Which content to include in communication framework (opinion, open question)
	Demographic data is used to explore how characteristics and opinions, differ, as well as to check that the data collected are representative of the total population.
	
	The open-ended question on what to include in the aspired communication framework is used to check the content developed out of this research against practitioners' opinions.

At the end of the survey, the respondents had the possibility to enter their email contact in order to receive publication results of this thesis. That data is stored separately from the survey results to ensure confidentiality. The questionnaire was scrutinised for validity and reliability issues.

3.11.2.2 Sampling

According to Fellows and Liu (2015) "the objective of sampling is to provide a practical means of enabling the data collection and processing components of research to be carried out whilst ensuring that the sample is representative" (p.139). Fellows and Liu (2015) further state that obtaining a suitable representation begins through considering the population. In this case, sampling for the quantitative survey took place within the organisational FM structure of the 69 acute hospitals in German speaking Switzerland. Within that, the desired population is FM staff with email access.

Unfortunately, it is not possible to determine the exact number of this population, as there is no statistical data available. However, the Swiss federal bureau's statistics on hospitals, which has been used for the case study sampling rationale, (BAG, 2017) does deliver relevant indications on the population enabling an educated estimation of the population. Available are detailed staff statistics including all Swiss acute hospitals. The statistics are not disclosed in detail for each hospital due to data protection policies (personal communication federal bureau for statistics). For the German speaking hospitals only the total of staff categories 31/29/30 = 23,985 (=full time equivalents FTE) is stated. However, based on the proportions of these categories within the number of all Swiss acute hospitals FM staff can be estimated as 10,554 as displayed in Table 25.

Table 25: Derivation of Survey Population / Numbers in FTE (BAG, 2017)

Staff categories*	Swiss acute hospitals		German Speaking acute hospitals	
31 Administrative Staff	25,649	56%		
29 Housekeeping / Catering / Procurement Staff*	16,761	44%	44%	**10,554 FM staff**
30 Engineering / Logistics Staff*	4,021			
Total	**46,431**	**100%**	**23'985**	

*See appendix O, p.301 for detailed specifications on which professions are accumulated in these staff categories.

However, from this number, not all FM staff have email access. Especially auxiliary staff such as cleaners or kitchen staff, which make up a high percentage of FTE's, do not usually have email access. Evaluating the two hospitals selected for the cases and at the one, in which the author works, it can be said that on average only about 18% of FM staff have a personal email access. This leads to an **estimated population of: 1,899 FTE FM staff with email access.** A further challenge provides the FTE unit of the available numbers as email access refers to heads and not FTE. The proportion of heads allocated to FTE's varies in each hospital. Example of the two cases and the one of the author: 130 FTE vs 160 heads, 492 FTE vs 685 heads, 430 FTE vs 741 heads (source: personal Email hospital contact). Due to this variety which is not further to disclose for this thesis and the already derived nature of the estimated population, the "FTE vs heads" challenge is recognised but not taken into account by lifting the estimated population any further.

Survey research usually operates through surveying a sample of the target population, as it is rarely possible to conduct a full census survey due to key issues of time, cost, and accessibility (Saunders, Lewis and Thornhill, 2016). To obtain the sample from the population of this survey, the snowball sampling technique (Saunders, Lewis and Thornhill, 2016) was applied because it was not possible to reach every FM staff member with email access directly. For further information on how the snowball technique was applied see the next section on data access. Despite the issues in defining an exact target population, responses of the survey are shown to be diverse enough to provide a representative sample of FM staff characteristics. This is supported by the fact that from the 69 addressed hospitals, responses from 35 of them were obtained and also staff from different FM disciplines took part in the survey, more details about the achieved sample are provided in the results chapter.

Unfortunately, due to these issues surrounding the target population, an accurate **response rate** could not be calculated, primarily due to the unavailability of statistics determining the exact proportion of FM staff with email access in the determined hospitals. However, although response rates are useful they do not tell how accurate the survey data is in determining the views of the total population (i.e. including those who do not participate). This can be achieved by gauging **the 'margin of error'** and '**level of confidence'** using a 95% confidence level (Sue and Ritter, 2012), in which it is evident that the survey produced accurate findings. The response rate for the survey is outlined in the results chapter.

3.11.2.3 Data Access

Every hospital (N=69) was accessed via a gatekeeper (Head of FM, FM managers) by sending a personalised e-mail including the survey link, (see cover email in appendix M, p. 287). The contact list is a result of the author's personal field contacts and thorough desk research. The gatekeepers were asked to send the survey invitation on to every FM staff member with e-mail access. The survey was open for a period of 4 weeks; after 3 weeks personalised reminder emails were sent to increase the response rate. Informed consent was obtained by survey participants. All necessary ethical requirements were fulfilled.

3.11.2.4 Data Analysis

One of the benefits of using online surveys is the ability to export the survey results from the survey database into a specialist statistical analysis package. For the purposes of this survey, the Statistical Package for Social Sciences (SPSS) was used. Firstly because SPSS is compatible with LimeSurvey and secondly, because it is the most comprehensive statistical analysis package for survey research. Analysis consisted of data preparation and the analysis as such.

Data Preparation – SPSS File, after exporting the data from the lime survey included: *data validation* meaning filtering out invalid respondents out of the dataset and *Recoding.* One of the benefits in using online survey software, is the data coding process is done automatically (Bryman and Bell, 2011). However, in order to maximise the validity and clarity of the analytical

output of the data findings, it is often effective to recode certain variables. Recoding is the procedure of changing codes or numbers and can be achieved within SPSS (Bryman and Bell, 2011). The recoding of variables within this study was primarily used in order to increase the accuracy of categorical data analysis.

Analysing data - For quantitative research, there are generally two levels of analysis - descriptive or inferential. Descriptive statistics are used to summarise the key characteristics of a dataset (Roth-Johnson, 2015), and present patterns in the responses of people from the given sample, such as measures of central tendency (mean, median, mode); measures of spread (range and validity of data such as standard deviation). Inferential statistics however are much more complex and provide an idea about whether the patterns described in the sample are likely to apply in the population from which it was drawn (Roth-Johnson, 2016).

The use of both descriptive and inferential statistical analysis was applied within this study. Details on which of these were applied and how are directly provided in the results chapter because due to the amount of results it strengthens readability to place these judgements directly at the place where the analysis is displayed. This is supported by an introduction of the analysis procedures, see chapter 5.1. All quantitative data were analysed using SPSS. Open questions were analysed using thematic coding with the assistance of NVivo.

3.12   Threats of Qualitative and Quantitative Data

The above explanations state why the chosen data collection and analysis methods fit this research design – because they enable us to get the results needed to address this study's objectives. Although this fit has been demonstrated, a special focus needs to be laid on the common three threats of qualitative and quantitative data: validity, reliability and generalisability. The validation process of this research's results the 'FM communication framework' is thoroughly explained in an own main chapter, see chapter 8 Framework Validation.

3.12.1 Validity

Validity refers to the appropriateness of the measures used, accuracy of the analysis of the results and generalisability of the findings (Connaway and Powell, 2010), as seen in Figure 32 based on Connaway and Powell (2010).

Outside the study: **external validity**
«does the same thing happen in other settings?»

Inside the study: **internal validity**
«was the research done right?»
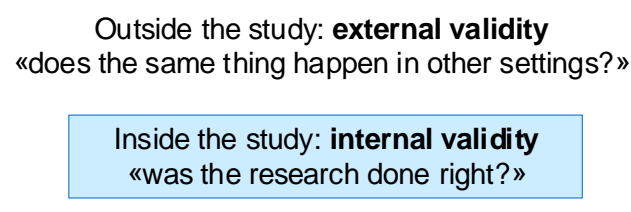
Figure 32: Core of external and internal validity, source: self-study based on Connaway and Powell (2010)

Internal and external validity are important in analysing the usefulness, appropriateness, and meaningfulness of the research study. Results, which are not deemed to be valid, are considered as meaningless to the research. In regard to the chosen mixed methods design, Creswell (2014) states that validity needs to be checked of both the qualitative and quantitative data and that concerns lie in the appropriate development of a good data collection instrument and that this instrument may not take advantage of the richness of the qualitative findings, which can occur when qualitative data lacks rigour.

Further referring to this study's mixed-methods design it has to be discussed what is pointed out by Saunders, Lewis and Thornhill (2016). The authors state types to measure validity which are appropriate to assess quantitative research based on positivist assumptions. But they are often considered as philosophically and technically inappropriate in relation to qualitative research based on interpretive assumptions, where reality is regarded as being socially constructed and multifaceted (Flick, 2009). Saunders, Lewis and Thornhill (2016) point out that it is inappropriate to rigidly judge qualitative research against these criteria of internal validity as it becomes difficult for qualitative researchers to demonstrate that their research is of high quality and credible. But Flick (2009) states, that the adaptation of the concept of internal validity, without the particular measurement procedures of qualitative research, is generally not seen as a problem, because the in-depth nature of qualitative methods means that the theoretical relationships that are proposed can be shown to be well grounded in a rich collection of data and also in a profound theoretical background (Flick, 2009).

Regarding external validity the authors Saunders, Lewis and Thornhill (2016) point out further that qualitative research is not necessarily intended to be replicated because it will reflect the socially constructed interpretations of participants in a particular setting at the time it is conducted. However, the authors state that rigorous description of the research design, context and methods may help others to replicate similar studies. However, qualitative researchers suggest other forms of generalisability that demonstrate the quality and value of qualitative research. For example, findings from one qualitative research setting may lead to generalisations across other settings, where, for example, characteristics of the research setting are similar, or where learning from the research setting can be applied in other settings (Buchanan, 2000). Saunders, Lewis and Thornhill (2016) mention scholars who have moved further away from the concept of validity by developing new concepts through which to ensure and judge the quality of qualitative research. In this regard, Lincoln and Guba (1985) have developed authenticity criteria as an alternative to validity. Based on the above explanations Table 26 outlines the proposed and applied alternative criteria to assess and ensure the quality of the qualitative part of this study. The reason why these choices were made to meet validity criteria lies in their applicability.

Table 26: Criteria to meet internal and external validity, source: self-study based on Lincoln and Guba (1985)

Criteria	Techniques to achieve criteria in light of this study
Credibility (for internal validity)	Use of techniques to ensure that representation of the researcher's socially constructed realities match what the they intended: • Lengthy research involvement to build trust and understanding to collect sufficient data: This is demonstrated by the researcher's CV (see appendix A) and also by positive relationships with the gatekeepers of the two cases and through them with their staff. • Use of reflection using a different person to discuss ideas and test out findings: The researcher discussed findings with her supervisor and colleagues working in her academic research area and practice area as a hospital staff member and the validation of the research outcome (communication framework) with a focus group as major part of reflection. • Developing a thorough analysis accounting for negative cases by refining the analysis in order to produce the best possible explanation of the phenomenon being studied: Ensured by applying a mixed methods research design as well as a detailed explanation of qualitative analysis procedures. • Ensuring that researcher's preconceived expectations about what the research will reveal are not privileged over the social construction of the participant by regularly recording these and challenging them during data analysis: Due to her professional activities (see CV) the researcher constantly challenges her roles and corresponding expectations within the field of this study's research.
Transferability (for external validity and also generalisability)	This shall be demonstrated by providing a full description of the research questions, design, context, findings and interpretations. The researcher provides the reader with the opportunity to judge the transferability of this study to another setting. This is demonstrated by and justifies the detailed methodology section of this study.

As this research is primarily based on a qualitative design, the above justifications dealt with that. Nevertheless, also the quantitative part of the mixed-methods approach needs to be addressed. This is done at quantitative **questionnaire level**. Saunders, Lewis and Thornhill (2016) state that **internal validity** refers to the ability of the questionnaire to measure what it is intended to measure. The authors suggest that researchers handle this issue by also considering other relevant evidence supporting the answers found using the questionnaire. Relevance being determined by the nature of the research question and the researcher's own judgement (Saunders, Lewis and Thornhill, 2016). Here once again the fit of this study's mixed-methods approach to discuss the findings of both qualitative and quantitative data is justified. **Content validity** refers to the extent to which the questions in the questionnaire provide adequate coverage of the investigative questions (Saunders, Lewis and Thornhill, 2016). Connected with that **criterion-related validity**, sometimes known as predictive validity, is concerned with the ability of the measures (questions) to make accurate predictions. Thereby judgement of what is 'adequate coverage' can be made in a number of ways. One is through careful definition of the research through the literature reviewed (Saunders, Lewis and Thornhill, 2016). This has been done for this study, together with using questions adapted from an existing, validated study, (see section 3.11.2.1 Data Collection Instrument).

3.12.2 Reliability

Reliability refers to the replication and consistency of the research (Saunders, Lewis and Thornhill, 2016). It is described as the regularity of the results, when the experiment is replicated in the same conditions. Research normally requires dependable measurements and

measurements are usually reliable to the extent that they are repeated and any influence that tends to make the measurement different is a source of measurement error (Connaway and Powell, 2010). One approach to ensure reliability is triangulation, by comparing the data collected with other data from a variety of sources. Another approach, specifically advised to be followed regarding qualitative data is called "thick description" (Kuzel and Like, 1991). That refers to a detailed description of a phenomenon that includes the researcher's interpretation in addition to the observed context and processes. It may also include providing a thorough accounting of the methods and procedures followed during and after data collection (Kuzel and Like, 1991). Based on these suggested approaches to ensure reliability, this study primarily addresses the threat of reliability by providing a thorough and transparent description and application of the sound research design, particularly using the theoretical threads as evidence based guidelines to develop data collection tools and to conceptualise the findings.

3.12.3 Generalisability

Generalisability refers to the extension of research findings and conclusions from a study conducted on a sample population to the population at large (Field, 2009). In light of this study's research design, this quantitative perspective of generalisability does not fit. It has to be considered from a qualitative perspective, where it describes the extent to which the research findings can be applied in a setting other than that in which it was originally tested (Myers, 2009). Rooted in the choice of inquiry strategy, see section 3.6 Inquiry Strategy, the case study research enables to draw generalisations from the cases in order to form an overarching theory (Yin, 2009): the FM communication framework. Hence, actions taken to adequately address the issue of generalisability are reasoned by the chosen inquiry strategy and are enabled by a detailed description of applied methodology together with a solid background as well as the researcher's knowledge of the field in which the research is rooted and generalisations are applied on.

To conclude this section, it can be stated that both research design and findings are scrutinised to the common threats of a primarily qualitative research design. To do so, data triangulation as a result of the mixed-method design is ensured in this research, together with a thorough validation procedure of this research's results and by a very detailed and justified methodology section ensuring that each step is open to scrutiny and highly comprehensible.

3.13   Ethical Considerations

Dealing with research ethics is a crucial part in any research study. The following passages clarify what has been considered regarding this study.

3.13.1 General Requirements

Research ethics refer to the appropriateness of the researcher's behaviour in relation to the rights of those who are involved in the study or are affected by it (Saunders, Lewis and Thornhill, 2016). The conduct of this study is guided by the ethical framework of LJMU, which

is outlined in the "LJMU Code of Practice for Research". As required by this code, **informed consent** was obtained from each person participating in the study. A series of documents were used to obtain this consent, provided in appendix C, D, E, and. Through obtaining informed consent, the participants were informed of the study's intents including what will happen with the findings. In accordance with this code **Confidentiality** is **guaranteed** by anonymising all data in the process of analysis, interpretation and the finished product of this research.

3.13.2 Special Emphasis on Bilingual Research

As the setting of this research takes place in Switzerland, more specifically in the German speaking part of Switzerland and the language of data is predominantly German, a special emphasis needs to be put on translation issues of such bilingual research in order to ensure methodological rigour.

Esposito (2001) pointedly states that "misinterpretation of meaning is a potential problem in any research, but the risk grows tremendously when language is a barrier " (p. 570). Diverse authors such as Cutliffe & Mc Kenna in Birbili (2000) and Denzin and Lincoln (2013) state that decisions about translation impact the trustworthiness of the research directly and on that matter require not only language proficiency but also cultural knowledge to detect and handle different linguistic meanings appropriately. Based on a literature review Birbili (2000) points out, that the major challenge of any kind of research in which language of the people under study differs from that of the write-up, lies in ensuring conceptual equivalence or comparability of meaning. Philips (1960) in Birbili (2000) sees this challenge as "in absolute terms an unsolvable problem" resulting from the fact that "almost any utterance in any language carries with it a set of assumptions, feelings, and values that the speaker may or may not be aware of, but that the field worker, as an outsider, usually is not" (p. 291). Adding to this discussion Larkin, Dierckx de Casterle and Schotsmans (2007) mention the occurrence of methodological and epistemological challenges as different languages influence the way social life is seen and hence the conclusion that translation is inseparable from the application of a fitting theoretical perspective (Temple, 1997).

Cutcliffe and McKenna (1999), Birbili (2000) and Temple and Young (2004) further state that the robustness of qualitative research is based on a highly transparent, thorough and explicit decision-making process and hence that failure to describe procedures used to address linguistic challenges have the potential to significantly weaken the research in its rigours. These descriptions include the circumstances along the research stages within which the translations took place; also a discussion of the techniques used for the translation process and the roles researcher and translators played in the process is needed (Birbili, 2000). To avoid any kind of failure, the linguistic procedures used are transparently provided hereafter.

3.13.2.1 Cross-cultural Research

In literature, translation issues are mostly discussed in the light of cross-cultural research, which Ilesanmi (2009) defines as a scientific method of comparative research focusing on systematically comparing culture to culture and which explicitly aims to answer questions about the incidence, distributions and causes of cultural variation and complex problems across a wide field, usually worldwide. Typical research questions include the search for patterns of coherence and sources of coherence in the practices, beliefs, social roles, norms, expressions, and forms of organisation and conflict across different cultures (Ilesanmi, 2009). Typical research areas dealing with cross-cultural research are sociology or anthropology (Birbili, 2000; Bradby, 2002) .

Based on the above definition of cross-cultural research, it can be derived that this study's research as such is not cross-cultural as the research project itself takes place in Switzerland and its results are primarily aimed to be of benefit to the area under study. The researcher herself is also a Swiss living in Switzerland and therefore familiar with cultural aspects and their interpretation of the research setting. However, the issue of cross-culturalism is likely to occur between the supervisor and examiners of this thesis who are based in the UK reading about the topic within the Swiss healthcare context, a context they are not familiar with. To ease this possible source of misinterpreting information, Swiss specifics were explicitly explained in the background chapter of this thesis and throughout the discussion of the results in order to raise awareness and hence understanding of the cultural context this research is based on.

3.13.2.2 Concept of Translation

According to Larson (1998) in Esposito (2001) language experts assign several meanings to the concept of translation. This study defines translation according to Larson as the transfer of meaning from a source language (SL) (German in the study) to a target language (TL) (English). The translator, in this study the researcher, acts as an interpreter who processes communication in the form of the vocabulary and grammatical structure of the words while considering the individual situation and the overall cultural context of the source language. The interpreter then conceptualizes the meaning and, using vocabulary and grammatical structure appropriate for the target language, reconstructs the meaning of the statement in a new cultural context (Larson, 1998 in Esposito, 2001).

3.13.2.3 The Roles of Researcher and Translator

The role definition of researcher and translator are mentioned as crucial factors influencing the quality of translations (Birbili, 2000; Bradby, 2002; Larkin, Dierckx de Casterle and Schotsmans, 2007). In cases where researcher and translator are the same person the quality of the translation depends on factors such as the autobiography of the person doing it, the person's knowledge of the language and culture of the people under study according to Vulliamy (1960) in Birbili (2000) as well as the researcher's fluency in the language of the write-

up (Birbili, 2000). Temple and Young (2004) state that when the researcher does not speak the same language as research participants it means that the researcher has to question the baseline from where he or she makes claims about these participants. Concerning epistemology, the same authors also mention that a researcher positioning himself as a neutral and objective receiver and processor of messages, then translation is a technical issue that can be worked out and it does not matter if the researcher does the translation himself as due to the objectivity the result will be the same. On the other hand researchers who cannot position themselves as objective have to pass on translation work to other translators in order to maintain objectivity of data received and hence construct a valid research outcome (Temple and Young, 2004). According to these authors, the combined researcher translator role provides significant advantages for close attention to cross cultural meanings and interpretations. However, as mentioned above, this requires that person to be fluent in the requested languages. Furthermore, that person preferably has knowledge about the subject under investigation. Temple (1997) takes up the concept of "intellectual autobiography" as developed by Stanley (1990) in Temple (1997): "An analytic (not just descriptive) concern with the specifics of how we come to understand what we do, by locating acts of understanding in an explication of the grounded contexts they are located in and arise from."(p. 62). Temple (1997) points out that "researchers' intellectual autobiographies influence what they know, and what they know and experience influences what they write, which in turn influences their intellectual autobiographies (p.608). This goes neatly along with the earlier mentioned importance of the researcher's autobiography in the research process (Vulliamy, 1960 in Birbilli, 2000).

Based on these aspects regarding the role of researcher and translator, it was carefully determined for this study that within the research of this thesis, the principal translator is the researcher herself. The researcher is highly familiar with the topic under investigation based on several years of direct professional experience as a practitioner in the field of FM in healthcare as well as an academic in the position of a senior researcher working closely with practitioners in this field as already mentioned several times, see appendix A for CV. This experience led to an expert knowledge preventing translation weakness due to lack of knowledge as mentioned by Larkin, Dierckx de Casterle and Schotsmans (2007). In addition, the researcher is not only familiar with the subject-specific field under study but also with the language and culture of the people under study (Swiss-German, German) as well as with the write-up language (English).

3.13.2.4 Translation Issues in Research Stages

The need to thoroughly describe translation related issues and decisions, occurs in several stages of the research (Temple and Young, 2004). The following paragraphs directly refer to the research stages of this study and describe clearly what the issues were, when they occurred and how they are dealt with, as visualised in Figure 33. Another important aspect to consider when deciding on when in the research process translation is applied, is mentioned by Temple and Young (2004). These authors point out that early "domestication" of data into

written English possibly means that the ties between language and identity/culture are discon-nected to the disadvantage of non-English data. In other words, an early translation of data in the research process could potentially lead to a lack of important insights and therefore has to be handled with care.

Development of data collection instruments: data collection instruments are a core issue in translation discussions (Esposito, 2001; Sperber, 2004). Twinn (1997) in Larkin, Dierckx de Casterle and Schotsmans (2007) proclaims that it is insufficient to address the translation only in the analysis of data because issues of rigour occur equally at the formative level of the development of the data collection instruments. The preparation of questionnaire items and interview questions is already a challenging matter (Saunders, Lewis and Thornhill, 2012), without the additional issue of translation (Larkin, Dierckx de Casterle and Schotsmans, 2007). Larkin et al. (2007) further point out that "overly structured questions make insufficient allow-ance for the degree of difference between and within languages and offer limited scope for the researcher to clarify or develop responses for fear of misrepresenting the question." (p. 470). Hence with the background of translating the instruments and subsequently also the results, a simple semantic structure of the questions was decided upon following the guideline of (Werner and Campbell, 1970) who suggest five rules to develop easily translatable questions and text passages:

1. simple sentences
2. repetition of nouns rather than use of pronouns
3. avoiding metaphors and colloquialisms
4. avoiding passive tense
5. avoiding hypothetical phrasings or subjunctive mood.

In terms of this study's data collection instruments, translation issues were handled this way: They were were developed and used in German and subsequently translated into English. The English version of the data collection instruments has documentary status to provide gapless replicable evidence to examiners of how data collection took place. The back translation model of Brislin (1970), which involves the translation of text from the source language to the target language, this translation is then independently translated back to the source language, and then the two versions of text in the source language are compared until any discrepancies are clarified or removed, is recognised. But as both the data collection instrument and data collection itself take place in the source language and hence linguistic misinterpretations due to translation issues could be ruled out, this procedure was not applied.

Data preparation: the interviews were transcribed in German. For clarity it needs to be men-tioned that here a first translation issue occurs as the spoken language is Swiss German and the written language is German – a circumstance every Swiss, and hence the researcher, is familiar with, so that this step was made without any loss of relevant data. This procedure was purposely selected as it ensures the validity of the data and excludes loss of relevant content due to to early translation. For that reason also the documents were not translated, which also

would not have been feasible due to their large number. The questionnaire of the quantitative survey was translated into English by the researcher and then proofread by a native English speaking person living in Switzerland in this stage as the data analysis procedure in SPSS required correct labels.

Data analysis: in this step translation issues occur. As stated in the chapters on data analysis, the coding process of qualitative data was done in English. In short, patterns found in the German data were labelled in English and from there on any discussion was conducted in English. To demonstrate the validity of this procedure, parts of transcripts are translated into English see appendix I and J so that readers can comprehend the applied coding mechanisms.

Writing up: The thesis document itself was written in English from the start. The document was proofread by LJMU language services to assure a linguistically sound final thesis. The corrections were made with the "track changes" feature of Microsoft Word so that ultimate decisions to accept the changes was made by the researcher. This way corrections that would have falsified outcome statements of the research due to lack of knowledge from the subject under investigation by the proof-reading person were avoided. The "result" of this thesis = the FM communication framework was initially developed in English. For its validation it was translated into German, adjustments were implemented in German and then the validated document was translated back into English and then entered the proof-reading procedure as part of the final thesis document. After approval of this thesis, the dissemination process takes place in English for academic purposes and in German to deliver the FM communication framework to the German speaking practitioners.
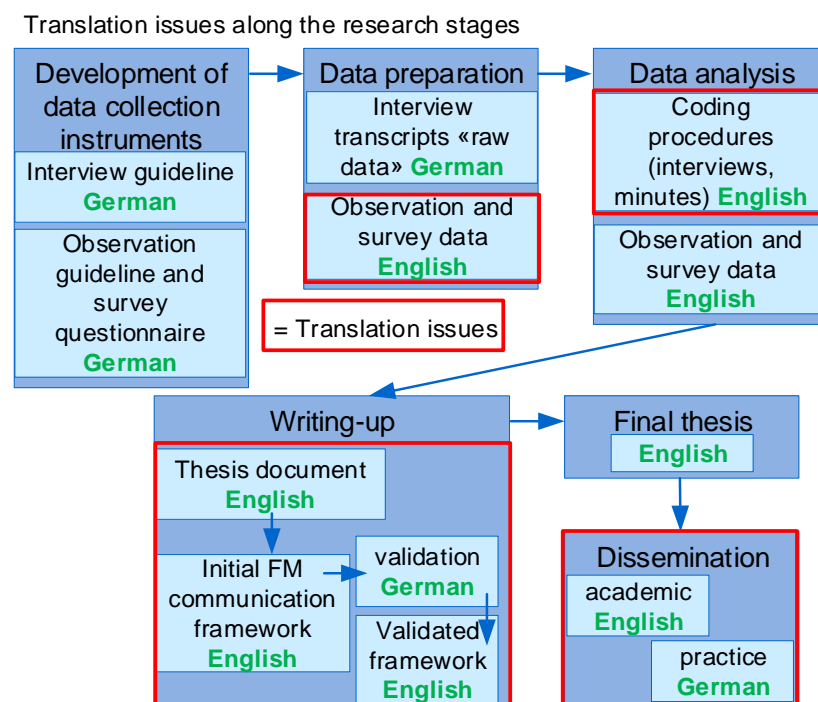
Figure 33: Thesis' translation issues, source: self-study based on Baumgartner (2012)

Hence it can be summarised that the role of translation in data, its subsequent analysis and therewith consequences on the research outcome is fully recognised. The applied translation

techniques fit with the chosen epistemological and ontological positions, are ensuring methodological rigour, are considering these issues and enable conceptual equivalence so that any risks of falsified conclusions and hence research outcome due to those potential bilingual research problems are minimized.

3.14 Methodology Summary – Action Plan

Peeling the layers of the research onion, a reasonable level of methodological coherence has been demonstrated. Interlinked aspects throughout the layers have been outlined, discussed and their choice for this study justified. Figure 34 presents a figurative overview of the methodology applied throughout this thesis' research project.

Closing this significant methodology chapter is a fitting quote of Lindlof and Taylor (2011) in (Saldana, 2016) stating that analytic endeavours are a "blend of strategic mindfulness and unexpected discovery" (p. 212). That is exactly what keeps a researcher going (opinion of this thesis's author).

The reader is now equipped with essential background and substantial methodological knowledge to fully comprehend the upcoming chapters.

Field of business & management research

Underpinning theoretical framework (background) **A**

Methodological choice: mixed-method design

Fieldwork Part 1
Qualitative Data Collection
- semi-structured interviews with FM executives
- document analysis: meeting minutes year 2016

Qualitative Analysis: thematic coding process (N-Vivo) with special emphasis on bilingual research

Quantitative Data Collection
- self-administred structured observation:
  1 week email amount of FM executives

Quantitative Analysis: descriptive statistics (Excel)

Inquiry Strategy: Mixed Methods Case Study
Case = Communication activities within hospitals' FM department

Case 1 13 interviews 69 documents / 249 pages	**Case 2** 26 interviews 233 documents / 708 pages

informs data collection tool

Fieldwork Part 2
Quantitative Data Collection
online based Survey
Quantitative Analysis: descriptive and test statistics (SPSS)

Discussion
= development of initial framework

Fieldwork Part 3
validation of initial framework
- Focus group with FM executives

improvement of framework

FM Communication Framework

Research philosophy + approach to theory development: inductive pragmatism

Time Horizon: Cross-sectional

iterative process

Objectives

B

C

D

E

Figure 34: Overview methodology of this thesis, source: self-study

4 RESULTS PART 1 – QUALITATIVE DATA

This chapter presents the first part of the rich results gained through applying the rigorous methodological procedures. It focuses on the qualitative research results and starts with a detailed description of the two cases and how they are displayed throughout this results section including an introduction on how to read the results. The structure of the results is rooted in the elements of the theoretical background. It presents firstly the insight gained from the interviews on formal communication, informal communication and communication experiences and beliefs. It then displays results of the qualitative document analysis of the meeting minutes and then leads over to the second part of the results, focusing on the quantitative results.

The results are presented as such, mostly neutral; they are discussed in chapter 6. Both result chapters focus on research objective B: establishing existing communication activities in hospitals' FM departments in terms of channels used, responsibilities and corresponding challenges.

4.1 Case Description / Sampling - Interviews

As introduced in the methodology chapter, the two selected hospitals represent two different types of Swiss acute hospitals. Due to confidentiality reasons, the organisational charts of their FM cannot be disclosed, this includes the mentioning of the names of departments, divisions and subdivisions. An alternative way, adequately displaying the range and size of the two cases' FM is provided in Figure 35 and Figure 36. Based on the taxonomy from Gerber (2015) the organisational structure is nested in the FM disciplines represented by the cases. This schematisation enabled the researcher to display two distinct organisational structures in an abstracted, hence similar way. Table 27 shows which FM parts are included in the disciplines.

Table 27: Overview of FM considered disciplines, source: self-study base on Gerber (2015)

Catering	Housekeeping	Infrastructure / Engineering	Procurement & Logistics
Kitchen, restaurant, event management	Cleaning, supply of workwear and textiles, staff accommodation, reception services	Site maintenance, operation and maintenance of non/medical and medical devices, security	Goods procurement, transport and distribution, warehousing, Document Management

To ensure the figures' readability, an example is given: In case 1, infrastructure and engineering tasks are done by one department, whereas in case 2 these tasks are done by two departments. The same principle is also applied in the case description of the documents, see 4.5.1 Case Description / Sampling - Documents. To emphasize the fit of the interviewees, appendix H provides a table with their key attributes. The interviewees are classified **into three hierarchical levels**; see top left of Figure 35 and Figure 36. These levels also structure the presentation of the findings.
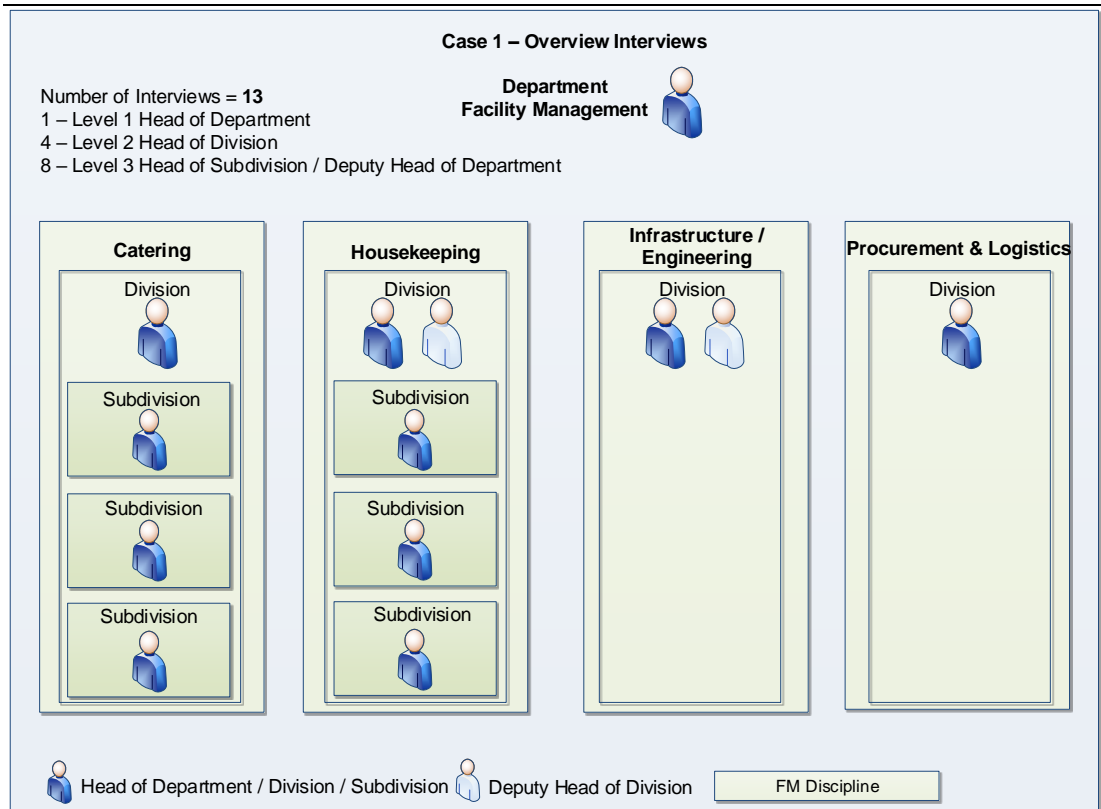
Figure 35: Case 1- Overview interviews, source: self-study

In addition to case 1, case 2 is a hospital spread out on three sites, which impacts the division structure within the FM disciplines, as seen in Figure 36. Whereas in case 1 all management levels were included in the interviews, in case 2 due to its size, the interviews and hence also the detailed display of communication structures focuses on the three top hierarchy levels. It is acknowledged that there are more management levels (team leaders) allocated to subdivision heads, which were not directly focused on in this research.
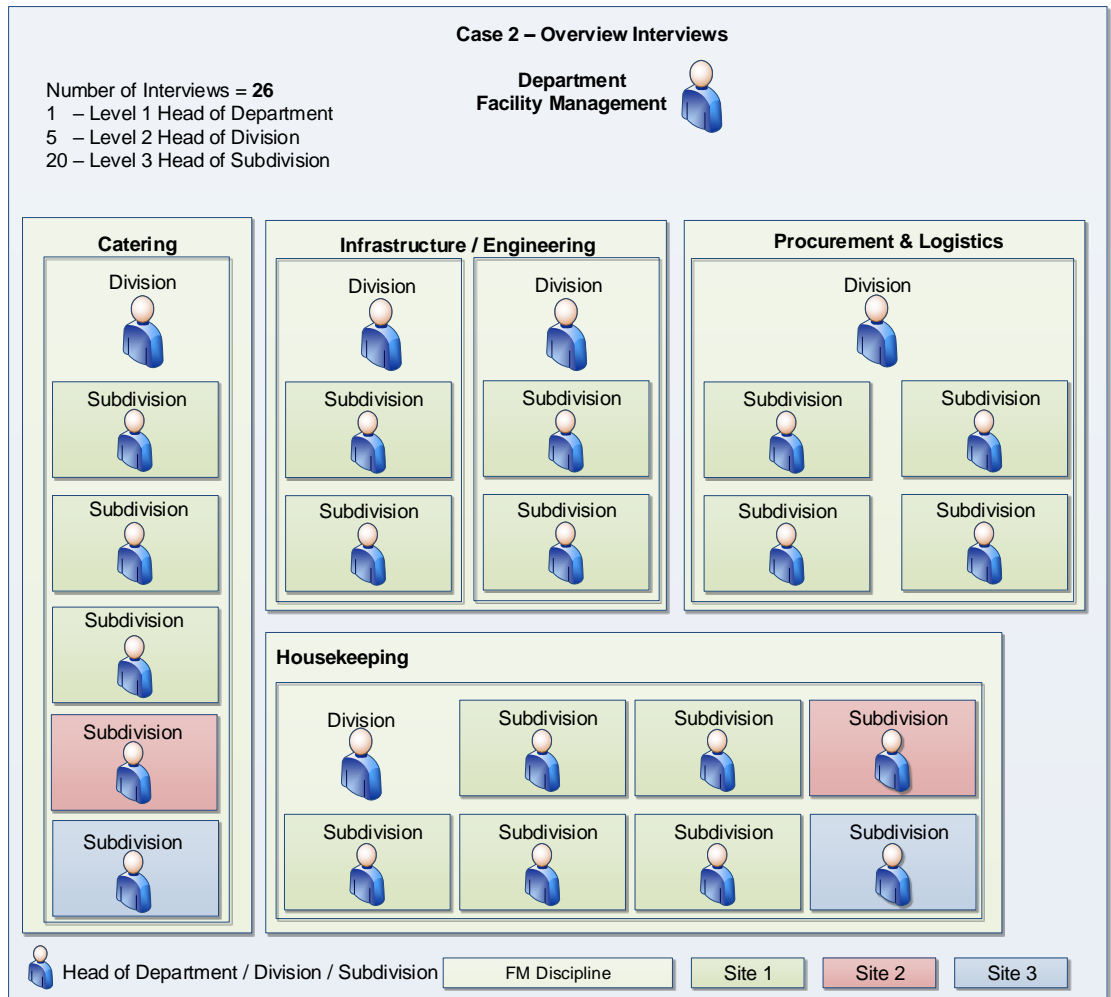
Figure 36: Case 2 - Overview interviews, source: self-study

How to read the results: The following subsections display the results of the interviews. Data about communication structure provided tangible elements to be visualised in figures, accompanied with comments giving additional, more in-depth information. The vast part of the data on communication experiences & beliefs is presented using matrix data displays with an executive interpretative summary as recommended by Henwood and Pidgeon (2003). Thereby no fundamental distinction between the two cases was made, as the assertions found apply to both of them. Fitting quotes from interview participants (IP) are used to underline the discussion's main points. They are marked with the respective number allocated to the interviewee to ensure traceability to the source, e.g. (source: IP#5).

4.2 Formal Communication

Now, the formal communication structure of both cases is subsequently displayed.

4.2.1 Case 1

Case 1 has no standard (such as ISO 9001) in place, which requires detailed process descriptions, focusing and regulating communication structure. However, as part of the quality management, there is a guiding document established by corporate communications called *"Communication concept internal communication"* (internal document case 1). That document highlights the importance of management communication along the line. It clearly states level-appropriate communication as the main responsibility of management staff, incorporating to create structures for adequate information flow. It further demands the prioritisation of personal face-to-face communication as a channel to directly encourage and enable employees to fulfil their tasks in a goal-oriented way. However, the document does not specify and display departmental communication activities. The FM department itself does not have a specified written overview on its communication structure.

4.2.1.1 Level 1 Induced Communication

Level 1 induced communication incorporates communication tools that are in direct command of the department head. At this level, information across disciplines respectively the therein-nested departments is directly exchanged, as visualised in Figure 37.
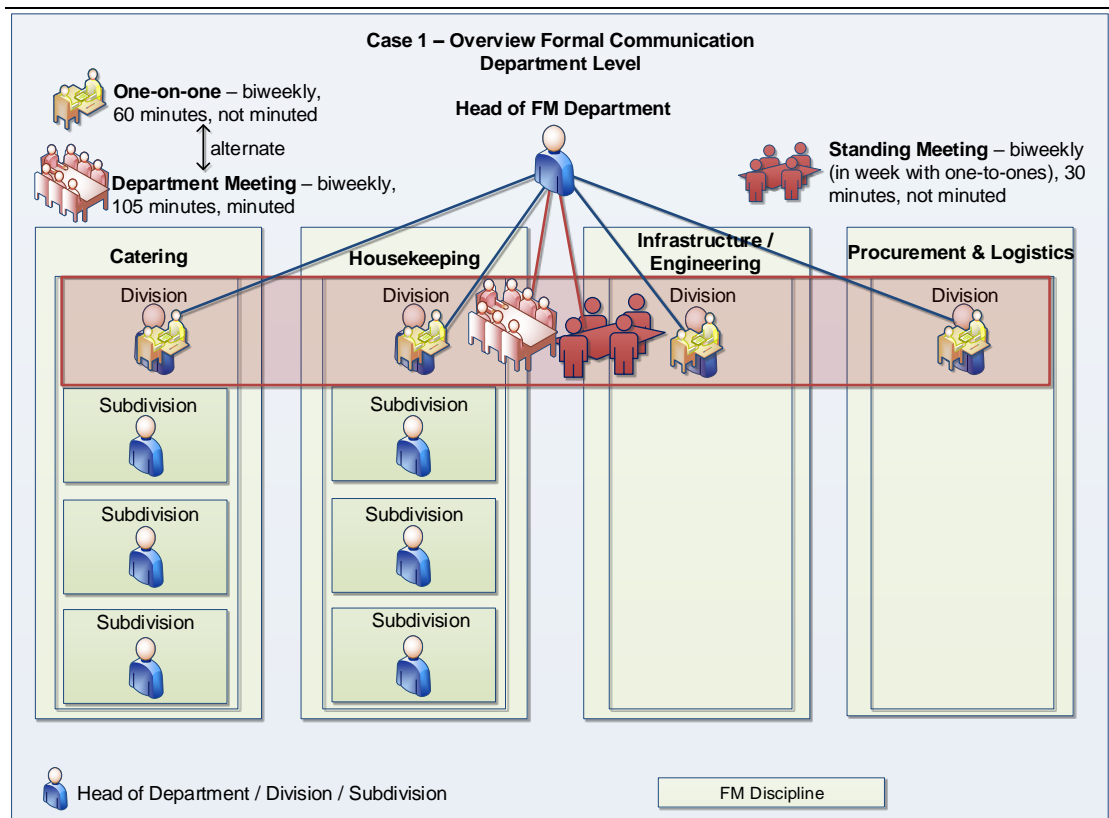
Figure 37: Case 1 formal communication structure level 1, source: self-study

For the minuted department meeting, division heads have to set their items on the agenda themselves, a document that then transforms into minutes. This is not working properly as they have to be constantly reminded to do that. At the moment the department head prepares

the agenda with the assistance of administrative staff. Division heads have to hand in items in written form. The less formal standing meeting was introduced to ensure communication flow in weeks without a formal meeting.

In one-to-ones it is required from the division heads to come prepared but they write down something or not of it is their own choice. Main purpose of this communication form is to discuss items relevant to the divisions, for example requests for specific information or the need for a decision by the head of department.

Additional communication channels mentioned are four information events addressed to management positions across the hospital. Two information events addressed to all hospital staff, where in contrast to the former, facts and figures are presented in a less management orientated way. These channels are supplemented by newsletters from the hospital board, and a regular staff magazine as an informal channel of information reaching all hospital employees. These channels lie outside this research case definition (FM department) but are worth being mentioned as they provide a relevant platform for FM to display itself.

4.2.1.2 Level 2 and 3 Induced Communication

The following are communication channels in the responsibility of the division and subdivision heads.

Catering

The communication structure of the catering division is visualised in Figure 38.

Figure 38: Case 1 formal communication structure level 2 & 3 – catering, source: self-study

The division meeting is not formally minuted but participants carry a notebook (hand written item) and these notes are then displayed to staff members. It is regarded as an important feature for staff members without IT access. This being the norm in this division. Staff have the obligation to check this notebook where important items are highlighted. A similar notebook provides an important communication channel in the other subdivision where it serves as a point of reference during shift change of staff. All subdivision heads mention also the importance of a pinboard where written information is attached and is accessible to staff independent of their working times and IT accessibility, especially important for part-time staff.

The head of division decides on subdivisions meetings being arranged at relative short-notice (a month before set date) depending on when there is enough meeting content available. The interviewee further stresses the importance of these meetings providing a platform for staff to say things. Minutes of the subdivision meetings must be signed by all staff, stating that they had read and understood them.

The morning assembly's content is described as mostly staff related, to allocate available resources with the day's demands. The subdivision in the middle of Figure 38 does not have any other formal meetings than the occasional subdivision meetings. A statement by its head reads: «*It's easy with us, everyone knows what he or she has to do. It does not take much communication because the processes are clear*» (source: IP#12).

Housekeeping

The communication structure of the housekeeping division is visualised in Figure 39.
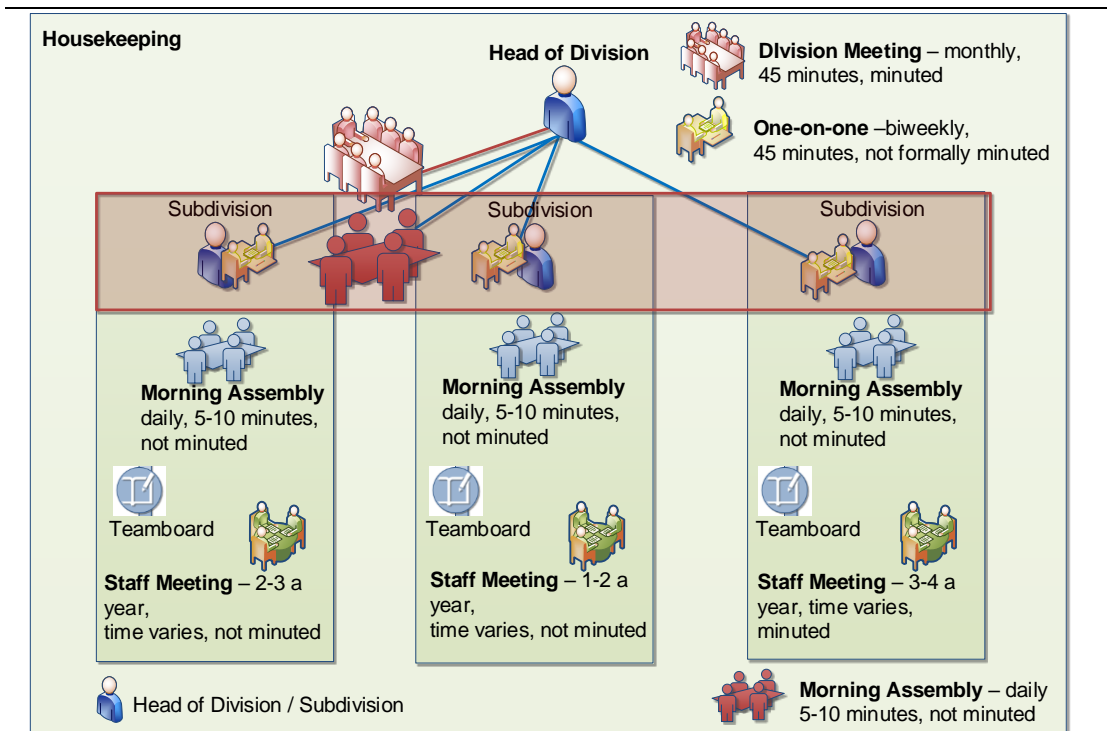
Figure 39: Case 1 formal communication structure level 2 & 3 - housekeeping, source: self-study

The division head decides to informally minute one-on-one's by producing and sending notes to the heads of subdivisions, for quality reasons. The morning assembly with two subdivision

heads (responsible for cleaning tasks) takes place prior to their morning assemblies. Content is accumulated through the day for the following morning. The purpose of the morning assembly is stated *as «briefing on today's situation»* (source: IP#3)*.* All participants mention also in this division the importance of a pinboard where written information is attached and accessible for all staff.

There is further an interdivisional **One-on-one of the Housekeeping and Engineering division heads** – biweekly, 30 minutes, not minuted. As these divisions have to align tasks. The deputy division head reports that they do not have official one-to-ones due to spatial proximity (sharing of an office with the head of the division) enabling ongoing information exchange.

Infrastructure / Engineering

The communication structure of the infrastructure / engineering division is visualised in Figure 40.

Figure 40: Case 1 formal communication structure level 2 & 3 – infrastructure / engineering, source: self-study

This department has a flat hierarchy, visible in its communication structure. The 7 am morning assembly's content is based on activities of the on-call duty person and upcoming day's activities. The computer aided FM (CAFM) software delivers relevant input for the assembly's content. Additionally the division meeting extends the purpose of the morning assembly as formal information (department meeting) is passed on and general project and task information is presented.

Procurement & Logistics

The communication structure of the procurement and logistics division is visualised in Figure 41.
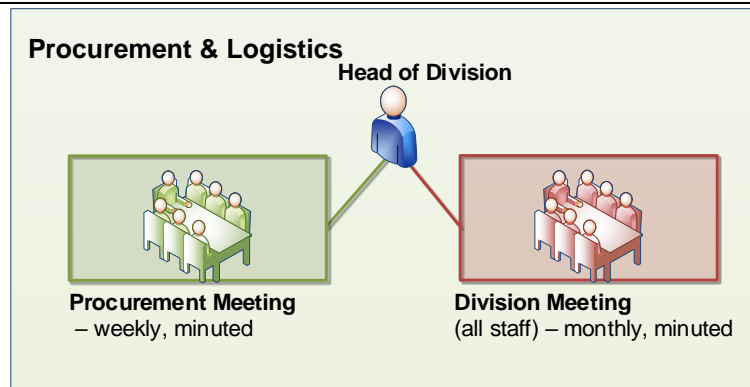
Figure 41: Case 1 formal communication structure level 2 & 3 – procurement & logistics, source: self-study

Like the previous division, also this one is characterised by a flat hierarchy. The displayed procurement meeting involves only part of staff while the division meeting includes all. The agenda for the procurement meeting serves a central to-do list which is updated and hence similarly serves as minutes. The head of the division highlights the department's highly structured procedures, enabling the existing lean communication structure.

Overriding case 1, both the department head and the division heads stress the importance of staff having the opportunity to be heard in formal communication structures. Evidence in support of this is the quote: «*these are the structured team meetings, where the individual employees can come and express themselves*» (source: IP#5).

4.2.2 Case 2

In contrast to case 1 the FM department of case 2 is ISO 9001 and ISO 13485 certified. This requires the communication structures to be formally documented in detail, covering the whole organisational structure of the department. This is provided in a document called *"organisational communication"* (internal document case 2), which is in the responsibility of the department head. The document names communication tasks (mostly meetings) including their frequencies and if minuted or not from department level down to subdivision level within the FM department. It further lists every committee members of the FM departments take place in beyond the departments' border. In the interview, the head of the department stresses, that even though the structure is given, the content of the different meetings within the department has to be aligned with the divisions' and subdivisions' needs. However, it is an essential demand that division managers communicate information from the department meeting top down in their respective meetings. As kind of an external audit, the display of this case's communication structure was done based on the interview results. The content of the defining document was used in the very end to check if the paper content meets practice. It can be affirmed that no relevant dissimilarities were detected.

4.2.2.1 Level 1 Induced Communication

The communication structure of the level 1 induced communication in case 2 is visualised in Figure 42.
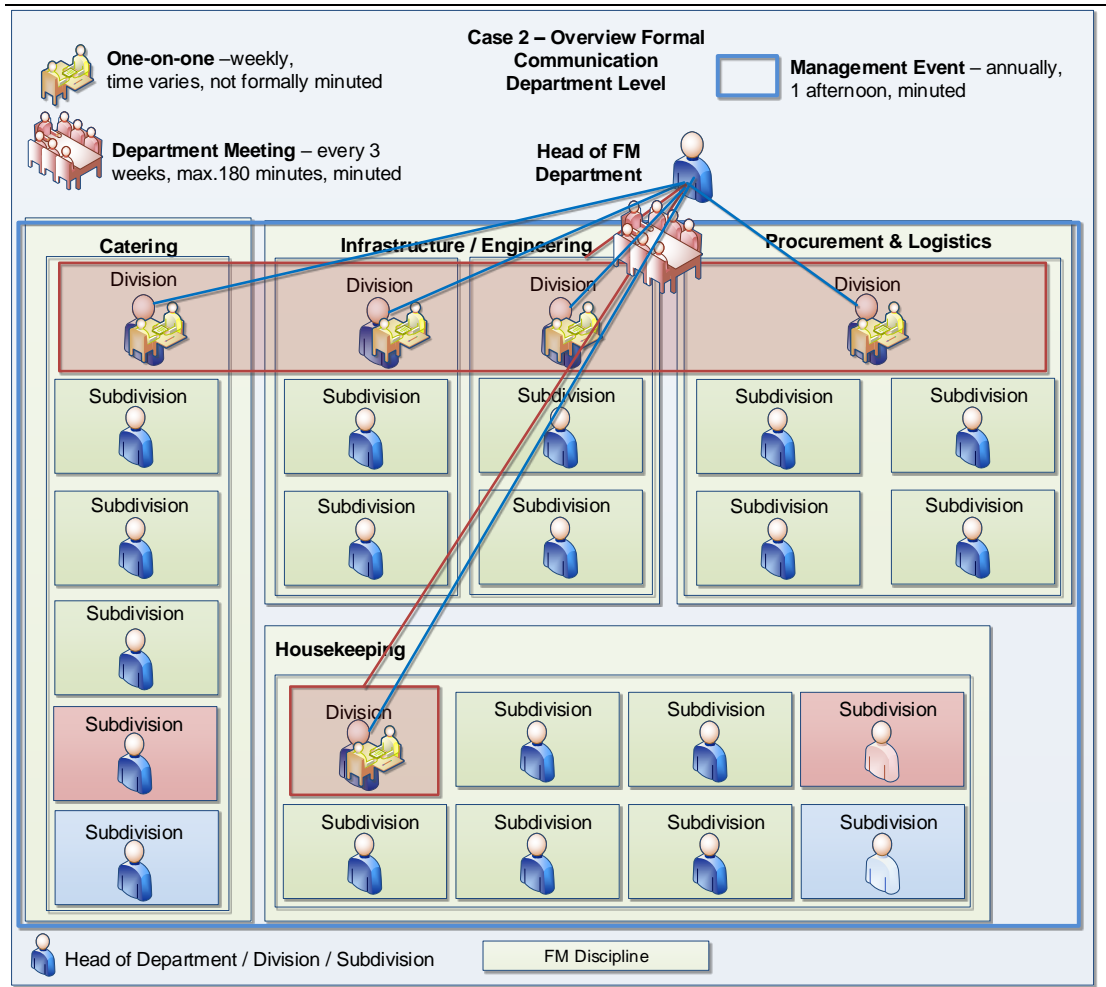
Figure 42 Case 2 formal communication structure level 1, source: self-study

The department head emphasizes the importance of the one-on-ones with direct subordinates. Which is seen in the knowledge of what is going on within the divisions to be able to coordinate and take advantage of synergies, which might not be detected by the division heads themselves. Matching quote: «*that is where I see my task: Being the enabler*» (source: IP#14).

The department head further stresses the importance of FM being visible in corporate communication channels such as the regular hospital staff magazine. Moreover, that this visibility needs to be proactively influenced by the department.

4.2.2.2 Level 2 and 3 Induced Communication

The following are communication channels in responsibility of the division and subdivision heads.

Catering

The communication structure of the catering division is visualised in Figure 43.
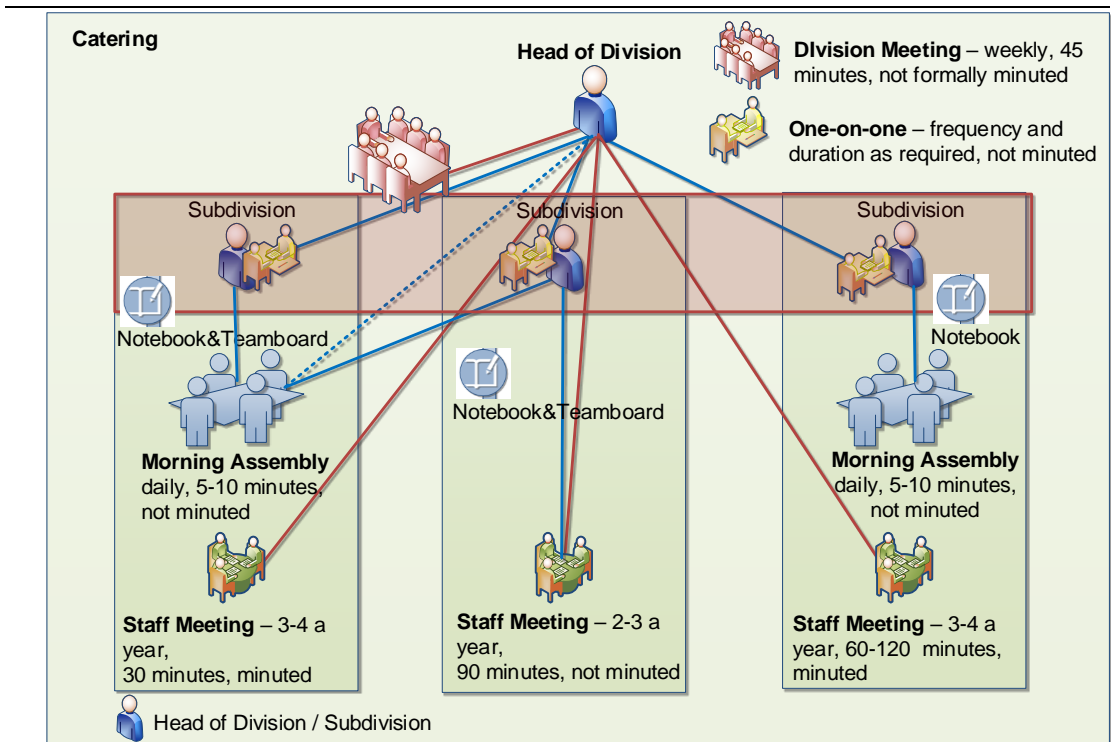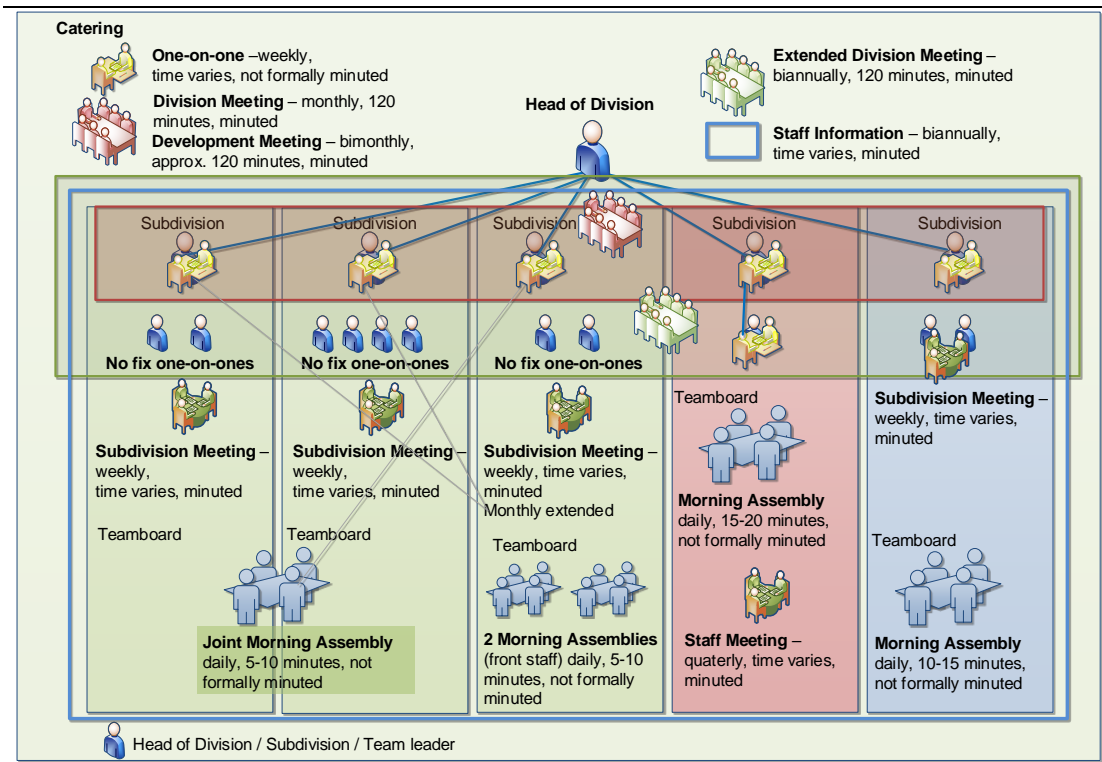
Figure 43: Case 2 Formal communication structure level 2 & 3 - catering, source: self-study

Division level: The division head acknowledges overarching business topics (quality management, health and safety, project management and especially business development) across the sites and emphasizes the importance of coordinating these topics and their activities. The head further stresses the importance of being visible in each of the sites. The department meeting is enriched by a biannual extended department meeting, which includes management staff from within the subdivisions. This is in order to provide a platform to jointly discuss and develop processes. There is a further bimonthly meeting focusing on process development.

Subdivision heads write information from their areas of responsibility directly themselves in the agenda of the division meeting, which transforms into the minutes. These items shall be self-explanatory and are not further discussed at the meetings, unless someone poses a question or wants to know additional things. The reason why it works that way is neatly summarised in a quote of the division head:

«*We use the division meeting for discussions that bring us forward*» (source: IP#15)

In order to keep division staff as a whole directly informed, there are biannual staff information sessions led by the division head.

Subdivision level: One-on-ones are not frequently held, reasoned by coordination of tasks at team level being of higher importance. Fitting quote: *«We skipped one-on-ones as the topics in them were mostly the same and since we are having a group meeting in the first place we are much more effective and efficient in coordinating our tasks»* (source: IP#21). However, the subdivision heads emphasise their good relationship with team leaders and staff, having an open door for individual needs to talk on a one-on-one basis.

Due to the nature of the catering business, the morning assemblies are declared as a vital element for daily task coordination, with overarching links (grey lines) between the sub-departments. Such overarching links are also found in subdivision meetings. The head of the subdivision also stresses the importance of discussing potential ideas to further develop their processes in their subdivision meetings. These are then introduced in division meetings to be approved or disapproved.

Housekeeping

The communication structure of the housekeeping division is visualised in Figure 44.
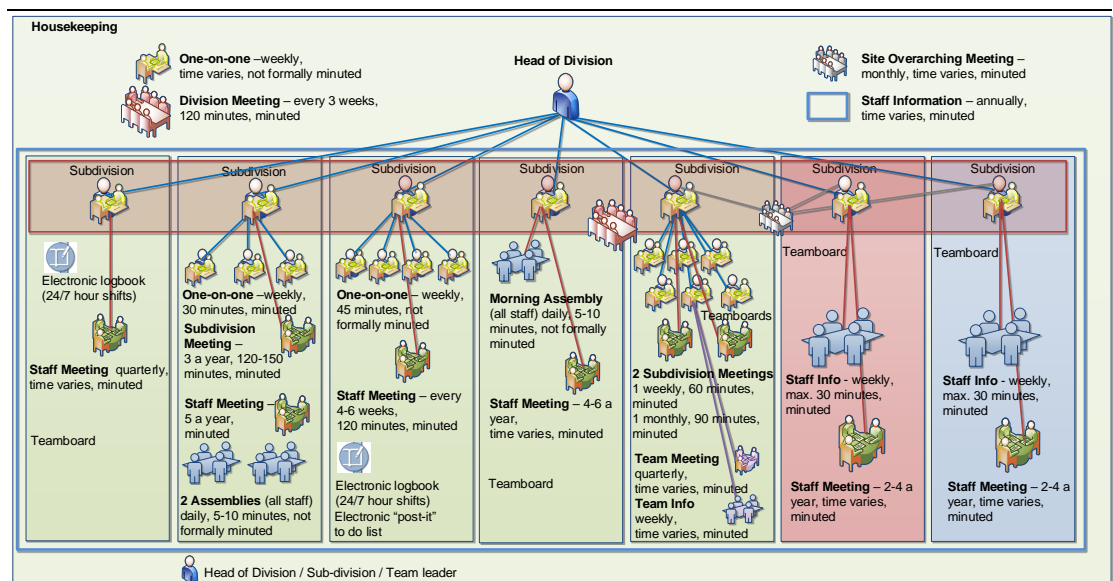
Figure 44: Case 2 Formal communication structure level 2 & 3 - housekeeping, source: self-study

Division level: *«My job is mainly to lead, to manage the division, to develop, to foster innovation, to support, to advise, to bring in the division perspective so that the subdivision heads not only see their area of responsibility but the whole department and hospital»* (source: IP#16). This quote neatly summarises statements made from all of the division heads.

Regarding information flow, the division head emphasises that it is expected of the subdivision heads to reflect on minute content of the department during their minimum quarterly subdivision meetings. Although, this expectation is not continuously met. The annual staff information briefing takes place at the beginning of the year and it is used to reflect back and look forward and to thank all staff for their work.

Subdivision level: Challenges of 24/7 shifts are mentioned as it is impossible to coordinate subdivision meetings with all team members present. Hence electronic communication with a logbook works as a channel to keep everyone in the loop. Another subdivision has the opportunity to employ external staff members to stand in for the internal ones while they are having a staff meeting to enable all internal staff to take part.

The subdivision head leading six team leaders mentions that each of them has their own team meetings and team information meetings with allocated staff members. Thereby team meetings are used for team development activities, whereas the weekly team information meeting is used to pass on information. Minutes have to be signed to assure information is received also by absent staff.

Infrastructure / Engineering

The communication structure of the infrastructure / engineering division is visualised in Figure 45.

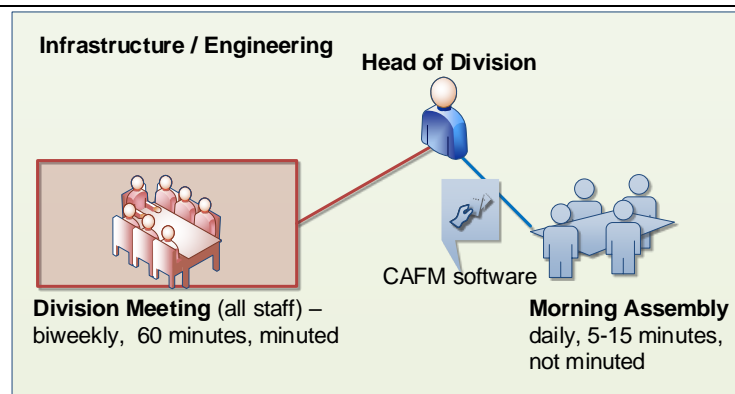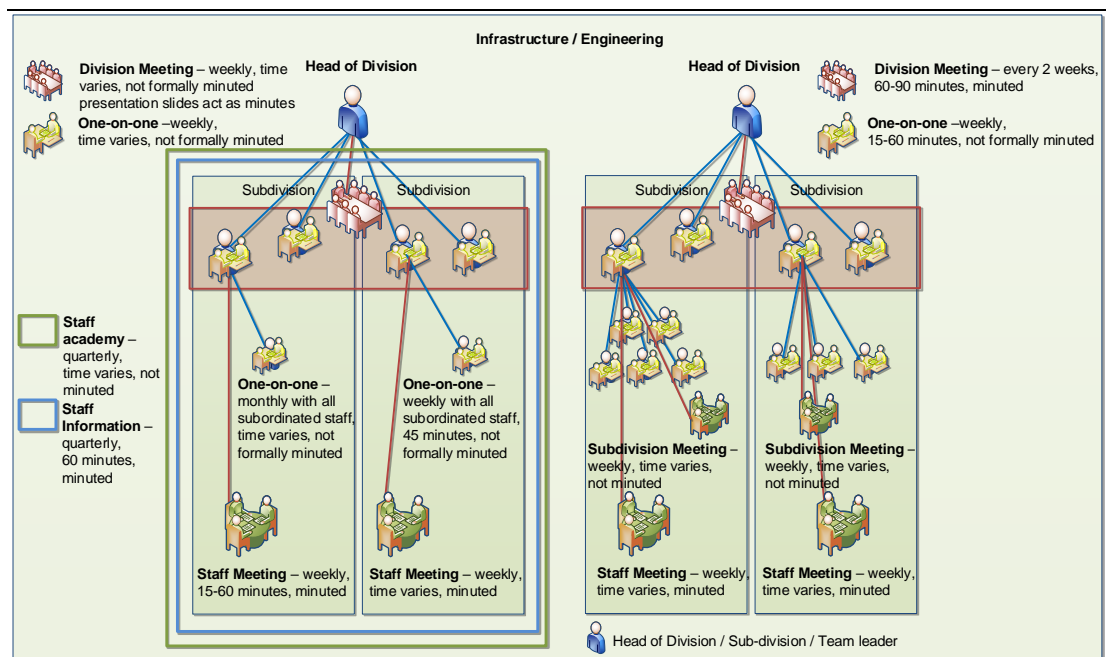Figure 45: Case 2 Formal communication structure level 2 & 3 – infrastructure / engineering, source: self-study

Division level: «*I like communication*» (source: IP#19), states one of the two division heads within this FM discipline. That person further experiences a change that has been taking place in recent years due to the trend of medical and technological progress, making knowledge management in this FM discipline more and more complex. Whereas in earlier days the guideline of maximum information throughout the division was followed, today it is considered to be ok "not to know everything". It is important is that «*the right people have the right information*» (source: IP#19). Referring to the task of the division head to orchestrate selective information while keeping the big picture running. As an indicator of when to take an issue in the division meeting, the head considers the relevance of it to the number of staff. If it concerns more than half of it, then the issue is taken up at the meeting. While one-on-ones are mainly seen as a communication channel for two persons, the head uses that scheduled time to selectively invite additional persons in order to clarify issues directly at that opportunity.

This FM discipline being one of the ones most affected by the rapid change in medical and technological progress is further visible in use of the means of communication "staff academy", a quarterly, mandatory occasion with several technical lectures to enhance and update staff

knowledge. This is seen as a precondition to provide the required tasks within this FM discipline and therefore is implemented as a regular feature within this division. In line with other leaders, as previously indicated. The interviewee sees the main responsibility of a division head in "conveying meaning" across the department. Letting staff know why things are happening is seen as a crucial task in order to motivate staff to deliver their tasks «*if something is just done because the boss demands it, you can forget it*» (source: IP#18).

Subdivision level: No further specifications then are displayed in the figure other than it being mentioned that communication also takes place in many project meetings, as a vast amount of this discipline's tasks are project driven.

Procurement & Logistics

The communication structure of the procurement and logistics division is visualised in Figure 46.
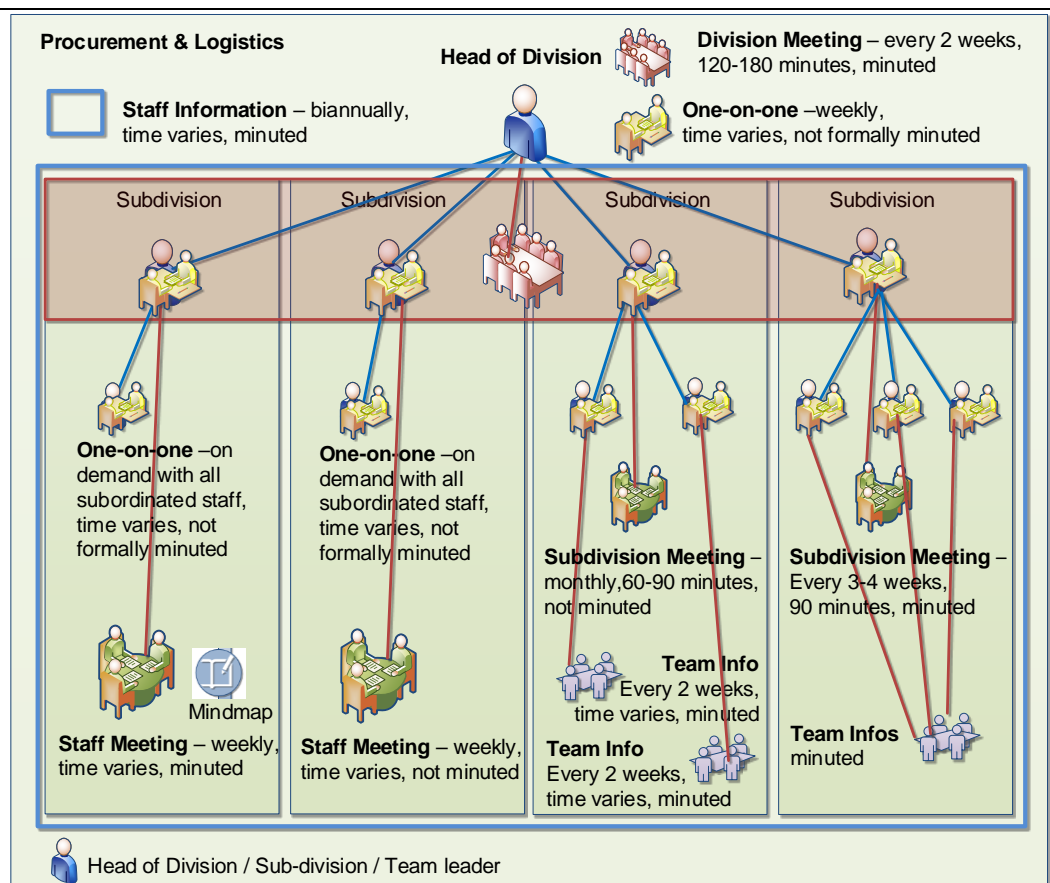
Figure 46: Case 2 formal communication structure level 2 & 3 – procurement & logistics, source: self-study

Division level: The biannual information for all staff is seen as an important communication channel to bring them up to speed on the latest developments in the division environment and hence the upcoming activities in the division. On this occasion, the presence of the department head is seen as essential.

Subdivision level: In one of the four subdivisions, the meeting minutes are done using a mind map, displaying the main work processes with their related tasks. It is used as a standardised but "rolling" document, enabling high agility and a good overview to locate issues discussed at the meeting. According to the data, no other instance in the two cases uses this format. The subdivision not minuting the weekly staff meeting reasons that, with being a small department of five heads working task and spatial-wise closely together, enables an immediate direct communication.

Concluding this display of formal communication structures, it can be stated that even though the two cases differ in their organisational structures and the FM disciplines themselves have different characteristics many overarching elements of communications are visible. This is taken up in the discussion part of this thesis.

4.3   Informal Communication

In contrast to the tangible nature of formal communication structure, the attributes associated with informal communication are less tangible and are the results of experiences and beliefs of the interviewees. These were triggered by the interview question "*Please describe / characterise informal communication (= not predefined by organisational regulations)"*.Table 28 presents the emerged major categories, supported by datum and an executive summary of its interpretation.

Table 28: Matrix Data Display "Informal Communication", source: self-study

Category	Datum supporting the category	Interpretative summary
PERCEPTION	«Offene unkomplizierte informelle Kommunikation» (source: IP#6) *Open uncomplicated communication*	Participants PERCEPTION of informal communication within their respective contexts is predominantly positive.
Prerequisite LINE ADHERANCE	«logisch mache ich mal gerne einen Schwatz […] aber dann ist es nie gross fachlich oder von Prozessen geprägt, damit ich nicht meine direkt unterstellen irgendwie übergehe» (source: IP#14) *Sure I occasionally like to chat but it is not about work tasks because I do not want to bypass my management staff*	LINE ADHERANCE interrelates with the hierarchy level of the participant's position. OPEN DOOR POLICIES are in place across line hierarchies but bypassing the line is indicated as a strong "no-go".
Spatial Reference BREAK	«Pause sehr wichtig» (source: IP#7), «Pause finde ich das Beste» (source: IP#10) *Break very important, Break is the best*	Among the participants, BREAK is controversial, while its importance for informal communication is frequently affirmed, opinions whether or not a line manager shall take the break together with subordinate staff are divided.
Spatial Reference OPEN DOOR POLICY	«Ich habe eine offene Türe» (source: «IP#5) "Türe ist immer offen. Und das gilt für alle» (source: IP#15) *I have an open door; my door is always open and this applies to everyone*	OPEN DOOR POLICY is mentioned repeatedly as a positive mean, strongly, interrelates with LINE ADHERANCE and the hierarchy level of the participant's position.
Spatial Reference SITE SPECIFICS	«Bei den Aussenstandorten muss man etwas aktiver sein» (source: IP#16) «Durch dass wir ein überschaubares Haus sind, können wir uns relativ schnell abgleichen» (source: IP#1) *One has to be more active to reach side sites; because we are of manageable size, we are able to update ourselves quickly*	The case's special characteristics came through as the benefits of informal communications are both restricted and enhanced depending on SITE SPEFICICS.

Besides the SITE SPECIFICS, no other notable case differences were detected.

4.4   Communication Experiences & Beliefs

The following results of the interviewees' experiences and beliefs on the communication aspects in question are also of a non-tangible qualitative nature. Their robustness has been derived by carefully applying the qualitative data analysis procedures as described in detail in the methodology chapter.

4.4.1 Effective Communication

Data analysis from the interview question *"What is "effective" communication for you?"* resulted in the interviewees mentioning adjectives as attributes of what they rate as being effective communication, as explained also in the matrix data display in Table 29.

Table 29: Matrix Data Display "Attributes Effective Communication", source: self-study

Category	Datum supporting the category	Interpretative summary
ATTRIBUTE	«offen, transparent, direkt» (source: IP#1) «Kurz und knapp» (source: IP#4) *Open, transparent, direct; short and sweet*	The participants predominantly mentioned a range of ATTRIBUTES in form of adjectives describing their concept of effective communication.

These attributes are visualised in a word cloud, see Figure 47, stating not only the adjectives used but also their significance as the more times it is mentioned, the bigger the word is.

Figure 47: Word Cloud "Effective Communication", source: self-study

Additionally, one interviewee mentions a direct link between effective communication and leadership style by stating: *«It is also important that you know yourself, because leadership starts with yourself. You have to know yourself and know how you work when you communicate, that is the basis for effective communication»* (source: IP#18).

4.4.2 Challenges

Data analysis from the interview question "*What are communication challenges for you*?" resulted in eight categories, presented in Table 30, supported by datum and an executive summary of its interpretation.

Table 30: Matrix Data Display "Communication Challenges", source: self-study

Category	Datum supporting the category	Interpretative summary
CLARITY RULES STRUCTURES	«Sich nicht verheddern im Problem» (source: IP#1) «Der rote Faden behalten zu können» (source: IP#28) *not get tangled up in the problem; Keep the thread going*	Not to get tangled up in communication procedures due to lack of CLARITY RULES STRUCTURES is frequently mentioned.
clarity rules structures TIME	«Dass gewisse Informationen kurzfristig erhalten werden» (source: IP#11) «Unter Zeitdruck zu kommunizieren» (source: IP#31) *Short-term nature of information; To communicate under time pressure*	TIME is mentioned as an essence causing negative meeting perceptions and also referring to the short-term nature of information to be adequately passed on.
AMOUNT & COMPLEXITY	«Komplexität und damit verbundene Abstimmungen» (source: IP#2) «Masse von Informationen wo vermittelt werden müssen» (source: IP#36) *Complexity and associated coordination; Amount of information to pass on*	Reference to AMOUNT & COMPLEXITY is made on all levels throughout the cases.
LANGUAGE & CULTURE	«Sprache bei Hilfskräften ist sehr schwierig» (source: IP#11) «Sprache, Bildungshintergründe» (source: IP#23) *Language of supporting staff is very difficult; language, educational background*	LANGUAGE & CULTURE Includes besides insufficient German language skills also references to intellectual capacities of information recipients.
Language & culture EMOTIONS	«Man will gern alle zufriedenstellen, doch das ist nicht möglich» (source: IP#10) «nicht persönlich nehmen …wenn man angegriffen wird» (source: IP#25) *One wants to satisfy everyone, but that is not possible; not taking verbal attacks personally*	Detection and Handling of underlying EMOTIONS hindering communications
TO BE UNDERSTOOD	«Das man das Gefühl hat man versteht sich und alle verstehen etwas Anderes dabei» (source: IP#30) «Was sage ich und was hört der andere» (source: IP#32) *To have the feeling things are understood but everyone understood actually something different; What do I say and what understands the other*	Strong reference of TO BE UNDERSTOOD to the communication model and its sender receiver component.
TO BREAK DOWN	«Balance was ist zu viel was ist zu wenig» (source: IP#19) «Empfängergerechte Kommunikation» (source: IP#26) *Balance what is too much, what too less; receiver appropriate communication*	The ability TO BREAK DOWN information receiver appropriate strongly relates to AMOUNT & COMPLEXITY as well as to LANGUAGE & CULTURE
USE OF MEANS	«Mitarbeitergruppen, welche sich gewohnt sind etwas digital zu dokumentieren und solche die es weniger sind» (source: IP#4) *Staff, which are accustomed to document something digitally and those who are less*	There is a strong relation of USE OF MEANS to LANGUAGE & CULTURE

One interview participant pointedly summarises communication challenges as: *«you have to say goodbye to the fact that you can please everybody through communication»* (source: IP#36). Another fitting quote reads as: *«communication has a lot of potential to fail»* (source: IP#26).

4.4.3 What Works Well

Data analysis from the interview question "*What works well in your opinion?*" resulted in five categories, presented in Table 31, supported by datum and an executive summary of its interpretation.

Table 31: Matrix Data Display "What works well", source: self-study

Category	Datum supporting the category	Interpretative summary
CLARITY RULES STRUCTURES	«Abteilungsinterne Kommunikationsstrukturen» (source: IP#2) «Sitzungsstrukturen […] sie sind auf das runtergebrochen was es braucht» (source: IP#18) *Intra-departmental communication structures; meeting structures are broken down to necessities.*	Participants consider STRUCTURE of meetings in their command as working well, written RULES about communication landscape are considered as useful.
AMOUNT & COMPLEXITY	«sehr vieles definiert, jeder weiss was er machen soll. Prozesse sind klar» (source: IP#12) (just 1 code, implication see chapter 0) *a lot is defined, everyone knows what to do. Processes are clear*	Relation to CLARITY RULES STRUCTURES as the presence of that in form of clear processes help to handle AMOUNT & COMPLEXITY
LANGUAGE & CULTURE	«gute Sitzungskultur, wo die individuellen Stärken zum Tragen kommen» (source: IP#23) «Innerhalb Hauswirtschaft funktioniert Kommunikation auch gut, weil Menschen zusammen funktionieren» (source: IP#6) *Good meeting culture focusing on individual strengths; within housekeeping communication works because humans work together*	In contrast to the same code used in challenges, here it is focused on the CULTURE within management team, which is shaped as open, trustful and transparent.
To break down FLOW	«Fluss der Info von oben nach unten» (source: IP#16) «Kaskade funktioniert gut» (source: IP#6) *Information from top to town, cascade works well*	FLOW of information participants receive from top down is widely considered to work well, does not seem related to the challenge of breaking the information further down.
USE OF MEANS	«Offene Türe» (source: IP#6) «Kombination von direktem Gespräch mit schriftlicher Ablage passt gut zusammen» (source: IP#6) *Open door; combination of face-to-face talks with written evidence fits well*	Reference to the benefits of informal communication and effective communication by the use of face-to-face communication

4.4.4 **What Could Work Better**

Data analysis from the interview question "*What could work better?*" resulted in four catego-
ries, presented in Table 32, supported by datum and an executive summary of its interpreta-
tion.

Table 32: Matrix Data Display "What could work better", source: self-study

Category	Datum supporting the category	Interpretative summary
CLARITY RULES STRUCTURES	«CC Handling, es gibt kein Leitfaden wer welche Info wirklich haben muss, doch ich denke, dass könnte man massiv verbessern" (source: IP#23) «Unterschiedliche Erwartungen an ständige Erreichbarkeit» (source: IP#24) *CC handling, there is no guideline on who really needs to be informed, but I think this could be massively improved; different expectations on constant accessibility*	Even though participants consider existing CLARITY RULES and STRUCTURE as useful (link what works well), there are aspects in need of more attention -cc handling and accessibility stand out
LANGUAGE & CULTURE	«Es gibt immer noch leider ein bisschen ein Abteilungsdenken» (source: IP#15) «Interdisziplinäre Kommunikation im Gesamten Haus» (source: IP#5) «Wir müssen uns noch besser verkaufen und positionieren.» (source: IP#33) *There still is a slight silo mentality; interdisciplinary communication within the whole house; we have to sell and position ourselves better.*	Despite CULTURE being considered as open and trustful (link what works well), participants mention that there still is a silo mentality between FM disciplines. Further interdisciplinary communication within the whole hospital still has potential to work better. It is mentioned that FM should position itself better as part of the whole hospital.
TO BREAK DOWN	«Verständnis bis nach unten» (source: IP#15) «Trotzdem ist auch die Frage wie viel Interesse meine MA haben. Ich habe das Gefühl viele Infos gehen einfach vorbei» (source: IP#9) *Comprehension down to the lowest hierarchy; Nevertheless, the question is how much interest my MA have. I feel like a lot of info just passes by.*	There is a contrast within this category on one hand participants mention that despite the FLOW to pass on information down hierarchy working well (link what works well), comprehension of the information that is broken down could work better. On the other hand the interest staff have to comprehend the received information is questioned.
USE OF MEANS	«Weil unsere Leute Intranet nicht nutzen können, habe ich das Gefühl erhalten Sie Informationen immer leicht verspätet» (source: IP#6) «Reaktionismus per Mail, weil man daran gewöhnt ist» (source: IP#18) «Also Mail ist ein Thema, da kann man immer sagen es ist zu viel oder zu wenig» (source: IP#17) *Because our people cannot use Intranet, I feel they receive information always slightly delayed; Reactionism via email, because you're used to it; So mail is an issue, as you can always say it is too much or too little.*	Accessibility of communication MEANS can disrupt communication processes as accessibility differs between hierarchy and FM discipline. The use of E-mail communication could work better, this is related to CLARITY RULES and STRUCTURE

4.4.5 Communication in 10 Years

Data analysis from the interview question "*How does communication look in 10 years?*" resulted in three categories with subcategories, presented in Table 33, supported by datum and an executive summary of its interpretation.

Table 33: Matrix Data Display "Communication in 10 years", source: self-study

Category	Datum supporting the category	Interpretative summary
DIGITAL INCREASE	«Digitalisierung nimmt zu, Papier wird mehr und mehr verschwinden» (source: IP#6) «Schriftlichkeit wird tendenziell abnehmen» (source: IP#1) «digitalen Medien kann man sich nicht mehr entziehen» (source: IP#6) *Digitization is on the rise, paper will disappear more and more; hand-written communication will tend to decrease; One can no longer escape digital means of communication*	Broad consensus among participants that digital communications increases. Within this category CONCERNS, use of MEANS and MORE MOBILE communications are detected subcategories.
Digital increase CONCERNS	«menschliches geht mehr und mehr verloren» (source: IP#7) «ich muss mich noch entwickeln, ich bin noch nicht der moderne Kommunikator, mit den Mitteln wo ich einsetze» (source: IP#26) *Human interaction is lost more and more; I still have to develop, I'm not yet the modern communicator, with the means I use*	Along with the acknowledged DIGITAL INCREASE a major CONCERN is the decrease of human interaction and a further one the individual readiness of participants to face a more and more digital world.
Digital increase COMMUNICATION MEANS	«Derzeit ist E-mail sehr wichtig, später ev. WhatsApp oder noch etwas Neues» (source: IP#23) «eine Verschmelzung von einzelnen Elementen […] wo Social Media Kanäle zusammenbündelt, wo Sie auf einer App alle Infos zusammen platziert haben» (source: IP#27) *Currently, email is very important, later possibly WhatsApp or something new; a fusion of individual elements […] where social media bundles channels together where all the information is placed together on one app.*	A change in the dominant COMMUNICATION MEANS is predicted. Today E-mail communication is seen a dominant with social media catching up. Also means bundling the information distributed in various channels is predicted to increase.
Digital increase, communication means MORE MOBILE	«werden aus meiner Sicht immer portabler» (source: IP#6) «einfach mobiler sein» (source: IP#3) *Become increasingly portable in my view; just be more mobile*	The use of communication means is predicted to be MORE MOBILE
Importance of HUMAN INTERACTION	«Auch in 10 Jahren muss man noch persönlich miteinander sprechen» (source: IP#6) «Persönlicher Kontakt ist und wird zentral bleiben» (source: IP#5) «Herausforderung in 10 Jahren wird immer noch Mensch an sich sein und nicht Technik» (source: IP#18) «Ich glaube nicht, dass die direkte Kommunikation weniger wird oder verschwindet. Weil Mensch braucht dies» (source: IP#37)	This category is contradicting CONCERNS of the digital increase, which provides an interesting link. Many participants believe in the importance of HUMAN INTERACTION resisting the DIGITAL INCREASE.

	Even in 10 years you still have to talk to each other in person.; Personal contact is and will remain central; Challenge in 10 years will still be the human in itself and not technology.; I do not think that direct communication is less or disappears, because humans need this.	
SPEED of Communication	«es wird noch schneller und weniger formell werden» (source: IP#16) «Ich denke Entscheidungswege werden in Zukunft kürzer, denn Leben ist immer schneller, Umfeld immer dynamischer» (source: IP#9) *it will become even faster and less formal; I think decision-making processes will be shorter in the future, because life is always faster, environment more dynamic;*	There is a link between the SPEED of communication predicted to increase and DIGITAL INCREASE of communication as such.

Results show that the derived categories are almost the same within each batch of data based on the interview questions. This is not intentional but the independent result of pattern coding. The upcoming discussion chapter evaluates the characteristics of these categories in light of the different questions posed. It displays that even if they seem similar at first glance, there are differences, still enabling overarching assertions towards this thesis goal.

As an interim conclusion of the interview results, before consciously discussing them further on, it can be stated that, even though the participants' answers are based on the backdrop of their respective roles in hospitals FM, the results do at first sight seem generic as providing information on communication activities and opinions as such. It is in the document analysis, where specifics about communication content are directly visible, as disclosed in the next subsection.

4.5   Document Analysis

Results of the interviews indicate that meetings and their minutes play a strong role in formal communication. Based on the theoretical background stating the minutes' purpose, (see section 2.4.3.2), it can be assumed that within such documents FM communication content is detectable, whereas previous interview results provided deep but less content oriented insights.

4.5.1   Case Description / Sampling - Documents

It was possible to analyse a **Total Number of 402 Documents** with a **Total Number of 1,420 Pages**, minutes of FM meetings taken in the year 2016. Figure 48 and Figure 49 visualise the received documents in line with the hospital's FM structure. Some subdivisions did not provide minutes. This is due to their communication structure, where such documents are not produced.

The coding procedure used to analyse the documents was guided by three questions:

- How does the formal structure of the documents look?
- How does the content look and how much content is dedicated to what?
- Is there evidence of the hospital's challenging environment, and if yes how?
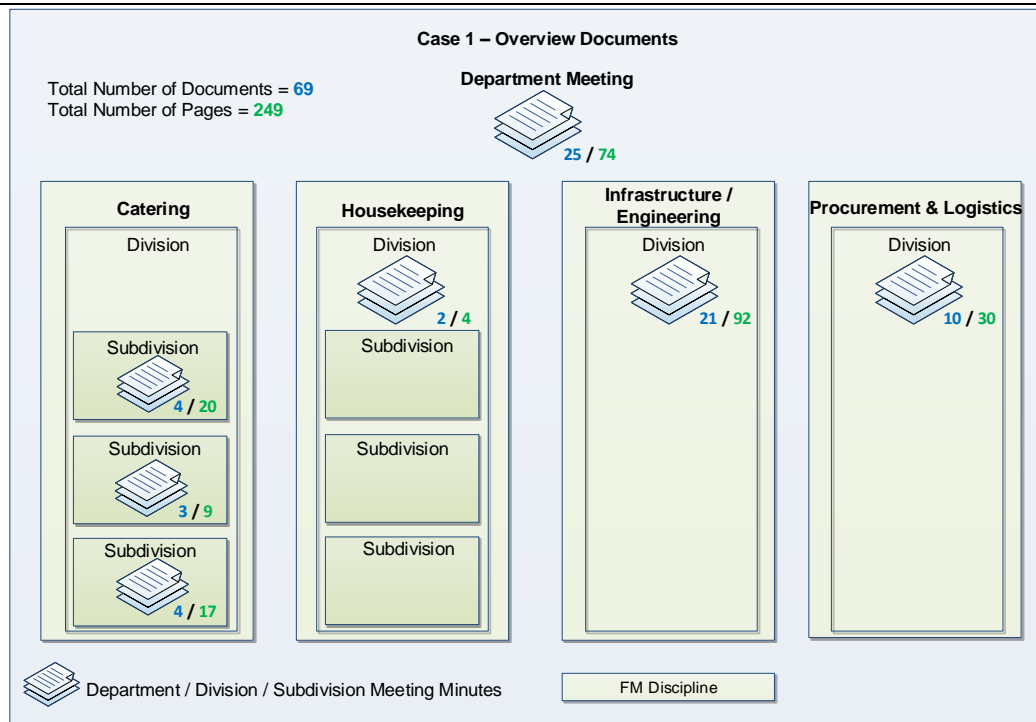
Figure 48: Case 1 overview documents, source: self-study
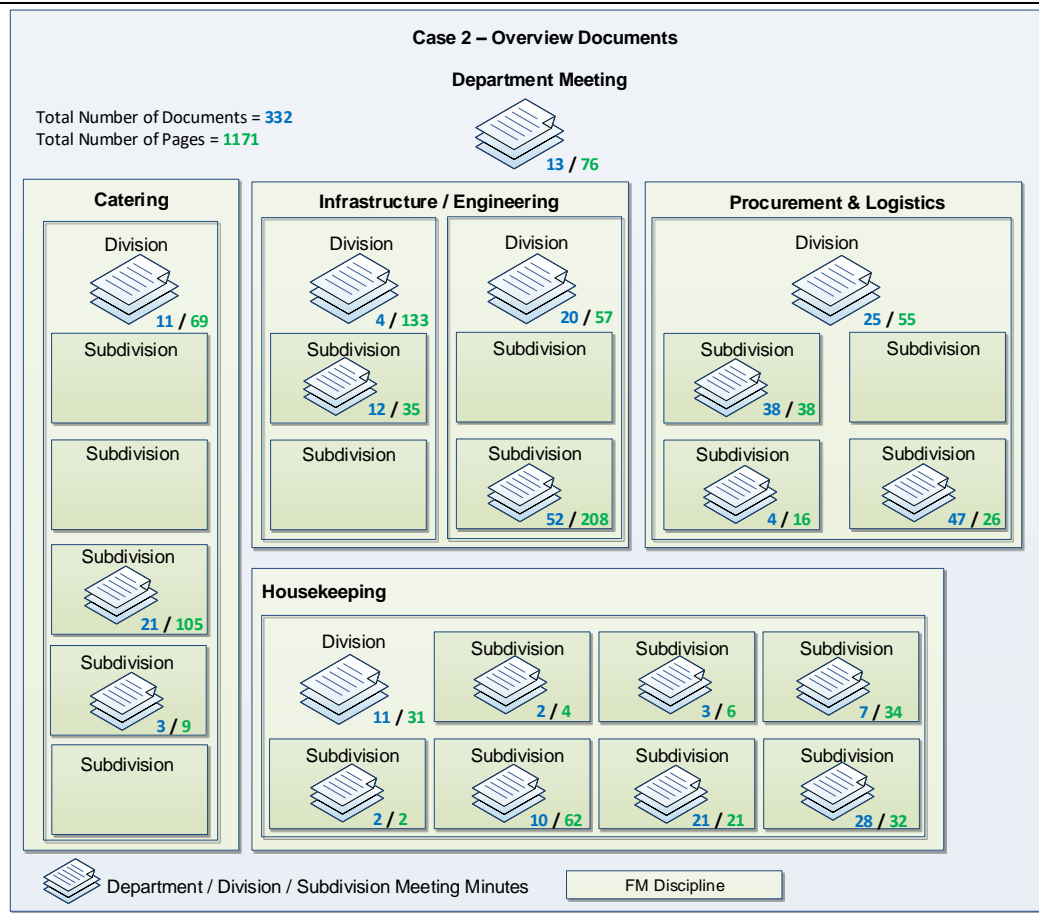
Figure 49: Case 2 overview documents, source: self-study

4.5.2 Coding Categories

Coding was led by a predefined list of categories (= a priori codes). The predefinition was guided by theoretical background about organisational communication, meetings and use of minutes and based on the case's FM disciplines. These categories were complemented by subcategories based on emerged codes. The codes, respectively the categories based on the codes, are visualised in Table 34.

Table 34 Categories used to code documents, source: self-study

Category Name	Description
Adaptive (a priori)	Adaptive Function: Referring to a constant information exchange between the organisational system and the environment to fittingly adapt to environmental change (Modaff et al., 2016). For this analysis this is specified as content from the hospital and its external environment impacting the FM, that meeting participants not necessarily can retrieve themselves, content they need to know to provide their tasks and maintain their processes.
External Environment	Information from external Environment influencing actions of the hospital and or its FM department, presented by the department / division / subdivision manager.
Hospital Environment	Information from the hospital presented by the department / division / subdivision manager

Department / Division Environment	Information passed on from department level, which is found in division and subdivision minutes, presented by the division head and subdivision head.
Constitutive (a priori)	Constitutive Function - Coordination of Activities: Creating connections and acting as a binder allowing the coordination of activities and integrating the elements as a whole (Modaff et al.,2016). For this analysis, this is specified as the coordination of activities taking place within the meeting and hence is an active part in contrast to the passive meeting action of merely passing on information.
Maintenance (a priori)	Maintenance Function: As it provides information throughout organisational systems to ensure a dynamic steady state (Modaff et al., 2016). For this analysis, this incorporates information exchange within FM - nice to know but not explicitly necessary for participants (information receiver) to maintain their processes.
lateral	Information presented by division / subdivision heads to the present meeting participants, which are mostly at same hierarchy level. Therefore, it is classified as lateral information.
Catering	FM discipline including: Kitchen, restaurant, event management.
Division Information	Contains information about current projects, responsibilities and tasks that are happening within the respective division and are dealt with in division meetings.
Staff issues	Refers to information on staff decisions, allocations, personal issues.
Subdivision Information	Contains information about current projects, responsibilities and tasks that are happening within the respective subdivision and are dealt with in division meetings.
Housekeeping	FM discipline including: Cleaning, supply of work-wear and textiles, staff accommodation, reception services.
Division Information	Contains information about current projects, responsibilities and tasks that are happening within the respective division and are dealt with in division meetings.
Staff Issues	Refers to information on staff decisions, allocations, personal issues.
Subdivision Information	Contains information about current projects, responsibilities and tasks that are happening within the respective subdivision and are dealt with in division meetings.
Infrastructure / Engineering	FM discipline including: Site maintenance, operation and maintenance of non/medical and medical devices, security.
Division Information	Contains information about current projects, responsibilities and tasks that are happening within the respective division and are dealt with in division meetings.
Staff issues	Refers to information on staff decisions, allocations, personal issues.
Subdivision Information	Contains information about current projects, responsibilities and tasks that are happening within the respective subdivision and are dealt with in division meetings.
Purchasing & Logistics	FM discipline including: Goods procurement, transport and distribution, warehousing, document management.
Division Information	Contains information about current projects, responsibilities and tasks that are happening within the respective division and are dealt with in division meetings.
Investments (emerged code)	Contains information directly related with investment decisions.
Projects (emerged code)	Contains information directly related with purchasing projects
Staff Issues	Refers to information on staff decisions, allocations, personal issues.

Subdivision Information	Contains information about current projects, responsibilities and tasks that are happening within the respective subdivision and are dealt with in division meetings.
Miscellaneous	FM disciplines who have not been considered (due to a similar adaptation of the two cases) but deliver content in the analysed documents.
Staff Issues	Refers to information on staff decisions, allocations, personal issues
Top down	Information from department / division / subdivision head (meeting chairs) classified as overarching information of interest to all participants.
HR Issues (emerged code)	Refers to information on human resource processes of importance to management staff.
Quality (emerged code)	Refers to content explicitly dealing with quality management.
Key Figures (emerged code)	Overtime and holiday figures.

In order to demonstrate the robustness of these categories, Table 35 displays examples of datum supporting their development. Coded into these categories were single bits of content information. The distinction between different topics was made due to their presentation in the minutes (e.g. as bullet points) and with the researcher's background knowledge.

Table 35: Demonstration of datum supporting the categories, source: self-study

Category Name	Description
Adaptive	
External Environment	No datum supporting this code.
Hospital Environment	• Die vorliegenden Unternehmensziele 2016 wurden von der GL verabschiedet. *The hospital board approved the present corporate goals 2016.* • Die Schliessung eines OP-Saals hat sich bis jetzt bewährt. *The closure of an operating room has proven itself so far.*
Department / Division Environment	• Suche Chefarzt Anästhesie: Es sind viele Bewerbungen eingegangen. *Search Head Physician Anesthesia: Many applications have been received.* • Grippeimpfung Es haben sich in dieser Saison doppelt so viele Mitarbeitende gegen Grippe impfen lassen, als im Vorjahr. *Flu jaB: This year, twice as many employees have been vaccinated as in the previous year.* • Wer neuer Verwaltungsratspräsident wird, steht noch nicht fest. *The new Chairman of the Board of Directors has not yet been decided on.*
Constitutive	• Am 9.5.2016 findet die ERFA Tagung KAPO/Spital statt. Gibt es Themen aus dem Bereich? *On 9.5.2016 the meeting xy takes place, are there any topics for it from the department?* • Budget 2017 Bitte geplante Investitionen zusammenstellen, abklären und über den Einkauf Offerten einholen lassen (Preis). *Budget 2017 Please put together planned investments, clarify them and get offers (price) via procurement.* • Die Auswertung der neuen Pikettzeiten muss erarbeitet werden, bis wann erhält xy einen Vorschlag? *The evaluation of the on-call times must be worked out, by when will xy receive a proposal?*
Maintenance	
lateral	
Catering (example)	

Division Information	• Protokoll vom 16.06.2016 Pendenzen und Fragen gibt es keine. *Minutes from 16.06.2016 There are no pending issues and questions.* • Das Organigramm wurde per 1. Juli 2016 angepasst. *The organisational chart was adjusted on 1 July 2016.* • Voraussichtliche Eröffnung neues Restaurant Juni 2018. *Expected opening new restaurant June 2018*
Staff issues	• Xy erhält ab dem 01. März 2016 bis am 31. Juli 2017 einen befristeten Arbeitsvertrag als Köchin. *xyl will receive a temporary contract as a chef from 1 March 2016 until 31 July 2017* • Das Probezeitgespräch mit xy wurde geführt und war beidseitig sehr positiv. *The probationary interview with xy was conducted and was very positive on both sides.*
Subdivision Information	• Im Restaurant wurden erstmals über 600 Essen, alleine vom warmen Buffet verkauft. *For the first time, the restaurant has sold over 600 meals just from the warm buffet alone.* • Das Glace Sortiment 2016 wurde für alle 3 Standorte definiert. *The 2016 ice cream assortment has been defined for all 3 sites.*
Top down	• Ziele 2016 für den Bereich werden in einer seperaten Sitzung vom 14.1.2016 besprochen. *The 2016 department goals will be discussed in a separate meeting on 14.1.2016* • Das Weiterbildungsbudget wurde zusammengestrichen. *The further education budget has been cut down.*

4.5.3 Formal Structure of Minutes

With reference to the schematic representation of meeting minutes structure (see 2.4.3.2), it can be said, that they do contain the required formal elements: heading, participants, approval of previous minutes and mentioning of next meeting. However, due to the nature of the content (more information (maintenance) than (constitutive) discussion – see upcoming subsections) the minute items (derived from the meeting agenda) are mostly lists of information. Their content is for reader not present at the meeting not continuously understandable.

4.5.4 Level 1 Minutes – Content at a Glance

Figure 50 and Figure 52 present the content of level 1 minutes (department meeting) with the use of a hierarchy chart – a way to visualise coding results provided by NVivo. In addition, the results of the division minutes are presented this way.

Hierarchy Charts: The size of the areas (squares) (=categories) reflects the number of the coding references. A larger area indicates more coding references than smaller ones. The colour shows the hierarchies, the highest level has the darkest colour and each lower level has a lighter shade of the same colour.

Coding Summaries: Complementing the charts are summaries of the number of codes (=single bits of information) leading to the result. For level 1 minutes they are displayed in Figure 51 and Figure 53. These summaries display how many bits of information were coded according to the three main categories, including the subcategories (predominantly within maintenance information). Numbers that fed in to the hierarchy charts.
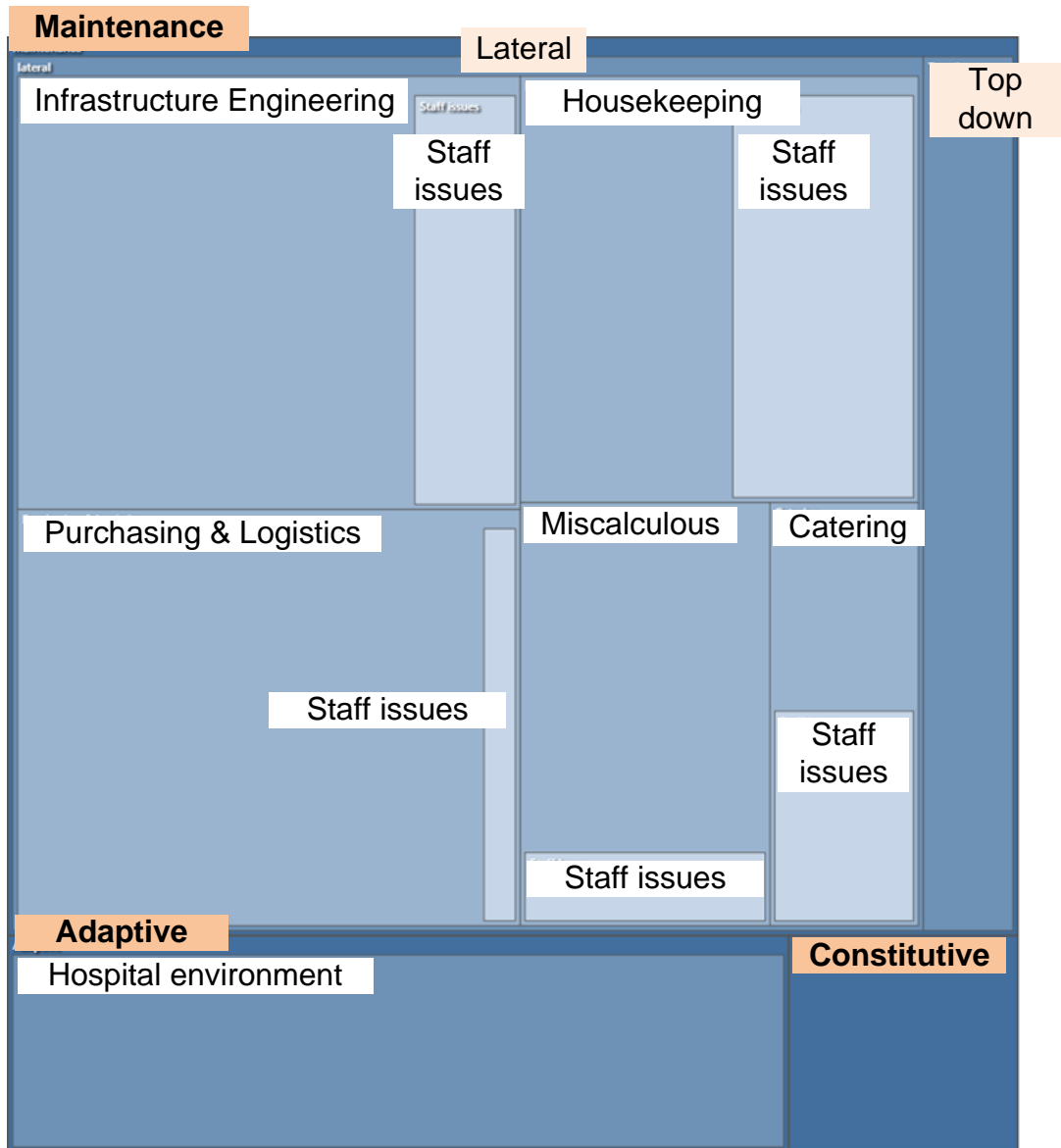
Figure 50: Hierarchy Chart Level 1 Minutes Case 1, source: self-study

Codes	Number of coding references	Aggregate number of coding references
Nodes\\Adaptive\Hospital Environment	95	95
Nodes\\Constitutive	28	28
Nodes\\Maintenance\lateral\Catering	18	38
Nodes\\Maintenance\lateral\Catering\Staff issues	20	20
Nodes\\Maintenance\lateral\Housekeeping	55	103
Nodes\\Maintenance\lateral\Housekeeping\Staff Issues	48	48
Nodes\\Maintenance\lateral\Infrastructure Engineering	105	132
Nodes\\Maintenance\lateral\Infrastructure Engineering\Staff issues	27	27
Nodes\\Maintenance\lateral\Miscalculous	53	64
Nodes\\Maintenance\lateral\Miscalculous\Staff Issues	11	11
Nodes\\Maintenance\lateral\Purchasing & Logistics	119	127
Nodes\\Maintenance\lateral\Purchasing & Logistics\Staff issues	8	8
Nodes\\Maintenance\Top down	46	46

Figure 51: Summary Number of Codes in Level 1 categories / Case 1, source: self-study
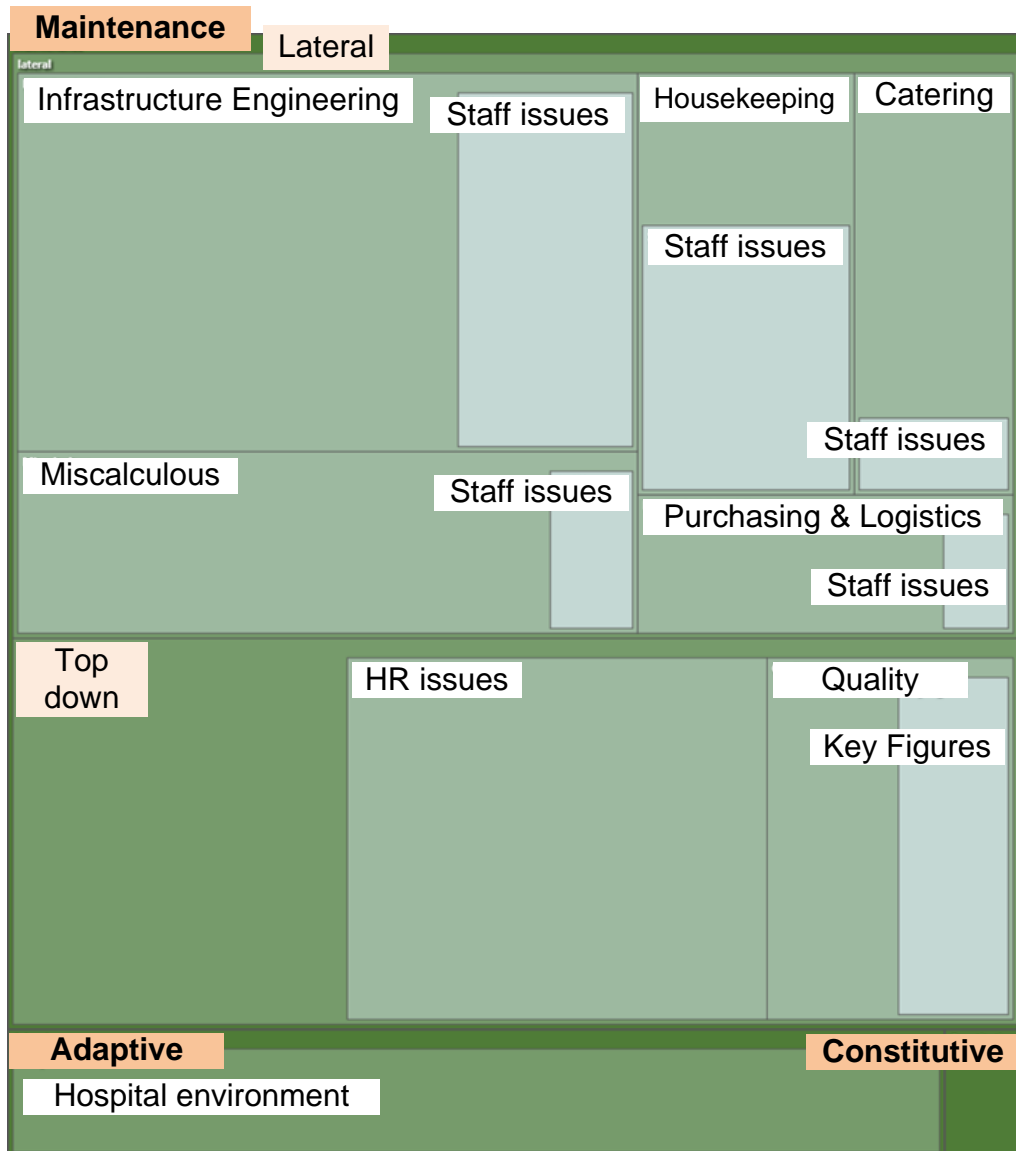
Figure 52: Hierarchy Chart Level 1 Minutes Case 2, source: self-study

Codes	Number of coding references	Aggregate number of coding references	
Nodes\\Adaptive\Hospital Environment	36	36	
Nodes\\Constitutive	3	3	
Nodes\\Maintenance\lateral\Catering	18	22	
Nodes\\Maintenance\lateral\Catering\Staff issues	4	4	
Nodes\\Maintenance\lateral\Housekeeping	10	30	
Nodes\\Maintenance\lateral\Housekeeping\Staff Issues	20	20	
Nodes\\Maintenance\lateral\Infrastructure Engineering	55	77	
Nodes\\Maintenance\lateral\Infrastructure Engineering\Staff issues	22	22	
Nodes\\Maintenance\lateral\Miscalculous	32	37	
Nodes\\Maintenance\lateral\Miscalculous\Staff Issues	5	5	
Nodes\\Maintenance\lateral\Purchasing & Logistics	14	17	
Nodes\\Maintenance\lateral\Purchasing & Logistics\Staff issues	3	3	
Nodes\\Maintenance\Top down	40	121	
Nodes\\Maintenance\Top down\HR Issues	51	51	
Nodes\\Maintenance\Top down\Quality	16	30	
Nodes\\Maintenance\Top down\Quality\Key Figures	14	14	

Figure 53: Summary Number of Codes in Level 1 categories / Case 2, source: self-study

The content of these level 1 minutes is further going to be itemised by the main coding categories and by FM disciplines as part of the discussion, see 6.2.2 Minute Content.

4.5.5 Level 2 and 3 Minutes Content at a Glance

Hereby it was focused on level 2 division meetings as they provide the highest comparative possibility among the two cases.

Catering

Figure 54 displays the hierarchy chart of the catering division minutes from case 1, accompanied by the coding summaries visualised in Figure 55.
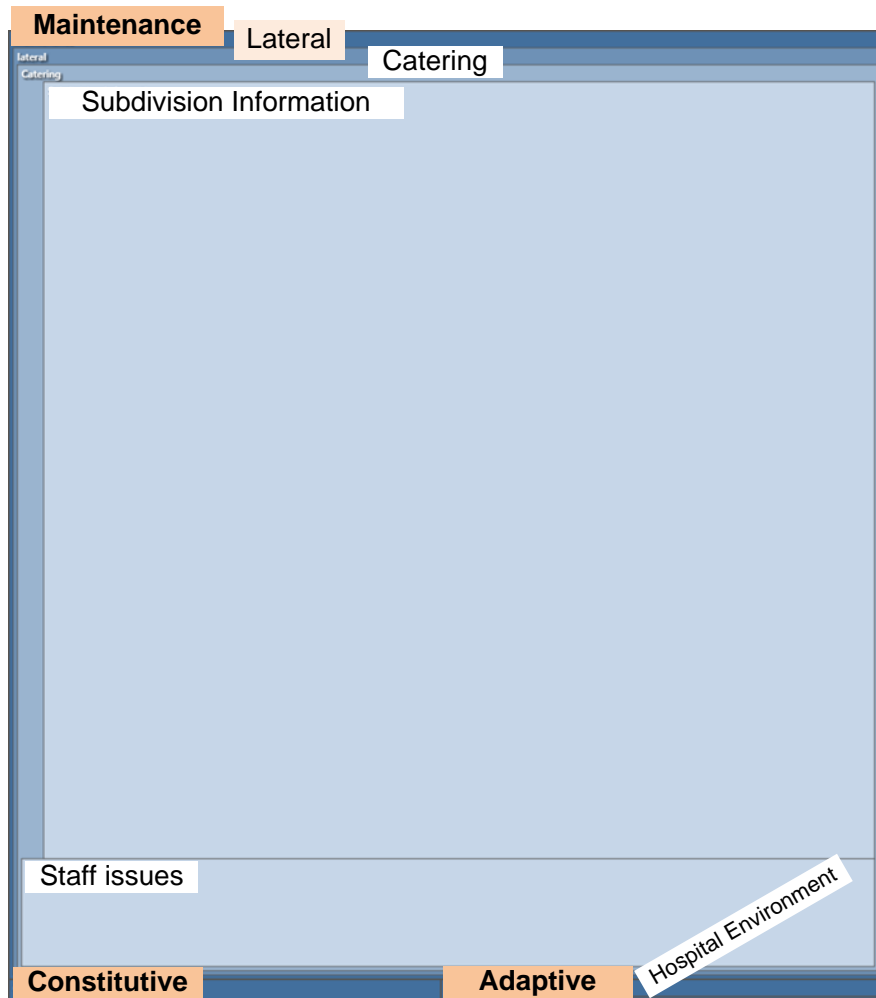
Figure 54: Hierarchy Chart Level 2 Minutes: Catering Case 1, source: self-study

Codes	Number of coding references	Aggregate number of coding reference
Nodes\\Adaptive\Hospital Environment\Department Division Environment	3	3
Nodes\\Constitutive	3	3
Nodes\\Maintenance\lateral\Catering	6	262
Nodes\\Maintenance\lateral\Catering\Staff issues	32	32
Nodes\\Maintenance\lateral\Catering\Subdivision Information	224	224

Figure 55: Summary Number of Codes in Level 2 categories: Catering Case 1, source: self-study

Figure 56 displays the hierarchy chart of the catering division minutes from case 2, accompanied by the coding summaries visualised in Figure 57.
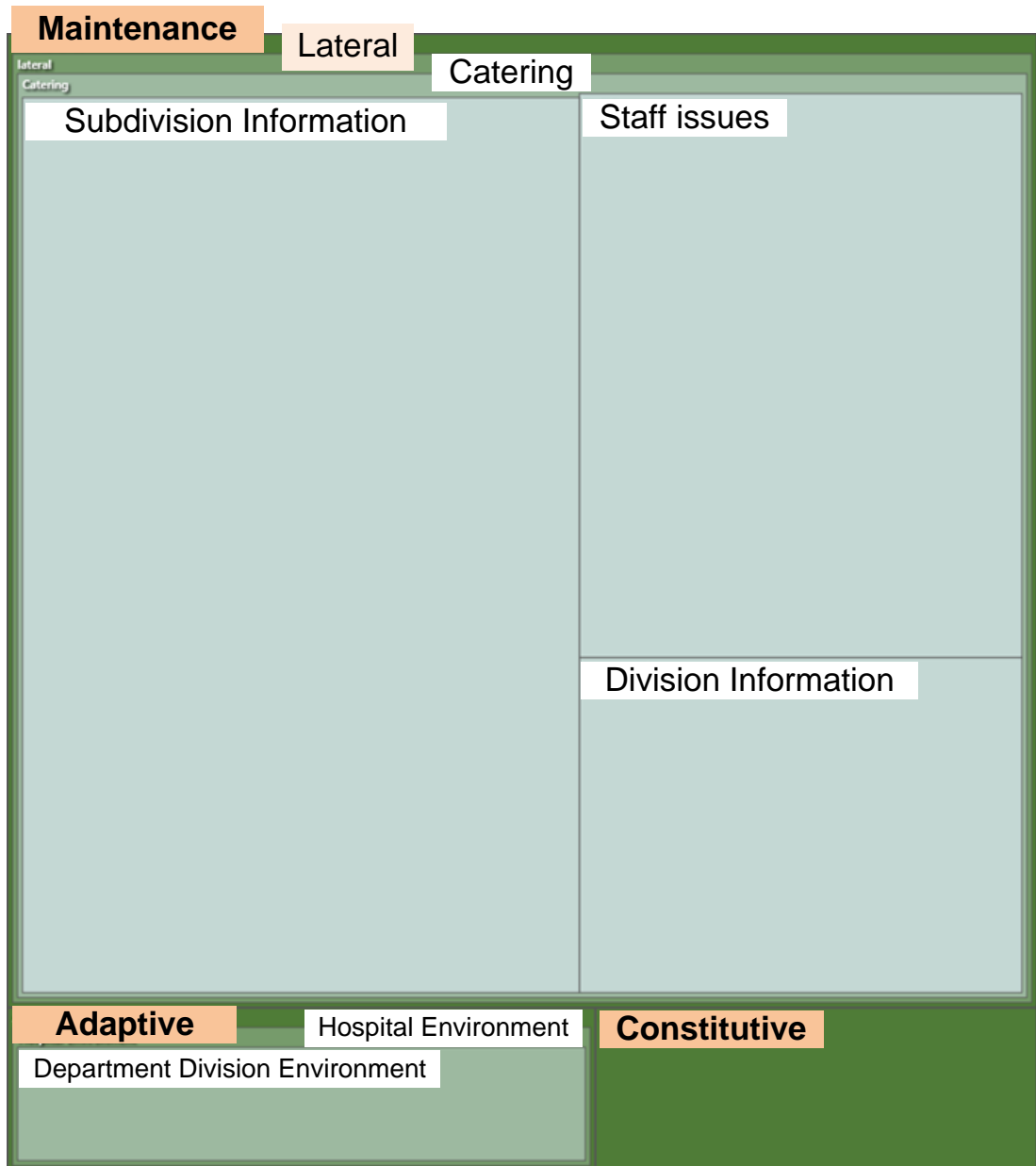
Figure 56: Hierarchy Chart Level 2 Minutes: Catering Case 2, source: self-study

Codes	Number of coding references	Aggregate number of coding references
Nodes\\Adaptive\Hospital Environment\Department Division Environment	40	40
Nodes\\Constitutive	30	30
Nodes\\Maintenance\lateral\Catering	1	418
Nodes\\Maintenance\lateral\Catering\Division Information	69	69
Nodes\\Maintenance\lateral\Catering\Staff issues	116	116
Nodes\\Maintenance\lateral\Catering\Subdivision Information	232	232

Figure 57: Summary Number of Codes in Level 2 categories: Catering Case 2, source: self-study

Housekeeping

Figure 58 displays the hierarchy chart of the housekeeping division minutes from case 1, accompanied by the coding summaries visualised in Figure 59.
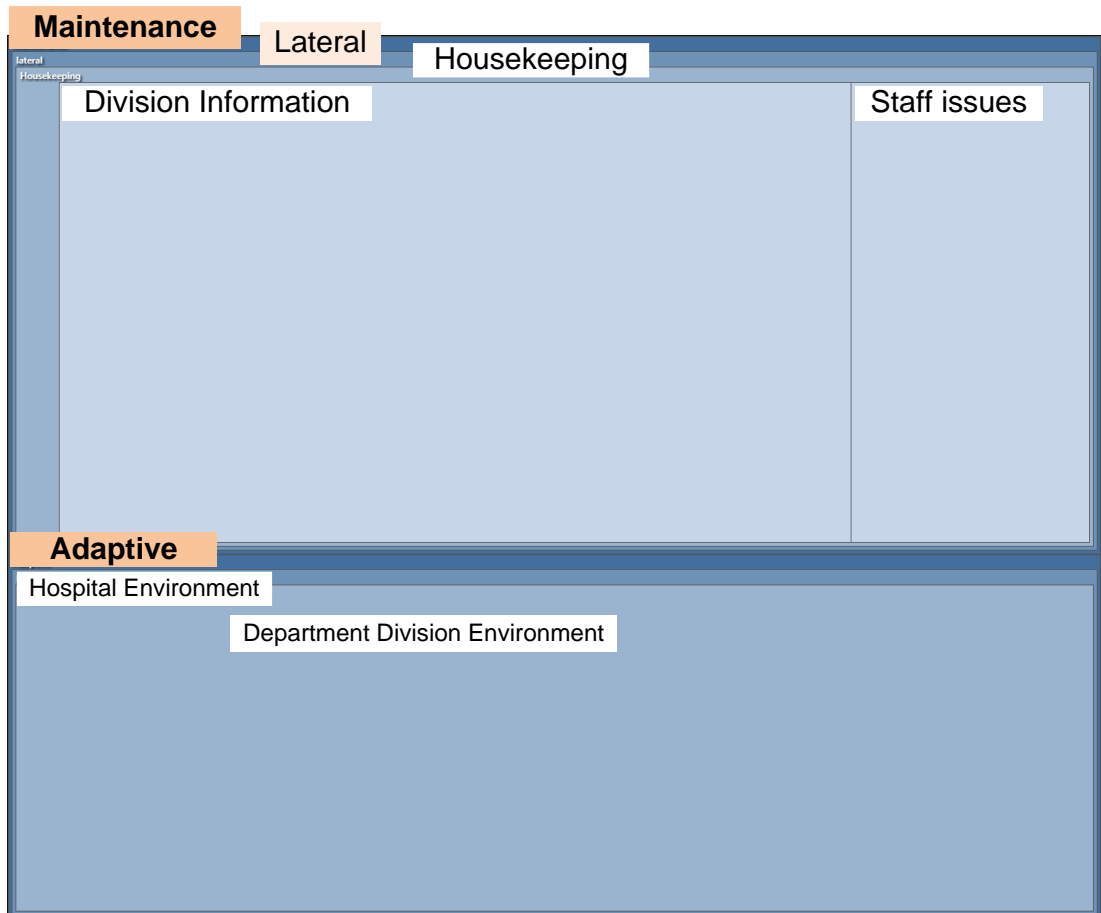
Figure 58: Hierarchy Chart Level 2 Minutes: Housekeeping Case 1, source: self-study

Codes	Number of coding references	Aggregate number of coding references
Nodes\\Adaptive\Hospital Environment\Department Division Environment	19	19
Nodes\\Maintenance\lateral\Housekeeping	1	27
Nodes\\Maintenance\lateral\Housekeeping\Division Information	20	20
Nodes\\Maintenance\lateral\Housekeeping\Staff Issues	6	6

Figure 59: Summary Number of Codes in Level 2 categories: Housekeeping Case 1

Figure 60 displays the hierarchy chart of the housekeeping division minutes from case 2, accompanied by the coding summaries visualised in Figure 61.
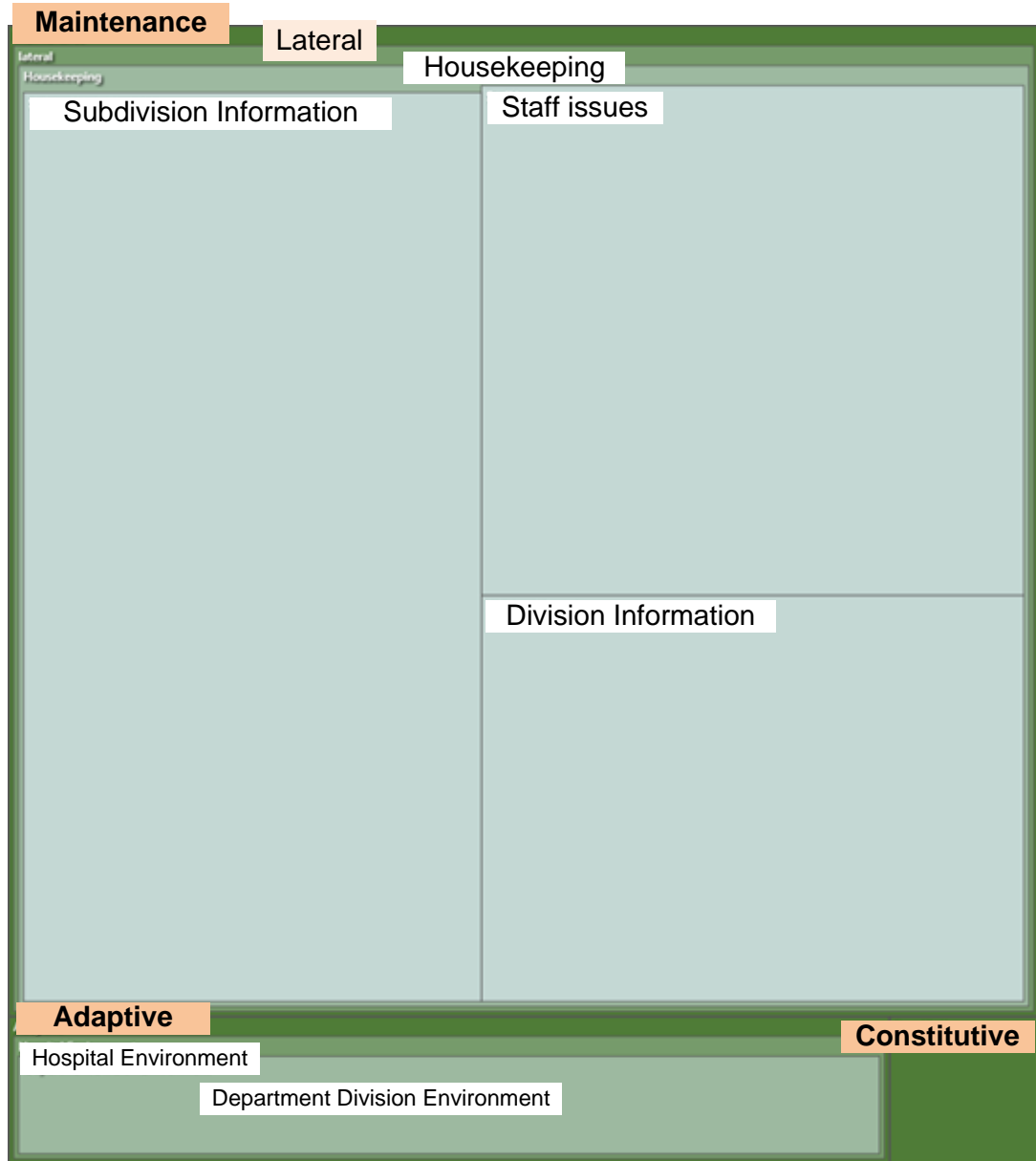
Figure 60: Hierarchy Chart Level 2 Minutes: Housekeeping Case 2, source: self-study

Codes	Number of coding references	Aggregate number of coding references
Nodes\\Adaptive\Hospital Environment\Department Division Environmen	35	35
Nodes\\Constitutive	6	6
Nodes\\Maintenance\lateral\Housekeeping	1	275
Nodes\\Maintenance\lateral\Housekeeping\Division Information	66	66
Nodes\\Maintenance\lateral\Housekeeping\Staff Issues	83	83
Nodes\\Maintenance\lateral\Housekeeping\Subdivision Information	125	125

Figure 61: Summary Number of Codes in Level 2 categories: Housekeeping Case 2, source: self-study

Infrastructure / Engineering Case 1

Figure 62 displays the hierarchy chart of the infrastructure / engineering division minutes from case 1, accompanied by the coding summaries visualised in Figure 63.
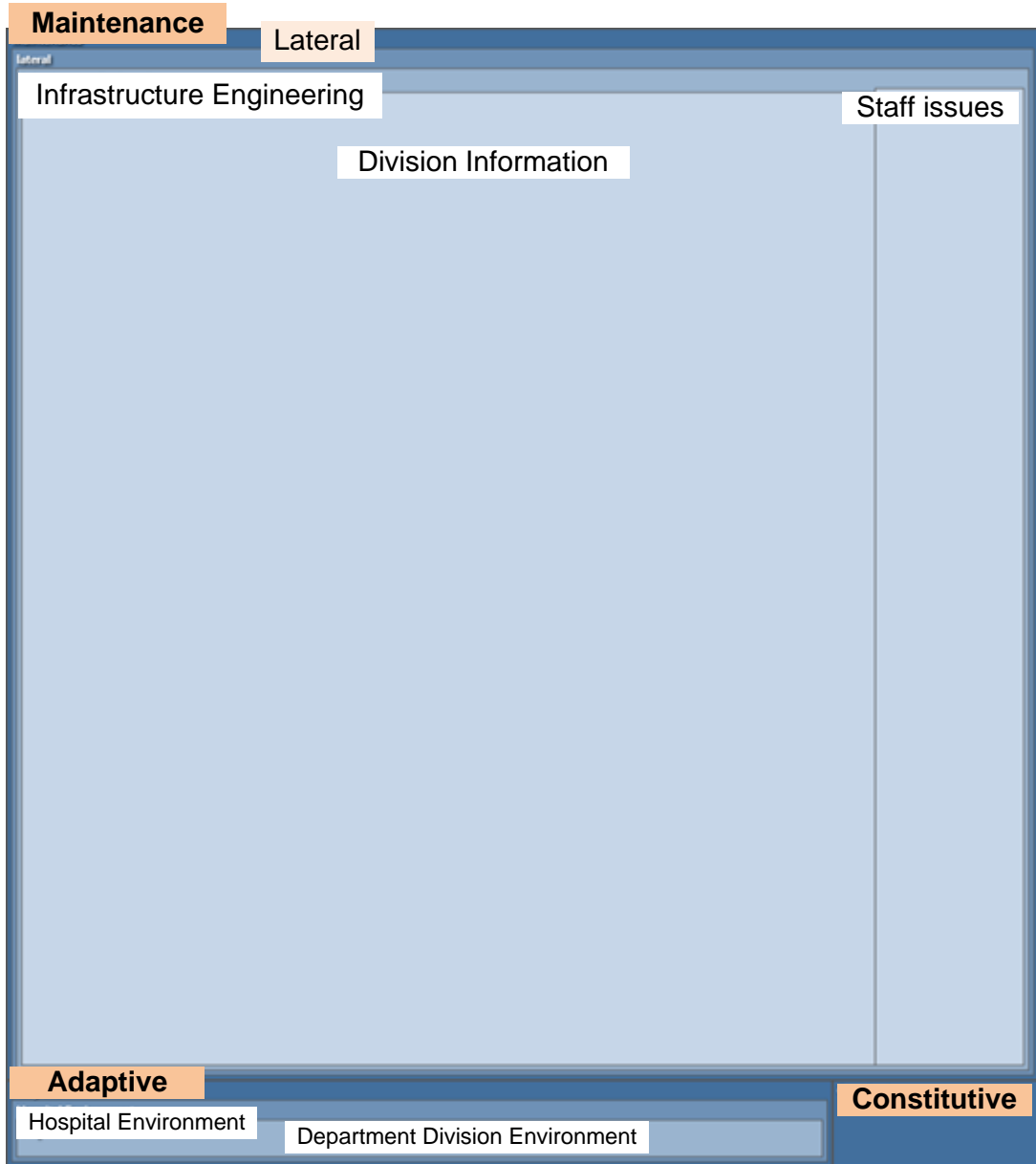
Figure 62: Hierarchy Chart Level 2 Minutes: Infrastructure / Engineering Case 1, source: self-study

Codes	Number of coding references	Aggregate number of coding references
Nodes\\Adaptive\Hospital Environment\Department Division Environment	75	75
Nodes\\Constitutive	19	19
Nodes\\Maintenance\lateral\Infrastructure Engineering	4	1138
Nodes\\Maintenance\lateral\Infrastructure Engineering\Division Information	965	965
Nodes\\Maintenance\lateral\Infrastructure Engineering\Staff issues	169	169

Figure 63: Summary Number of Codes in Level 2 categories: Infrastructure / Engineering Case 1, source: self-study

Figure 64 displays the hierarchy chart of the infrastructure / engineering division minutes from case 2, accompanied by the coding summaries visualised in Figure 65.
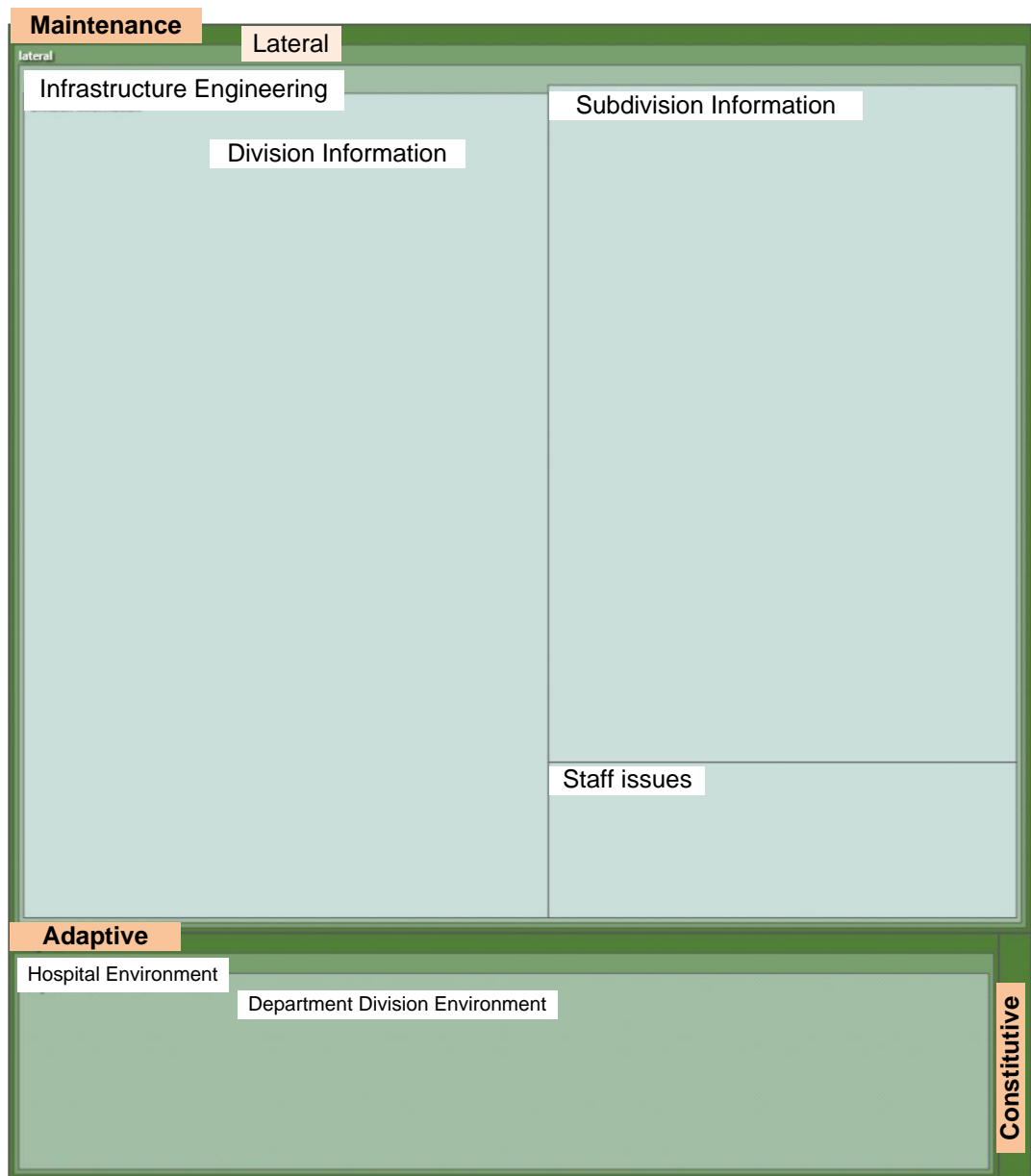
Figure 64: Hierarchy Chart Level 2 Minutes: Infrastructure / Engineering Case 2, source: self-study

Codes	Number of coding references	Aggregate number of coding references
Nodes\\Adaptive\Hospital Environment\Department Division Environment	98	98
Nodes\\Constitutive	3	3
Nodes\\Maintenance\lateral\Infrastructure Engineering	2	373
Nodes\\Maintenance\lateral\Infrastructure Engineering\Division Information	195	195
Nodes\\Maintenance\lateral\Infrastructure Engineering\Staff issues	33	33
Nodes\\Maintenance\lateral\Infrastructure Engineering\Subdivision Information	143	143

Figure 65: Summary Number of Codes in Level 2 categories: Infrastructure / Engineering Case 2, source: self-study

Purchasing & Logistics

Figure 66 displays the hierarchy chart of the purchasing and logistics division minutes from case 1, accompanied by the coding summaries visualised in Figure 67.
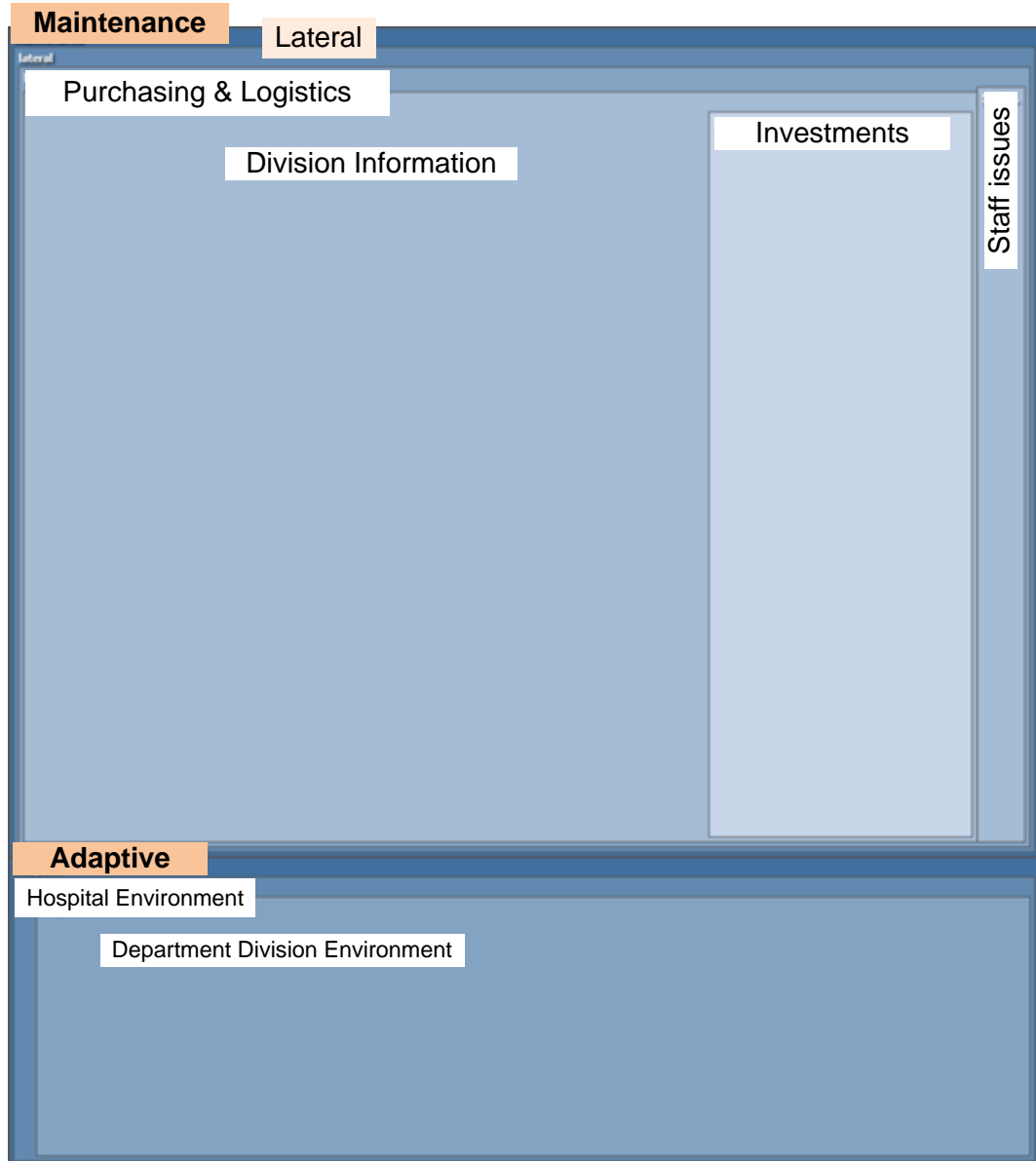
Figure 66: Hierarchy Chart Level 2 Minutes: Purchasing & Logistics Case 1, source: self-study

Codes	Number of coding references	Aggregate number of coding
Nodes\\Adaptive\Hospital Environment	1	55
Nodes\\Adaptive\Hospital Environment\Department Division Environment	54	54
Nodes\\Maintenance\lateral\Purchasing & Logistics	1	148
Nodes\\Maintenance\lateral\Purchasing & Logistics\Division Information	101	140
Nodes\\Maintenance\lateral\Purchasing & Logistics\Division Information\Investm	39	39
Nodes\\Maintenance\lateral\Purchasing & Logistics\Staff issues	7	7

Figure 67: Summary Number of Codes in Level 2 categories: Purchasing & Logistics Case 1, source: self-study

Figure 68 displays the hierarchy chart of the infrastructure / engineering division minutes from case 2, accompanied by the coding summaries visualised in Figure 69.
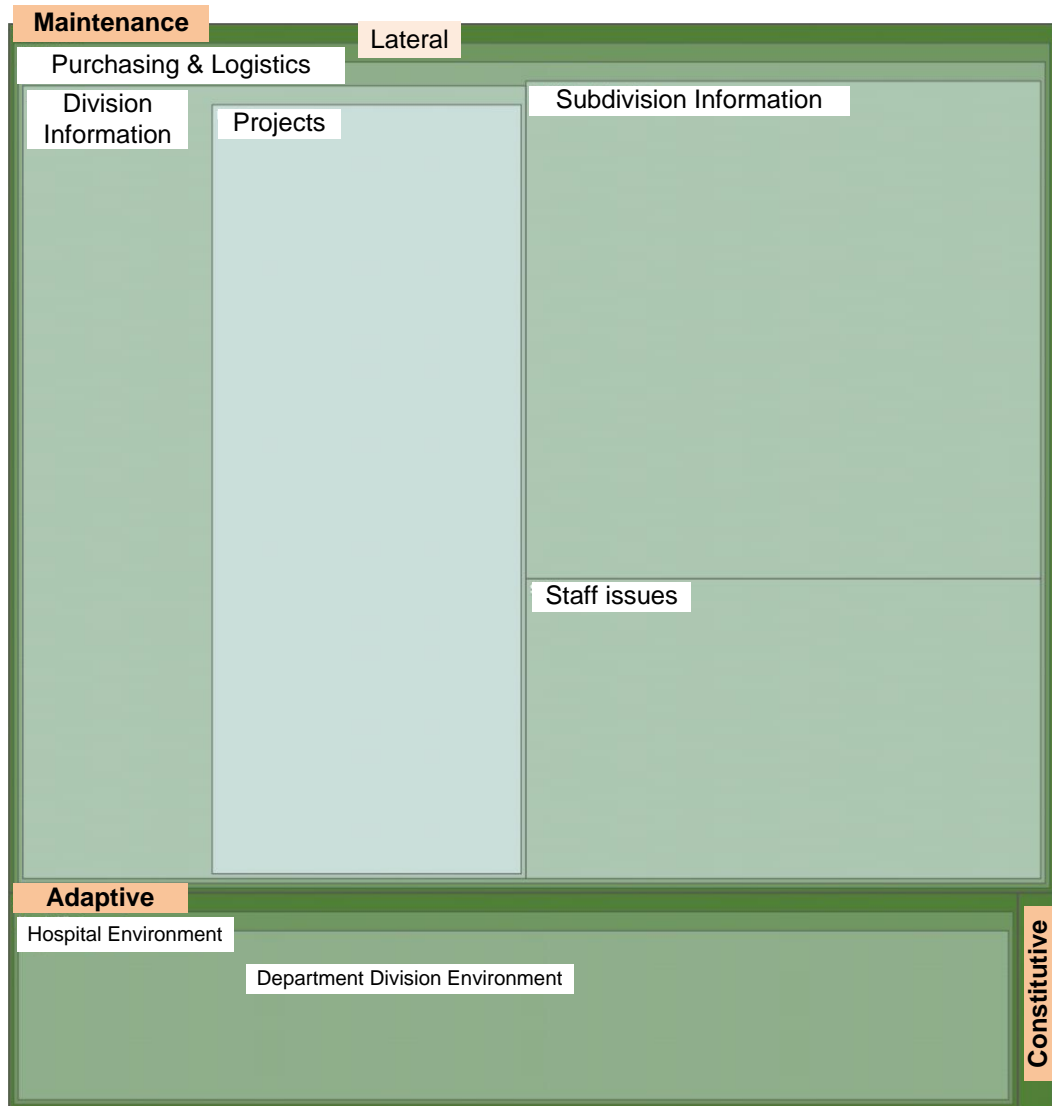
Figure 68: Hierarchy Chart Level 2 Minutes: Purchasing & Logistics Case 2, source: self-study

Codes	Number of coding references	Aggregate number of coding references
Nodes\\Adaptive\Hospital Environment\Department Division Environment	86	86
Nodes\\Constitutive	3	3
Nodes\\Maintenance\lateral\Purchasing & Logistics	1	358
Nodes\\Maintenance\lateral\Purchasing & Logistics\Division Information	66	176
Nodes\\Maintenance\lateral\Purchasing & Logistics\Division Information\Project	110	110
Nodes\\Maintenance\lateral\Purchasing & Logistics\Staff issues	68	68
Nodes\\Maintenance\lateral\Purchasing & Logistics\Subdivision Information	113	113

Figure 69: Summary Number of Codes in Level 2 categories: Purchasing & Logistics Case 2, source: self-study

Comments on and conclusions from these results referring to how minutes and hence meeting content is structured are delivered in the upcoming discussion chapter. Next, a deeper evaluation of the meeting content as stated in the minutes is taken.

4.5.6 Evidence of Hospital Challenges

This part takes up the third question guiding the document analysis: Is there evidence of the hospital's challenging environment, and if yes how? To detect potential evidence a profound text query across all **402 documents** was conducted. This is a strong analytical feature of the N-Vivo software. The text query was feed with buzz words representing the hospital's challenging environment of increasing cost pressure and need to improve effectiveness and efficiency of the various tasks and processes delivered in the field of FM, as particularised in the theoretical background of this thesis. Figure 70 shows these words together with the references found and number of files containing these. It is their English translation, the original search was in German, as the documents are in German.

Name	Files	References
Saving	46	220
Goal	86	194
Process	82	181
Cost	95	176
Improvement	54	68
Development	30	44
Challenge	27	27
Turnover	9	12
Ressources	10	10
Change	4	6
Reduction	3	4
Transparency	3	3
Efficiency	1	1
Costpressure	0	0

Figure 70: Buzzer words used for text query (English translation), source: self-study

The text queries to these words were conducted using Boolean Search Modifier: ASTERISK * in order to include also stemmed words. This is demonstrated at the example of SAVING – resulting in 220 references. These references are the result of five different words based on SAVING, as seen in Table 36 out of 46 files. Thereby SAVINGS is the leading word.

Table 36: Boolean Search Result of "SAVING", source: self-study

German original			English translation
Word	L	Count	Savings
einsparungen	1	152	Saving potential
einsparpotential	1	40	Saving suggestions
einsparungsvorschläge	2	24	Saving
einsparung	1	3	Savings potential
einsparungspotenzial	2	1	

The results were translated into English and transformed into a word cloud, visualised in Figure 71. Due to the fact, that German nouns mostly result in two English words, the cloud displays word combinations. This is grammatically not nice to see, but technically correct. Foremost it does present valuable results. The largest word accounts for the 152 references of SAVINGS.

Figure 71: Word cloud representing trigger words of hospital challenges found in minutes, source: self-study

4.6   Purpose of Qualitative Results

The results of this qualitative fieldwork have two purposes: on one hand, they contribute to the overall aim of this research, the aspired communication framework, after being discussed in chapter 6, providing relevant insights of FM communication practices in hospitals. On the other hand, these systematically analysed insights serve as input data for the succeeding quantitative element of this study, whose results are displayed in the next chapter.

5 RESULTS PART 2 – QUANTITATIVE DATA

This chapter delivers the findings from the quantitative survey undertaken in 2018 in order to establish key communications activities and opinions on them. These findings provide further grounds for the aspired communication framework.

In this second of the two results chapters, the results are presented as such, mostly neutral, their discussion is provided in chapter 6. The chapter starts with an explanation of the applied analysis procedures applied, followed by a detailed description of the sample. It then follows the structure of the quantitative survey presenting the findings in five sections according to the following characteristics: General aspects of the communication structure; opinions and practices of meetings; respondents' anticipation of communication in ten years and characteristics of their email communication.

5.1 Analysis Procedure

After preparing the data, (see section 3.11.2.4), a systematic analysis procedure was undertaken for each question of the survey. That was conducted using SPSS, guided by Field (2009). These procedures were used for analysis:

- descriptive statistics for categorical variables (nominal and ordinal) to answer the following questions:
  - o How many cases were in each category? (Counts)
  - o What proportion of the cases were in each category? (percentage, valid percent, cumulative percent)
  - o What was the most frequently occurring category (i.e., the category with the most observations)? (Mode)

These statistics were obtained using frequencies procedures to create frequency tables, bar charts, and pie charts for categorical variables. Since almost all variables of the questionnaire are nominal or ordinal these procedures form the vast part of the analysis.

- descriptive statistics for the small number of continuous variables
- Kolmogorov-Smirnov One Sample test and Shapiro-Wilk test (to identify whether the data is normally distributed) as a precondition for any further statistical test
- independent t-Test and Spearman's rho and Kendall's tau to check for correlations between variables tested.

A typical example of the raw statistics produced for a question is given in appendix P to illustrate the analysis process taken. The main analysis procedures contained the display of descriptive statistics.

5.2   Sample Description

This subsection informs the readers on the response rate and structure of the obtained sample (n).

5.2.1 Response Rate

Through an achieved sample size (n) of 160 responses collected in 2018 within an estimated population of 1,899 FTE FM staff (N) with email access (see 3.11.2.2), a 95% confidence interval of 7.42% was calculated with a sample size calculator (Creative Research Systems, 2018). This means that if 50% of respondents answer "yes" to a yes/no question, we can be 95% certain that the views of the total population answering "yes" (including those who did not participate in the survey) will lie between 42.58% and 57.42%.

5.2.2 Sample Structure

The survey contained optional questions. This led to questions having different numbers of responses. This is taken into account by presenting the respective n of each question.

130 of the 160 participants named their work place. Which counts for **38 different hospitals**. Out of N=69 hospitals this makes a hospital-based response rate of 55%. Regarding the size of the acute hospitals, it can be reported that all categories, as described in 2.1.6.3, are included, see Figure 72. K112 is the most frequent one also most frequently represented in the sample.
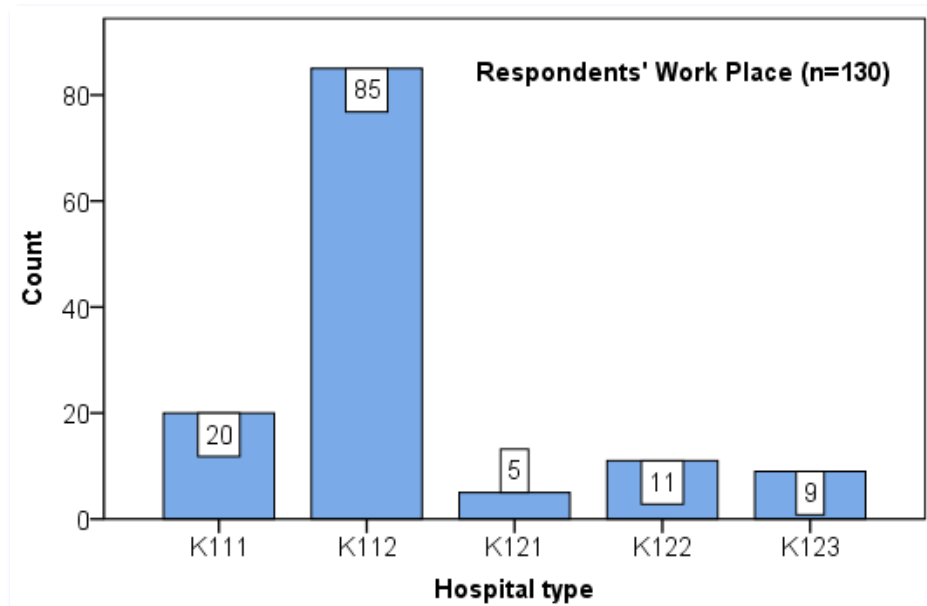
Figure 72: Respondents' work place (n130), source: self-study

132 of the respondents choose to state **sex and age**, displayed as stacked graphs in Figure 73. The predominant age group of the respondents is 46-55 years old. The gender distribution counts as 58.3% male and 41.7% female.
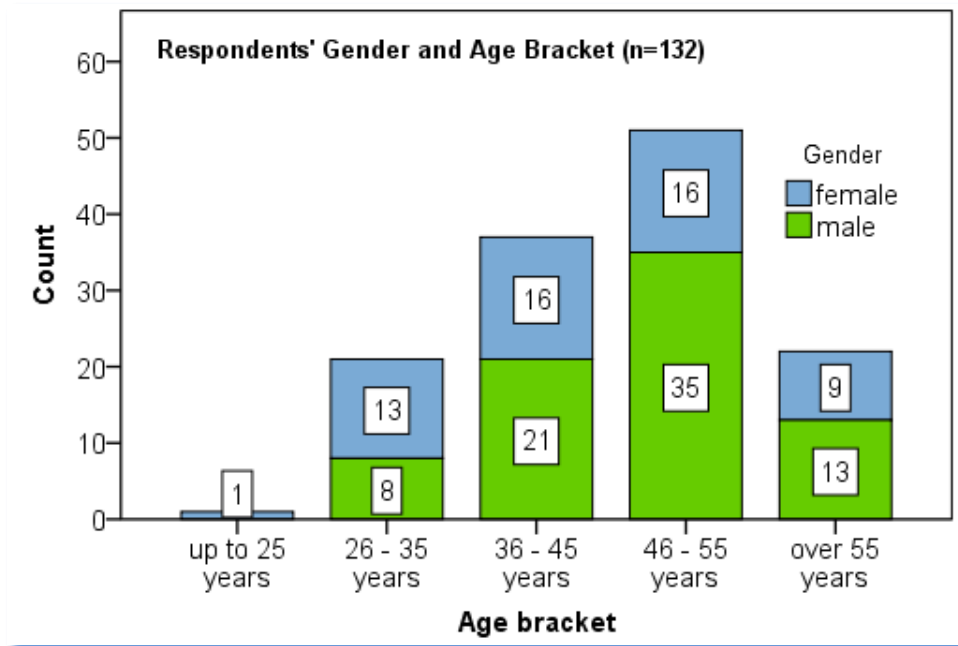
Figure 73: Respondents' gender and age bracket (n=132), source: self-study

Figure 74 shows **respondents' experience at their current work place** by stating how many years they have been working there (n=133) in combination with their age bracket. 38.3% more than 10 years, 11.3% 7-11 years, 24.1% 4-6 years, 20.3% 1-3 years and 6.0 % less than one year.
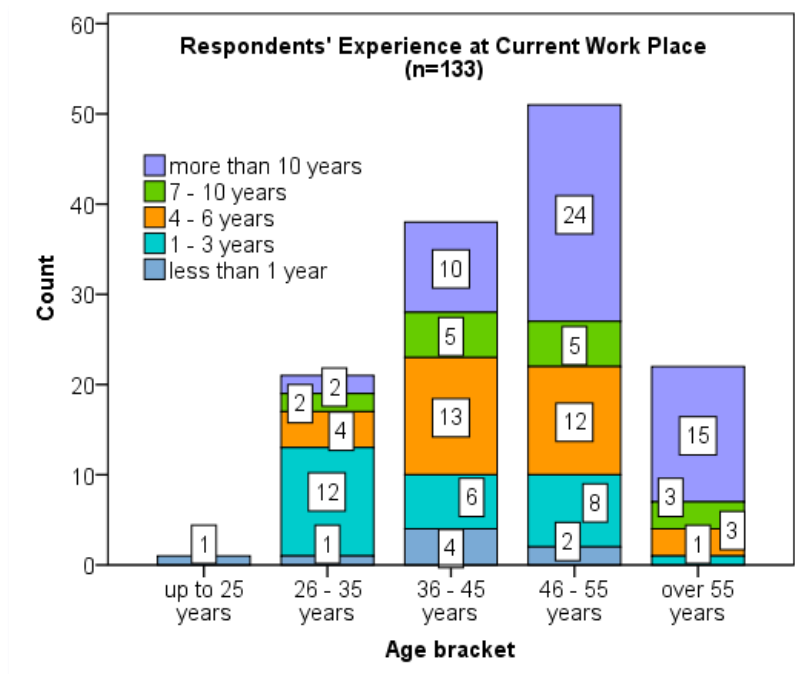
Figure 74: Respondents' experience at current work place (n=133), source: self-study

132 (n) respondents stated their **highest completed education**, which is displayed in Figure 75 in combination with their age bracket. A higher education is the predominant education level as only 12.5% stated they have an apprenticeship as their highest completed education. 26.9% have a high school and 43.1% a degree of a university or university of applied sciences.
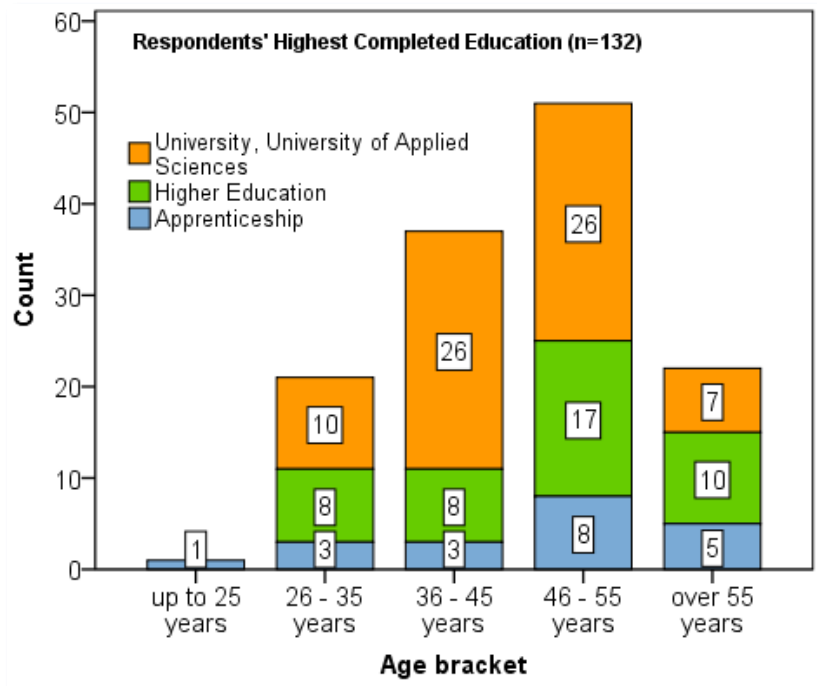
Figure 75: Respondents' highest completed education (n=132), source: self-study

Further 136 participants declared that they have **managerial responsibility** while 24 have not (n=160). Out of the 136 participants with managerial responsibility, 114 indicated for how many staff they are in total responsible for, as displayed in Figure 76 in combination with their age bracket. Hence the majority of respondents are FM executives. This is beneficial to this thesis's aim, to produce a guideline for FM executives.

Figure 76: Respondents' managerial responsibility (n=114), source: self-study

Evaluating how many staff are **direct subordinated,** 111 of the 136 participants with managerial responsibility responded. The range is with 119 wide hence the median of 8 provides a more suitable indication to this variable.

113 of the 136 respondents with managerial responsibility stated the **FM disciplines** they are responsible for, as displayed in Figure 77, this shows that not only different hospitals but also different FM disciplines are represented in the data. Some of the respondents account for more than one discipline hence the total of n=218.

Managerial Responsibility Frequencies

		Responses	
		N	Percent
Managerial Responsiblity[a]	Engineering (Medical Engineering, Electrical Engineering, Building Technology, Carpentry, Sanitary, Gardening, ...)	33	15.1%
	Catering (Kitchen, Restaurant / Cafeteria, Ward Services, ...)	64	29.4%
	Housekeeping (Cleaning)	56	25.7%
	Procurement	21	9.6%
	Logistics (Warehouse, Transport, ...)	27	12.4%
	Security Services	17	7.8%
Total		218	100.0%

a. Dichotomy group tabulated at value 1.

Figure 77: Managerial responsibility – FM disciplines (n=113), source: self-study

Of the 24 respondents without managerial responsibility 14 stated the discipline they work in, as seen in Figure 78. Only logistics and security services are not represented.

Work Area Frequencies

		Responses	
		N	Percent
Work Area[a]	Engineering (Medical Engineering, Electrical Engineering, Building Technology, Carpentry, Sanitary, Gardening, ...)	4	25.0%
	Catering (Kitchen, Restaurant / Cafeteria, Ward Services, ...)	5	31.3%
	Housekeeping (Cleaning)	4	25.0%
	Procurement	3	18.8%
Total		16	100.0%

a. Dichotomy group tabulated at value 1.

Figure 78: Word area of respondent without managerial responsibility (n=14), source: self-study

Concluding this section on the sample structure, it can be stated that the respondents fittingly represent the diversity of FM in healthcare. Not only are different hospitals represented but also respondents' age, gender and managerial responsibility as well as FM disciplines are

broadly distributed. Hence, it can be said that the achieved **sample is a fitting representation of the target population**.

5.3 Communication Structure – General Aspects

Hereafter some general aspects on the revealed communication structure are displayed.

5.3.1 Communication Guidelines

Figure 79 shows respondents' (n=160) answers to the question "Are there any documents (QM, ISO, ...) in your organisation clearly defining and supporting communication activities?".
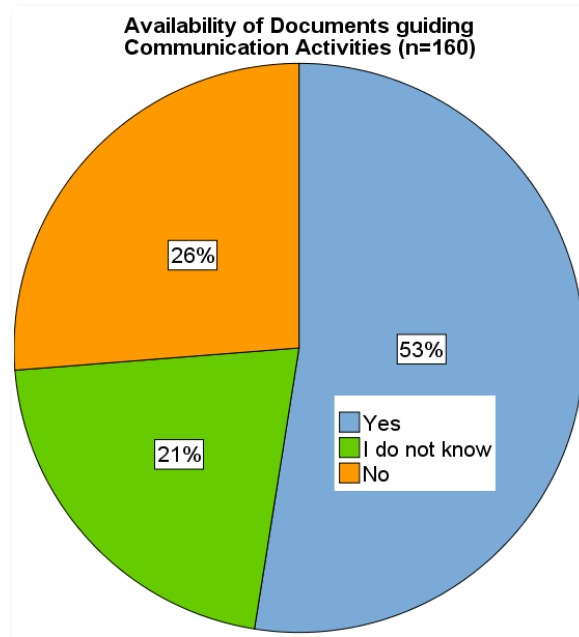
Figure 79: Respondents knowledge of available documents defining and supporting communication (n=160), source: self-study

47% of the respondents state that such documents are not available or that they do not know if such exist, while 53% of the respondents affirm that such documents exist.

5.3.2 Use of Communication Tools

Figure 80 shows the results of 160 respondents stating the communication tools they use. Multiple answers were possible. It is visible that email communication and mobile phones are the most used tools, while instant-messaging services are not yet very popular.
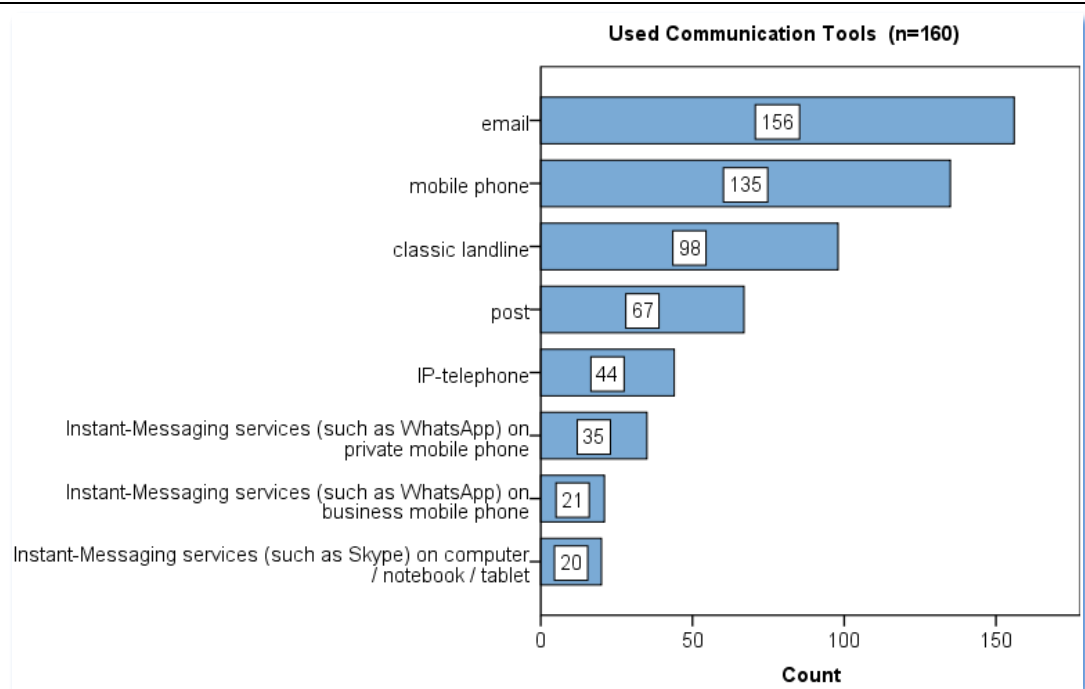
Figure 80: Used communication tools (n=160), source: self-study

5.3.3 Communication Challenges

The categories of communication challenges elaborated in the qualitative part of this research were transferred into the quantitative survey. Respondents were asked to tick any of these challenges applying also to their work. The result is visualised in Figure 81 (n=158).

As shown, the category "to be understood" achieved the highest percentage based on the count of each category, indicating that this is one of the major communication challenges within the FM of hospitals, whereas the different knowledge and preferences of employees regarding means of communication did receive lower counts and hence had lower percentages.
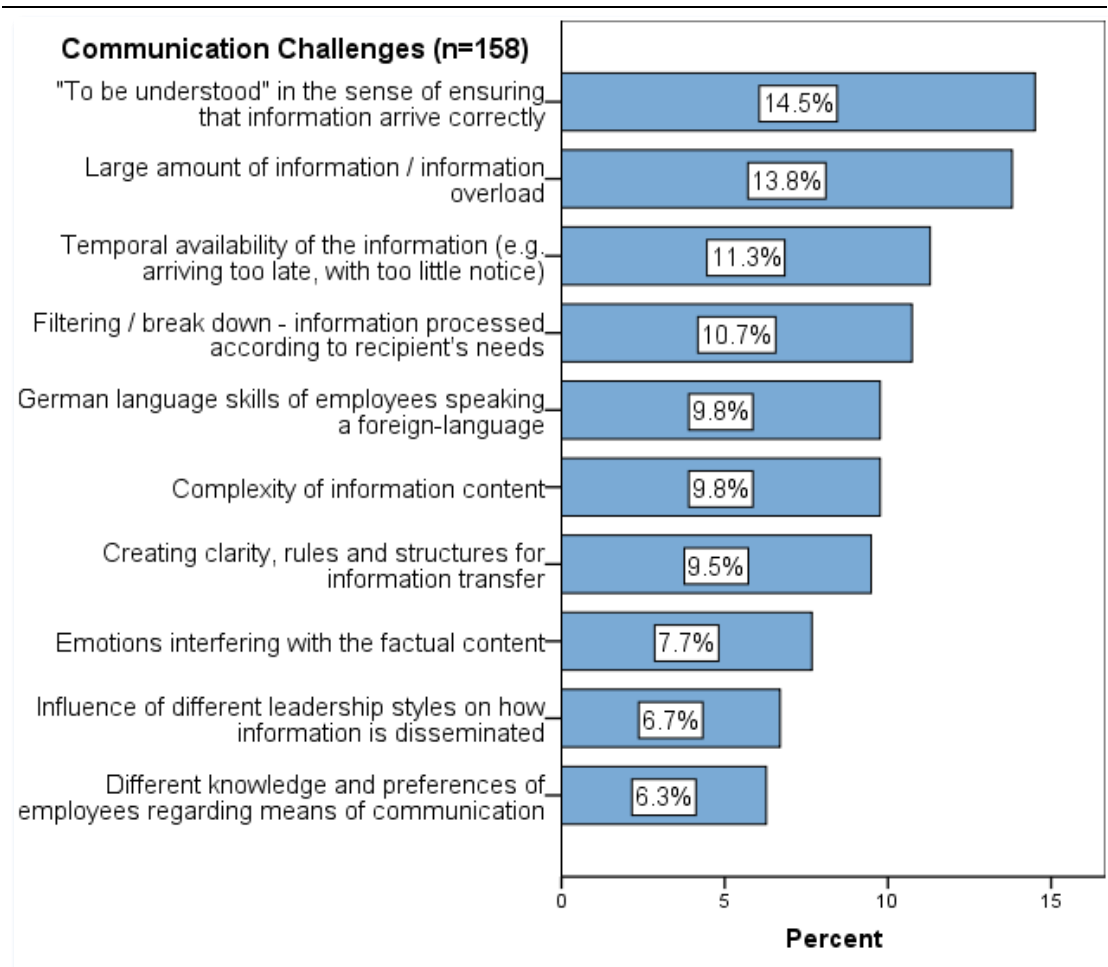
Figure 81: Communication challenges (n=158), source: self-study

5.3.4 Digitalisation

Digitalisation is a trend that is also progressing hospitals' FM. Communication is becoming more digital. The paperless office is progressing. On that background respondents (n=155) estimated their degree of digitalisation, visualised in Figure 82.

Only 10% of the respondents consider themselves to work almost 100% digitally, the vast majority work 50% or less digitally.

How digitally do you work? (n=155)
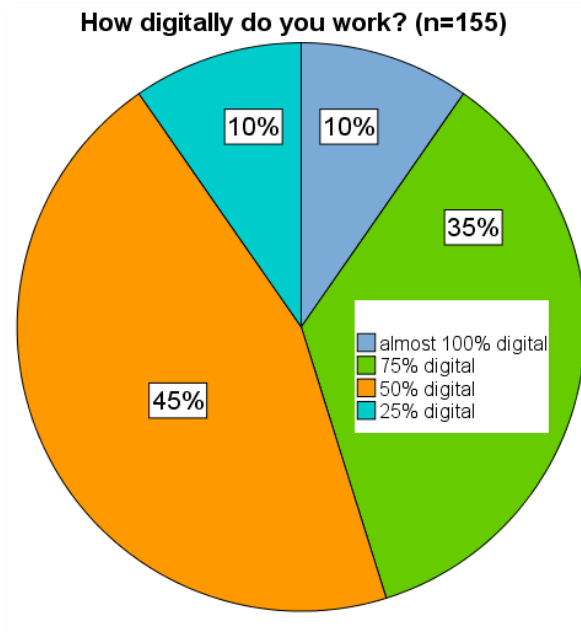
Figure 82: Respondents estimation of how digitally they work (n=155), source: self-study

It further was statistically tested, whether there is a correlation between participants' age and their estimated degree of digitalisation. Test of normality assumes that "in which age bracket are you", D (130) = 0.23, p<.001, and the "how digitally do you work", D (130) = 0.28, p<.001 were significantly non-normal.

Hence, a non-parametric test had to be used to detect whether there is a correlation between managerial responsibility and number of emails sent and received. The **chi-square test** cannot be used, as the assumption of chi-square concerning the "minimum expected cell frequency" was violated.

Based on these conditions the **Spearman's rho and Kendall's tau** to check for correlations were calculated – see appendix P for detailed SPSS outputs. The test's results show, that the significance value is higher than .001 therefore it can be concluded that there is no significant correlation between the respondents' age bracket and their estimated degree on digitalisation. In other words: the correlation shows no association between the variables tested.

5.4   Communication Structure - Meetings

Based on the qualitative results it was assumed that FM professionals with managerial responsibility lead meetings. Hence the survey asked items about leading meetings specifically to these participants (n=136). Items about participating meetings were asked to all the survey participants (n=160). To be clear on which n the results are based, they are displayed in separate subsections.

5.4.1 Leading Meetings

Figure 83 shows the number of meetings regularly led by FM executives, n=121 out of the 136 participants with managerial responsibility. Meetings are defined as occasions with more than two persons.
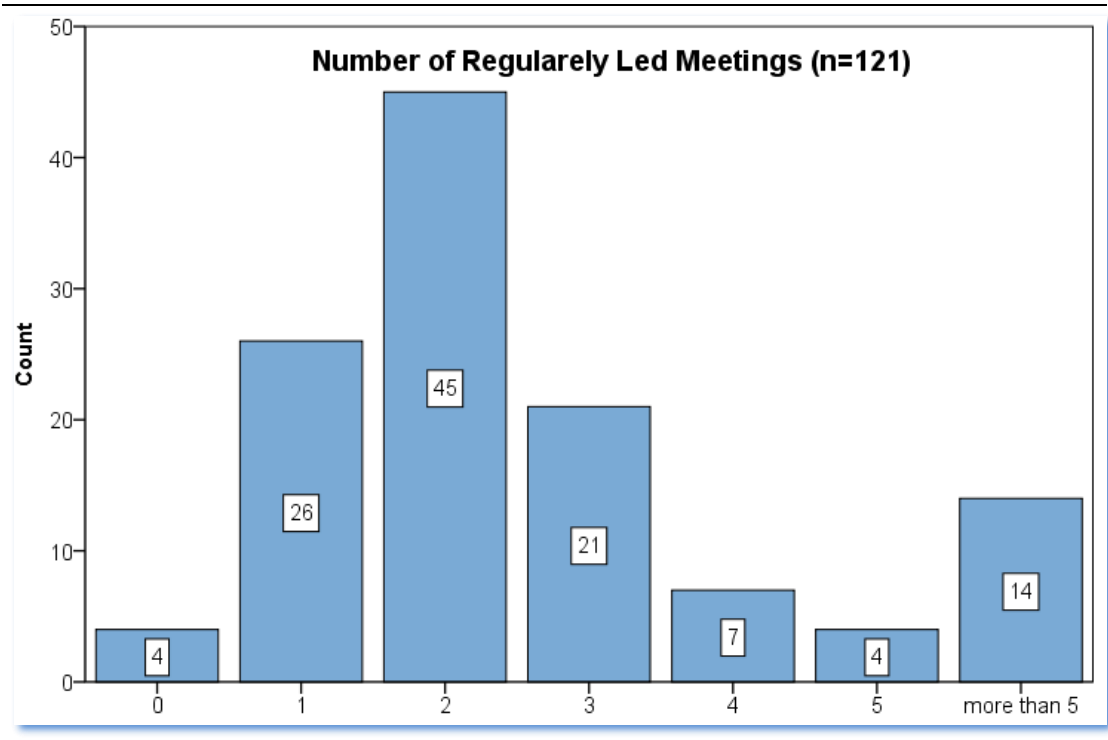
Figure 83: Number of regularly led meetings by FM executives (n=121), source: self-study

The majority of 37% leads two regular meetings, 21% lead one, 17% three, 6% four, 3% five and 12% more than five. 3% indicated not to lead any meetings.

5.4.1.1 Meeting Structure

Figure 84 displays the participants' answers (n=100) on how their meetings are structured. A vast majority of 84% lead them classically, defined as a meeting structure based on an agenda where items are gone through one after the other. Newer modes such as silent start, walking or stand-up meetings or the use of a buzzer are not common, with only 16% indicating that they use such meeting structures.
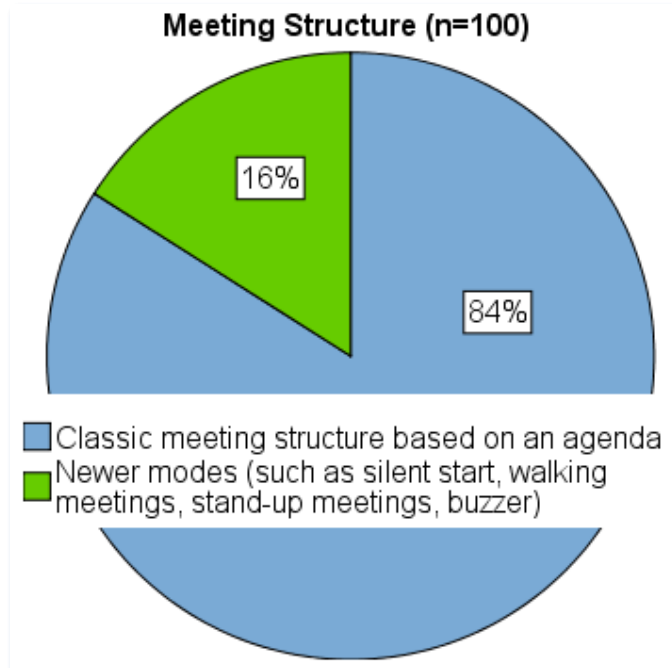
Figure 84: Meeting structure classic vs. newer modes (n=100), source: self-study

Participants had the possibility to comment on their choice. 23 of the 100 did that. One wrote "good idea" referring to the options of newer ways to structure meetings. Indicating that these ways are not yet very well known. Frequently mentioned were also ways from lean management techniques (Huddle board). Standing meetings are also frequently mentioned as an alternative way to the classic seated meeting. In addition, the importance to situationally respond to participants and meeting content requirements is mentioned.

5.4.1.2 One-on-Ones

In contrast to the previous meeting definition as a setting with more than two persons, one-on-ones take usually place bilaterally with a manager and direct subordinates. Figure 85 displays the characteristics of these encounters from the perspective of FM executives in their role as line managers (n=119). They were asked to select their applicable positions regarding frequency, duration and minute taking of their one-on-ones. The frequency preferences are almost equally distributed with *weekly* scoring 38% and *when applicable* 40%. The duration is on average mostly less than 60 minutes 71% against 27% where 60 minutes are scheduled and only a minority of 2% use more than 60 minutes. Minute taking is mainly done informally in the form of notes 82% and 18% take formal minutes.
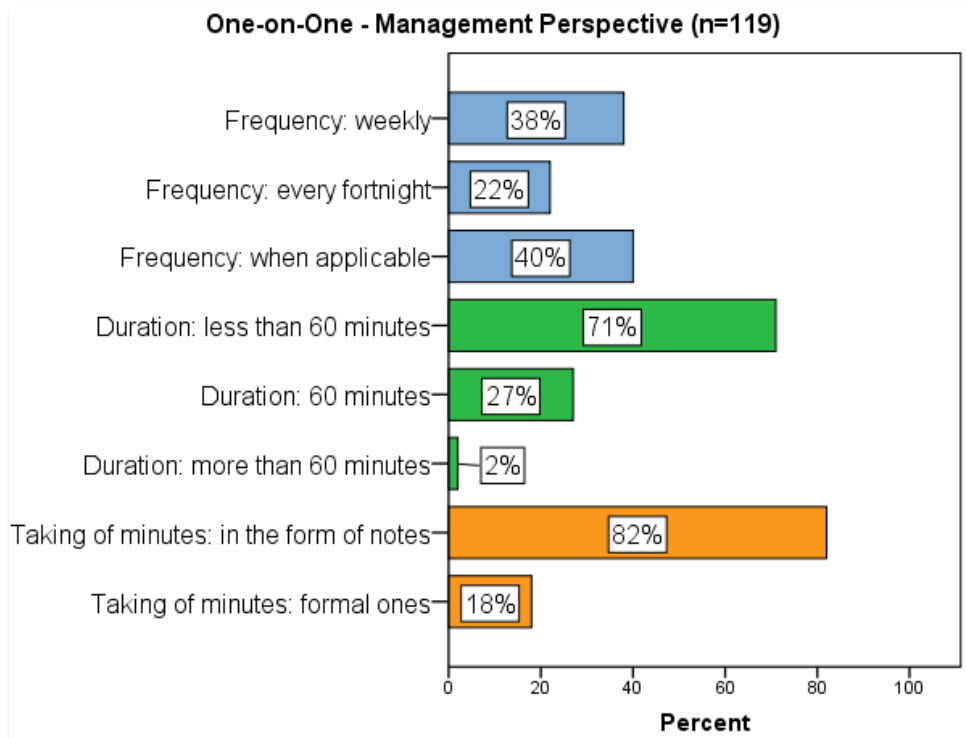
Figure 85: Characteristics of one-on-ones – perspective management, source: self-study (n= 119)

The employee perspective comes from the participants not having a management position. 18 out of the total 24 participants characterised the one-on-ones with their line manager as seen in Figure 86.
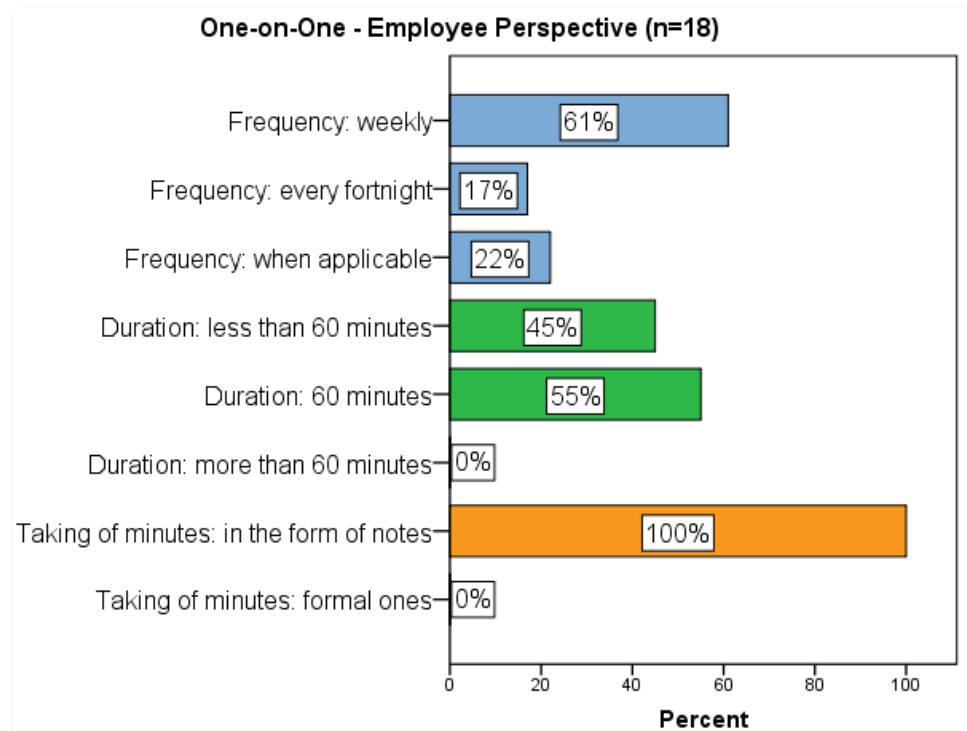
Figure 86: Characteristics one one-on-ones – perspective employee (n= 18 , source: self-study

Similarly to the management perspective the taking of minutes takes place in the form of notes 100%, the duration is distributed between 55% stating 60 minutes and 45% stating that it takes

less than 60 minutes. The frequency is characterised with 61% weekly, 17% every fortnight and 22% when applicable.

5.4.1.3 Evaluation

The FM executives leading meetings were asked whether or not they regularly and consciously evaluate meetings in their responsibility regarding meeting efficiency (meeting preparation, structure, content and participants' satisfaction) and hence if necessary change meeting procedures. The results are displayed in Figure 87 (n= 104). 59% state that they do that regularly and consciously, whereas 41% state that they do not consciously do that.
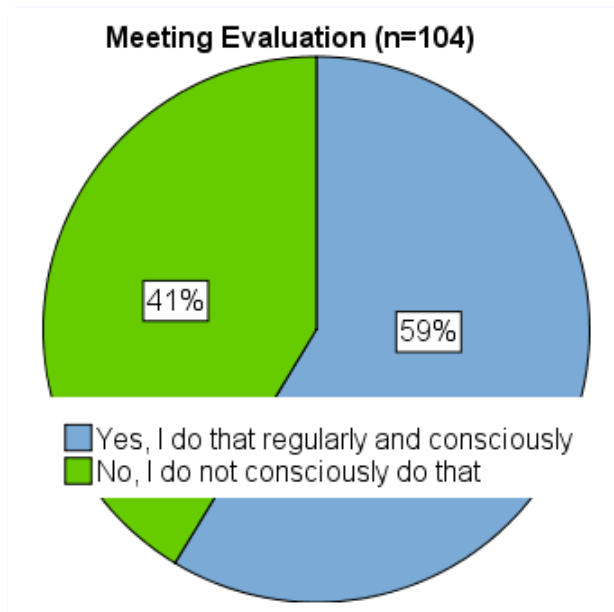
Figure 87: Meeting evaluation (n= 104), source: self-study

Participants had the possibility to comment on their choice. 11 of the 100 did that. Comments included "No, but this would be a good idea" and "No, the time resources [to do that] are too limited" and "is not made on a regular basis, but on demand" and "partly yes, but not always".

5.4.2 Participating Meetings

Figure 88 displays the number of meetings survey participants, including both executives and employees, regularly participate in, n= 139 out of the total 160 survey participants. Also here, meetings are defined as occasions with more than two persons.
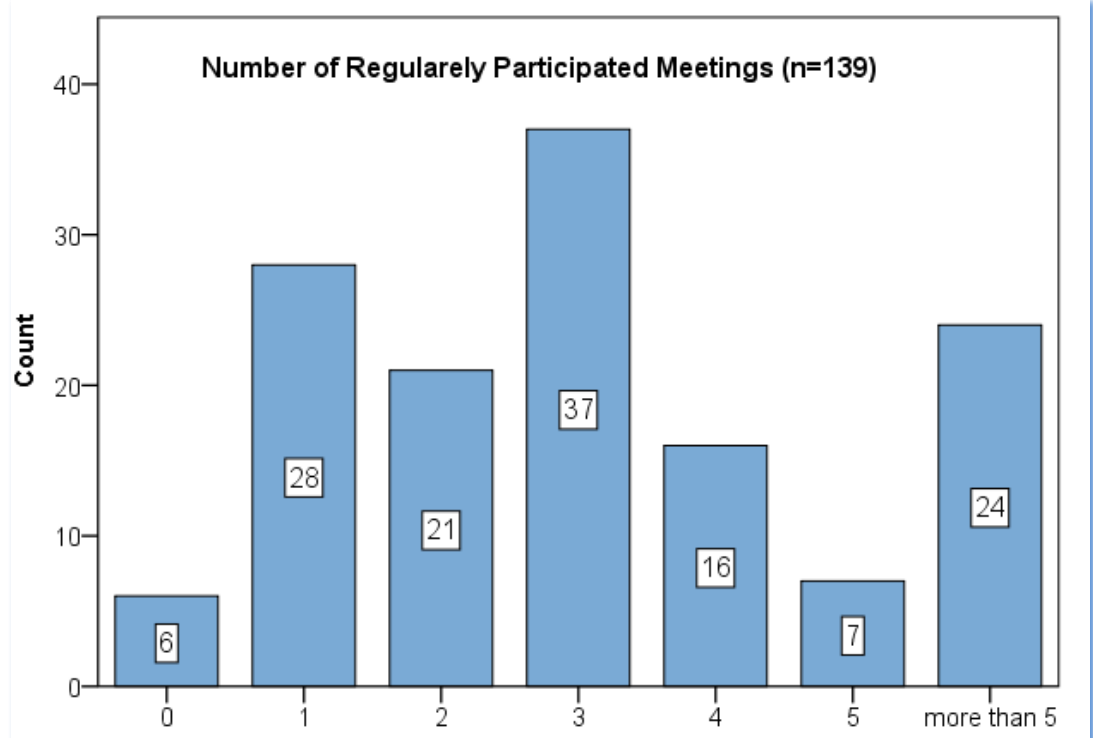
Figure 88: Number of regularly participated meetings (n= 139), source: self-study

27% participate in three regular meetings, 20% in one, 17% in more than five, 15% in two, 12% in four, 5% in five and 4% indicate not to take part in any meeting.

5.4.3 Meeting Opinions

This section presents participants' opinions of meetings they take part in. Taking into account meeting duration, preparation, procedure as such and content from the perspective of participating in meetings.

5.4.3.1 Duration

Participants were asked to think of a typical meeting they participate in and to rate their usual experience of the meeting duration. Figure 89 shows the results (n= 135).
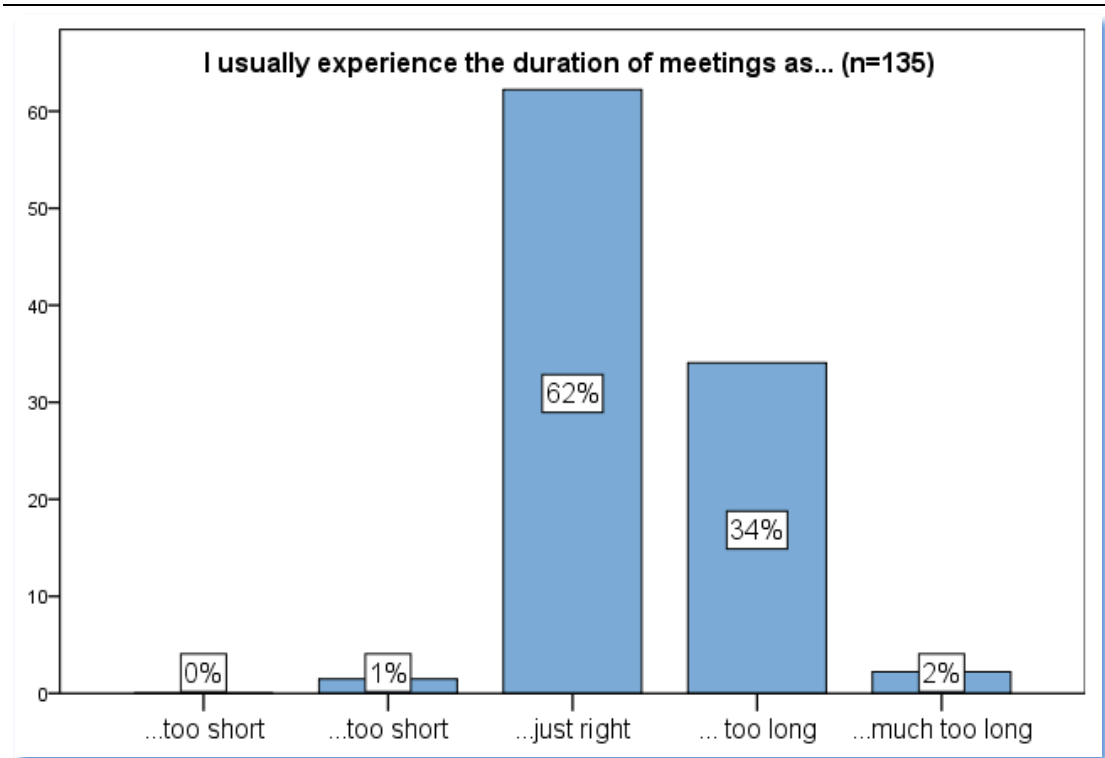
Figure 89: Perception of meeting duration (n= 135), source: self-study

Clearly the majority of 62% experiences the duration on average as just right, whereas about a third 34% experiences meeting time frequently as too long. The other possible categories were not notably applied.

5.4.3.2 Meeting Preparation

Figure 90 shows that 35% state that it is almost always true and 44% that it is often true that they are prepared to take part in meetings. 18% assess that that is sometimes true and only 2% state that it is seldom true (n=134). That the meeting preparation by the chairperson is usually appropriate is rated by 25% of the respondents as almost always true, 46% as often true, 19% as sometimes true and 11% as seldom true (n=133).
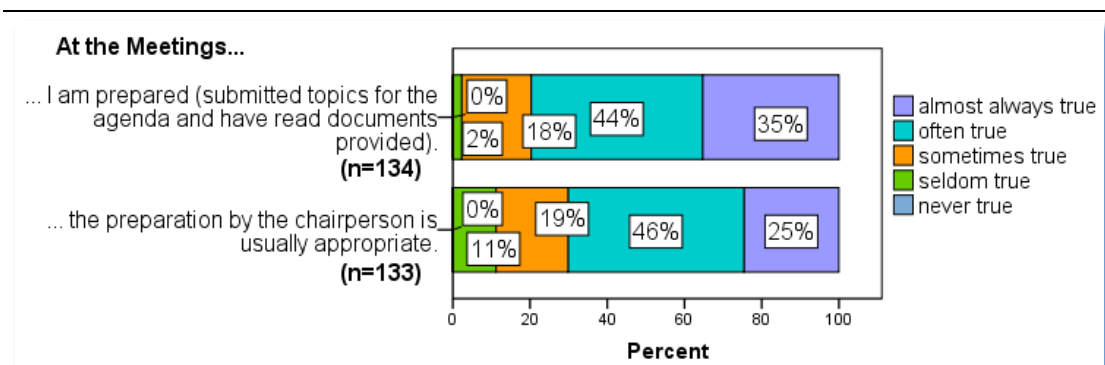
Figure 90: Opinions on meeting preparation, source: self-study

The items "at the meetings it is clear why the topics of the agenda are important" and "the really important topics are on the agenda" are rated quite similarly as displayed in Figure 91.
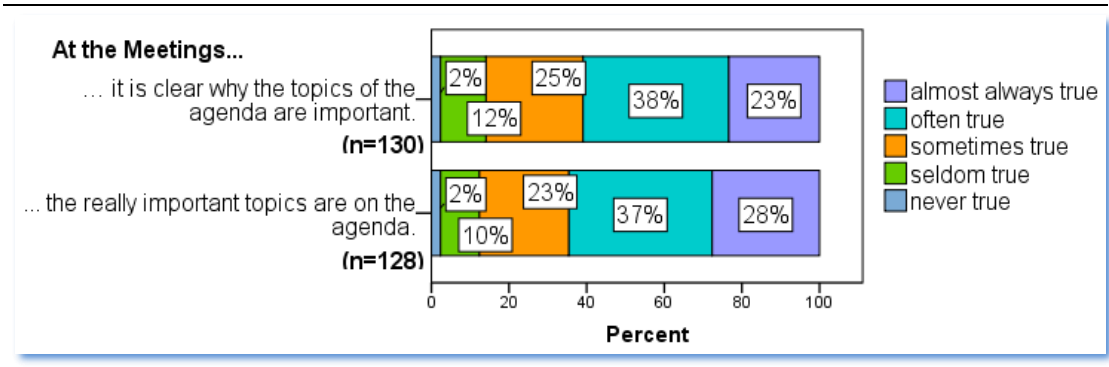
Figure 91: Opinions on meeting agenda, source: self-study

23% of the respondents state that it is almost always true that it is clear why the topics on the agenda are important, 38% state that as often true, 25% as sometimes true, 12% as seldom true and 2% as never true (n=130). 28% of the respondents state that it is almost always true that the really important topics are on the agenda, 37% that this is often true, 23% that this is sometimes true, 10% that this is seldom true and 2% that this is never true (n=128).

5.4.3.3 Meeting Procedure

Figure 92 shows opinions on meeting procedure. The majority of respondents 77% (n=136) state that it is almost always or often true that one's own opinions can be brought in without negative consequences. 69% state that listening and responding to the opinions of others is standard practice, while 25% state that this is sometimes true (n=133). Also 69% state that it is almost always or often true that matters are discussed on a broad basis of trust, whereas 21% state that this is sometimes true (n=131). 64% state that it is almost always or often true that an open, solution-orientated approach to conflicts takes place, while 26% state that this is sometimes true (n=133). 66% state that it is almost always or often true that meeting time is mostly adhered to, while 22% stated that to be sometimes true (n=134).
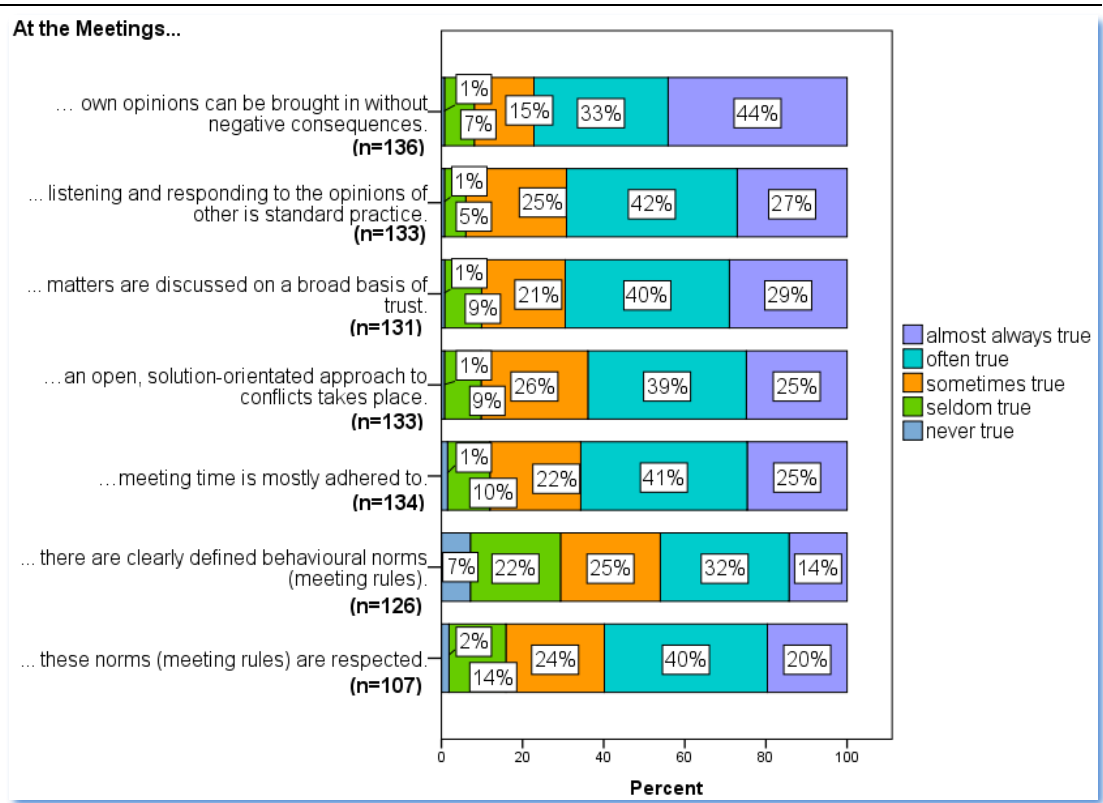
Figure 92: Opinions on meeting procedure, source: self-study

The item stating that there are clearly defined behavioural norms (meeting rules) in place is answered less almost always and often true than the previous items. 14 % state that this is almost always true, 32% that this is often true, 25% that this is sometimes true, 22% that this is seldom true and 7% that this in never true (n=126). Connected to that item it was stated that these norms (meeting rules) are respected. 20% of the respondents state that this is almost always true, 40% that it is often true, 24% that it is sometimes true and 16% that it is seldom or never true (n=107).

5.4.3.4 Meeting Content

Figure 93 displays opinions on meeting content. The majority of 68% states that it is almost always or often true that at the meetings decisions and problem solutions are discussed with sufficient thoroughness, while 21% state that this is sometimes true and 11% that this is seldom or never true. Opinions that decisions and problem solutions are well thought through including their possible consequences and that possible concerns are taken into account divide more. 14% state that this is almost always true, 42% that this is often true, 30% that this is sometimes true and 15% that this is seldom or never true (n=127). The item that decisions and problem solutions are aligned with overarching goals is rated as almost always true by 23% of the respondents, 38% rate it as often true, 27% as sometimes true, and 12% as seldom or never true 8n=124).

The items that at meetings decisions and problem solutions are reached on the basis of sufficient information have been rated similarly. The one with keyword: cost transparency was

rated by 15% of the respondents as almost always true, 41% as often true, 26% as sometimes true, 16% as seldom true and 2% as never true (n=121). The one with keyword: process trans-parency was also rated by 15% of the respondents as almost always true, 35% as often true, 31% as sometimes true, 14% as seldom true and 1% as never true (n=121).
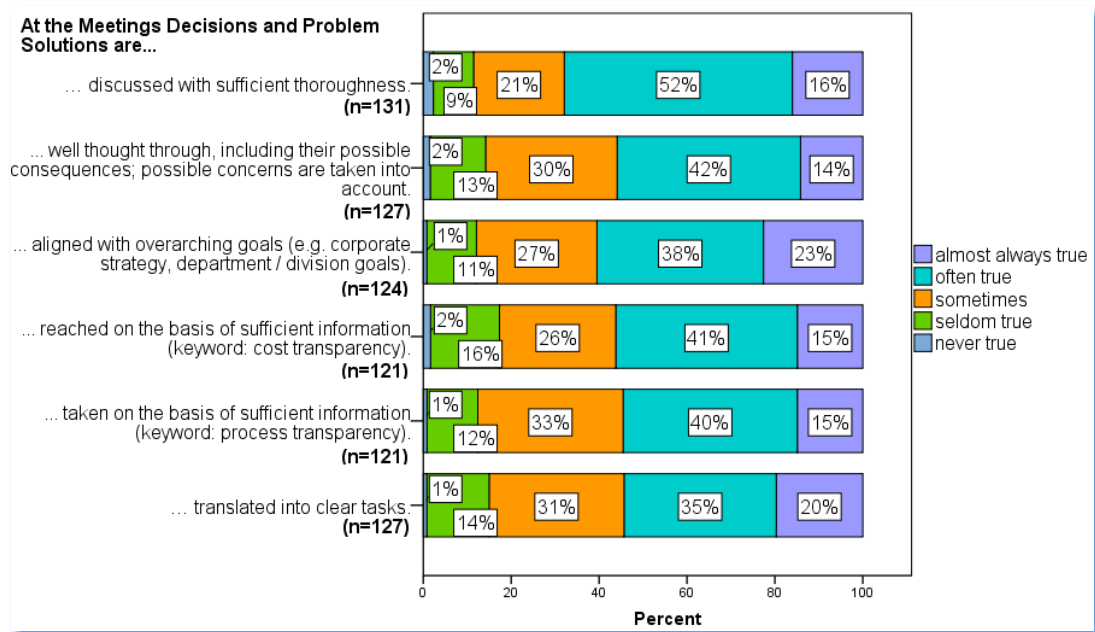
Figure 93: Opinions on meeting content, source: self-study

The last item in this section stated that at the meetings, decisions and problem solutions are translated into clear tasks. This is rated as almost always true by 20% of the respondents, as often true by 35%, as sometimes true by 31%, as seldom true by 14% and never true by 1% (n=127).

5.4.4 Communication in 10 Years

Participants were asked to state their opinion on how future communication looks in an open question. 95 participants used this opportunity. Their answers have been exported to NVivo, so see if their content matches the existing categories and their corresponding interpretative summaries developed out of the qualitative interviews, as displayed in Table 33. The answer is: Yes, they do. No further categories or subcategories of existing ones evolved out of the data. 67 statements support the main category of digital increase and its corresponding sub-categories CONCERNS; COMMUNICATION MEANS; MORE MOBILE. Also the importance of HUMAN INTERACTION is emphasised and that the SPEED of communication will increase.

A fitting quote underlining the interpretation of how communication looks in 10 years time in hospitals FM is: *«The technical possibilities of digitisation will be introduced in the hospitals. Care must be taken to ensure that users can use these tools efficiently»*. Another one states the "how" poignantly as: *«According to technical progress and the communication behaviour of the following generation»*. Section 6.4.3 takes up the results by discussing them in light of the background.

5.5   E-mail Volume

The topic of e-mail communication has been studied in both the quantitative and qualitative part of the fieldwork, with respective results displayed in the following two subsections.

5.5.1   Results of Fieldwork Part 1

Now, results of the quantitative element nested in the qualitative fieldwork part 1 are presented. Due to the relatively small sample of 32 FM executives, the results are shown as a whole and not per case. The main goal of these data is to get a snapshot overview, of FM executives' e-mail traffic, which enabled the researcher to develop items for the subsequent quantitative survey.

Figure 94 shows the daily mean of the e-mails *sent* in the seven-day observation period, as well as the maximum, minimum and standard deviation (SD). The **mean** cumulating all seven days is 12 sent e-mails, **cumulating the five workdays it is 16 sent e-mails**. On weekdays the SD is rather high, indicating that the data points are spread out over a wider range of values.

	To Monday	To Tuesday	To Wednesday	To Thursday	To Friday	To Saturday	To Sunday
Mean	17.69	16.53	14.38	17.41	14.22	1.00	0.35
Max.	42	48	52	49	41	15	5
Min.	0	0	0	0	0	0	0
Standard Deviation	10.18	11.14	12.00	13.88	11.34	2.93	1.15
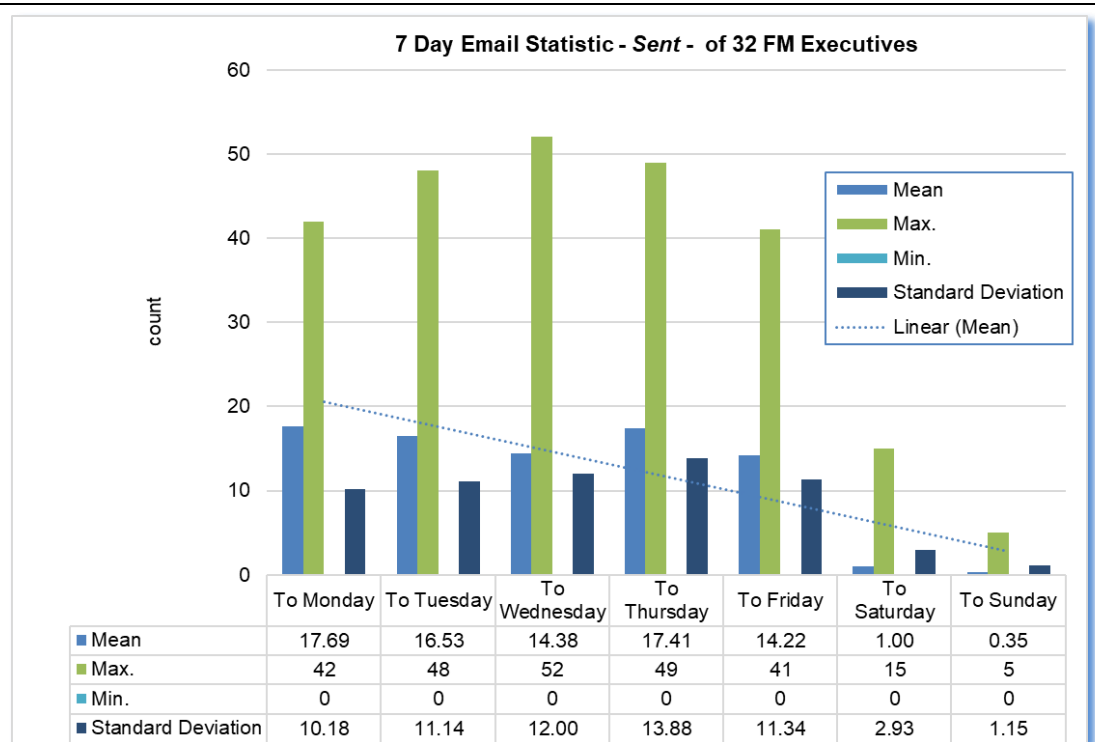
Figure 94: Daily E-mail Statistic - Sent, source: self-study

Figure 95 presents the receiver distribution of sent e-mails. The vast percentage is sent to hospital internal receivers, whereas e-mails sent to external receivers and e-mails sent to both internal and external receivers are in minority. On weekdays, the distribution does not show much variance.
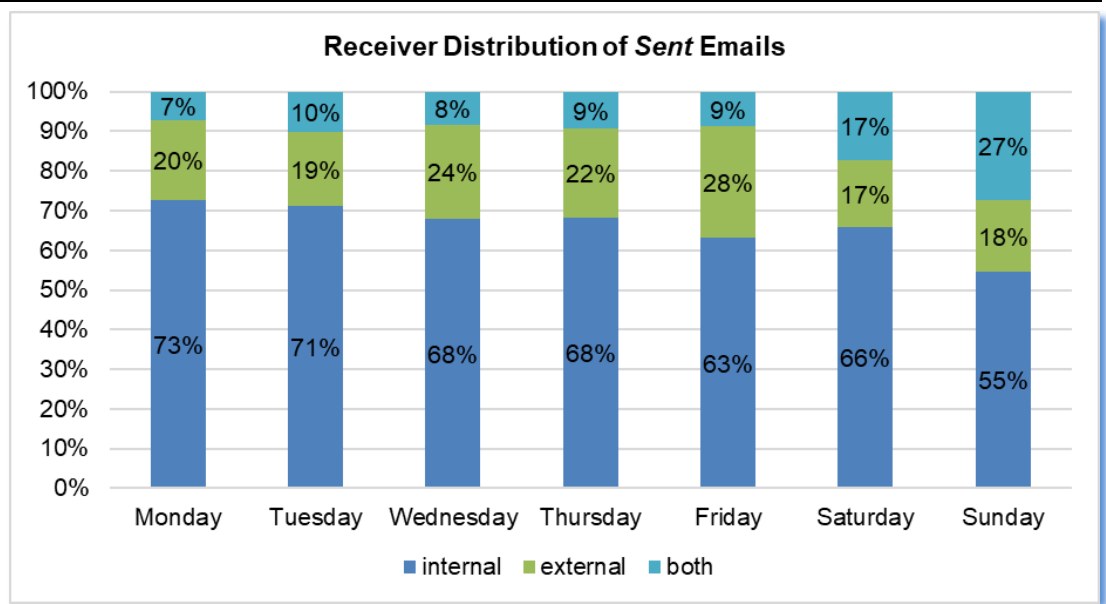
Figure 95: Receiver Distribution – Sent E-mails, source: self-study

Figure 96 shows the daily mean of the e-mails *received* in the seven-day observation period, as well as the maximum, minimum and standard deviation (SD). The **mean** cumulating all seven days is 18 received e-mails, **cumulating the five workdays it is 25 received e-mails**. Also here, on weekdays the SD is rather high, indicating that the data points are spread out over a wider range of values.

	From Monday	From Tuesday	From Wednesday	From Thursday	From Friday	From Saturday	From Sunday
Mean	28.32	25.97	22.34	24.47	21.84	2.03	1.38
Max.	58	63	55	63	54	9	8
Min.	0	2	2	0	0	0	0
Standard Deviation	13.31	14.92	12.27	14.41	14.03	2.50	1.90
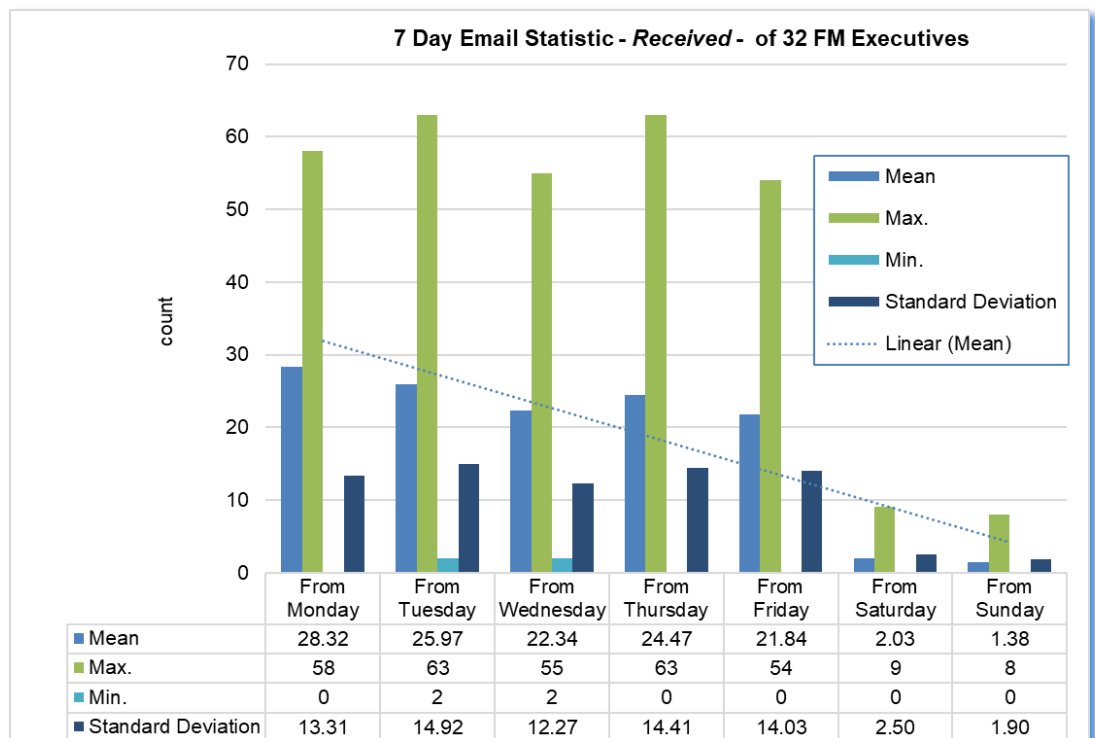
Figure 96: Figure 17: Day E-mail Statistic - Received, source: self-study

Figure 97 presents the distribution of e-mail received. As with the statistic of the sent emails, the vast percentage is received from hospital internal senders, whereas e-mails received from

external senders are in the minority. Same as with sent e-mails, on weekdays the distribution does not show much variance.
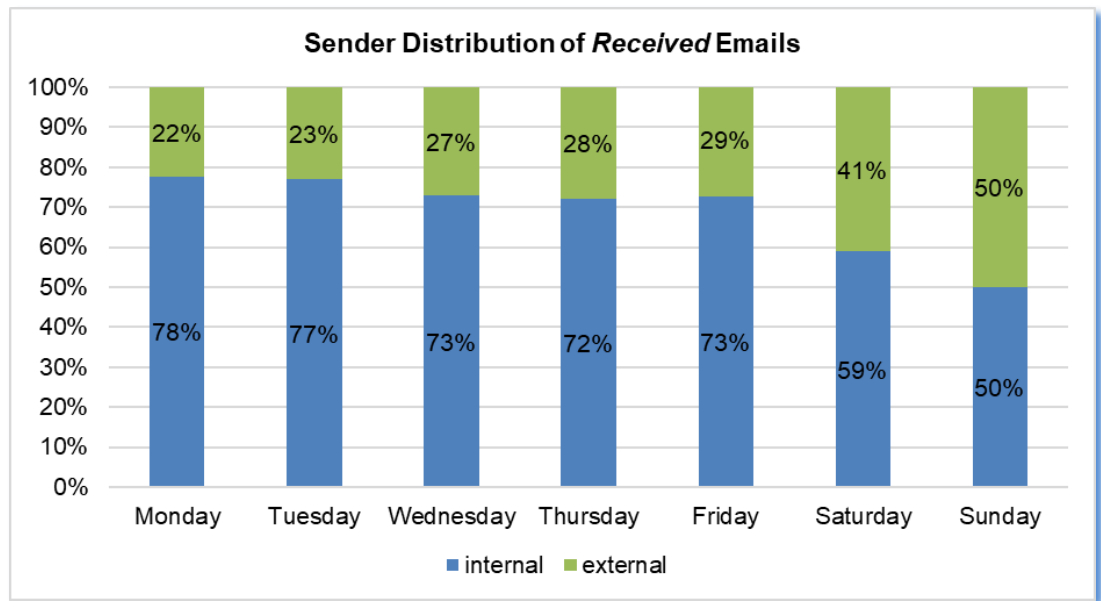
Figure 97: Figure 17: Sender Distribution – Received Emails, source: self-study

Providing a cumulative view, Figure 98 shows the daily mean of sent and received e-mails and the total of both categories referred to as *average daily traffic*, including the linear mean of the total number of e-mails per day. Data shows, that on average an FM executive receives more e-mails than he or she writes. The **mean** cumulating all seven days e-mail traffic is 30 emails, **cumulating the five workdays it is 42 e-mails.**
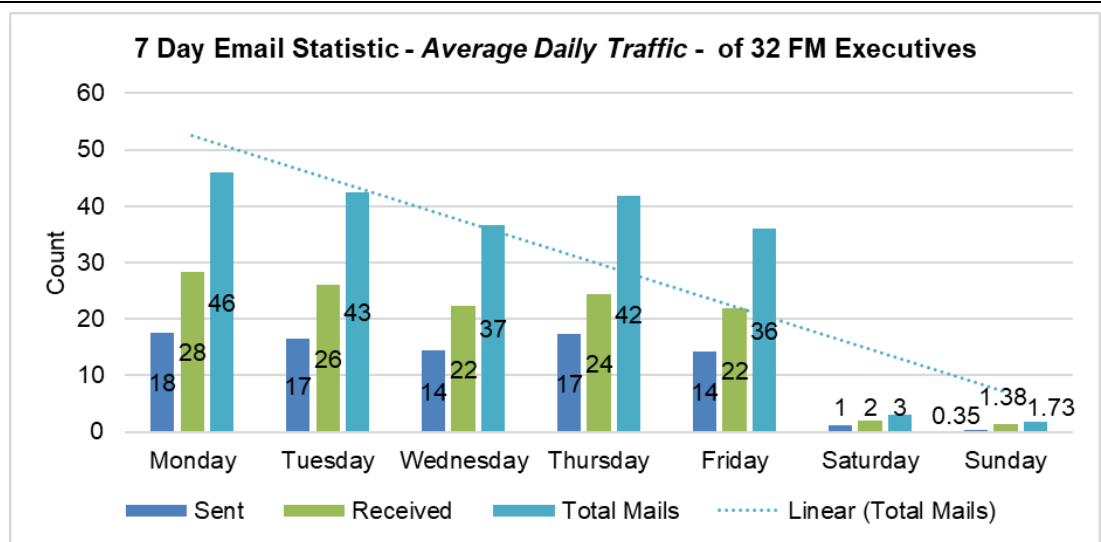
Figure 98: Average Daily Traffic, source: self-study

Figure 99 presents the distribution of the total e-mail traffic sent v. received. It shows the above mentioned overlap of received e-mails to sent ones per executive. The difference on weekdays is only small.
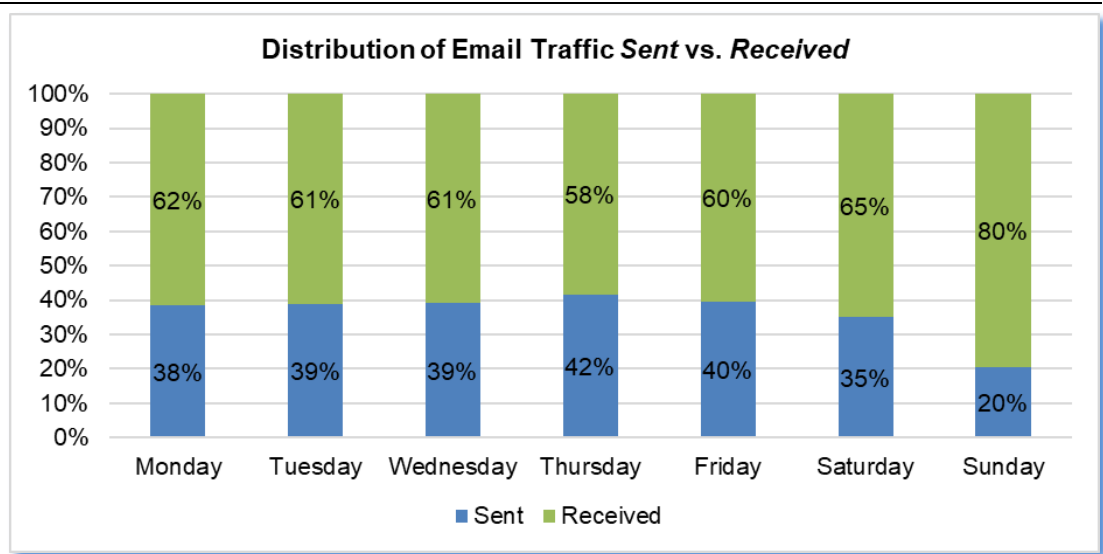
Figure 99: Distribution of daily e-mail traffic, source: self-study

In order to test, whether there is a difference between hierarchy level and total number of e-mails handled in the observation period, an independent t-test was conducted, as seen in Figure 100. The guiding question was: Do heads of divisions have a larger email traffic flow than heads of subdivisions?

Figure 100: Independent samples test, source: self-study

Heads of divisions have to deal with a higher volume of e-mail traffic (M=241, SE 54) than heads of subdivisions (M=189, SE=18). This difference was not significant t(28)=1.16, p>0.5; it further represented only a small-sized effect r=.22.

Hence, based on this relatively small sample, there is no significant correlation between hierarchy level and e-mail volume. Due to the sample size, no further test statistics were carried out. The main goal of these data, to get a snapshot overview, of FM executives' e-mail traffic is achieved with the present results. The results provided the ground for a further quantitative investigation on that topic. These results are presented hereafter.

5.5.2   Results of Fieldwork Part 2

Figure 101 visualises average number of e-mails sent (n=136) and received (n=135) in one working day. The categories of more than 30 e-mails per day and less than 5 are the least frequent ones, while the other ones are similarly distributed.
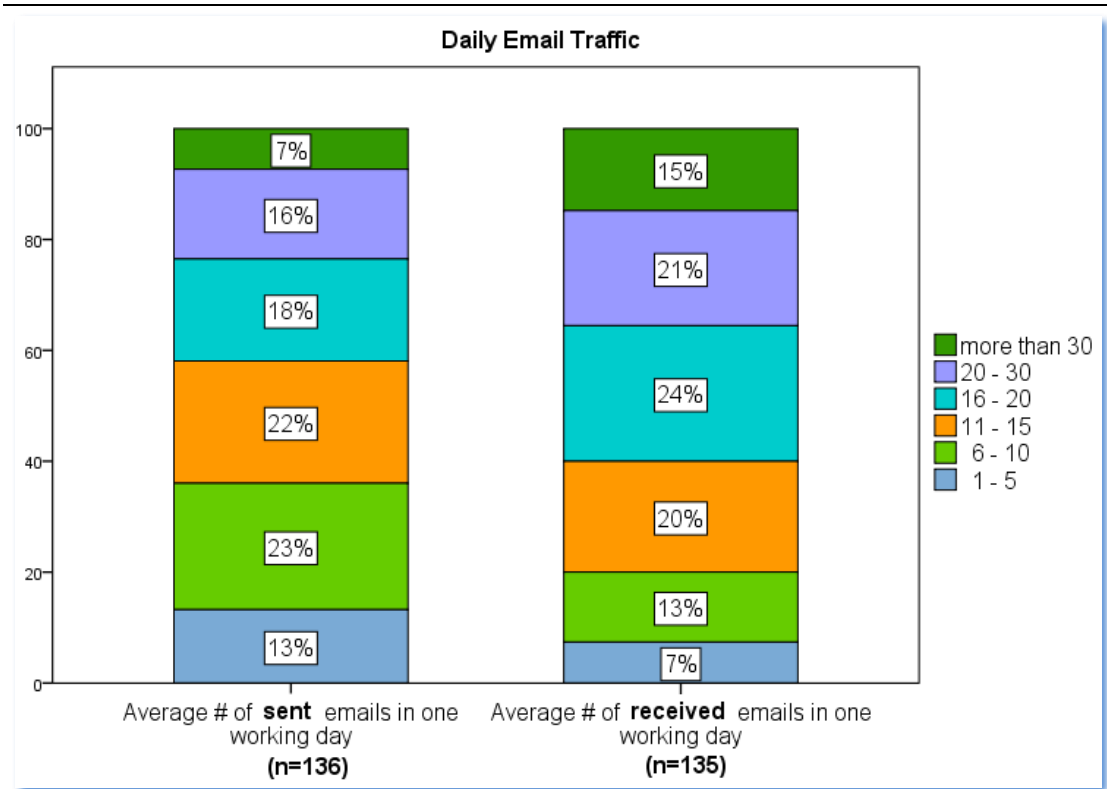
Figure 101: Daily e-mail traffic – average of sent and received e-mails, source: self-study

Based on these survey results, it was aimed to determine whether the number of sent e-mails is affected by the amount of managerial responsibility (number of subordinated staff).

Test of normality assumes that "daily e-mail traffic sent", D (112) = 0.16, p<.001, and the "daily e-mail traffic received", D (112) = 0.17, p<.001, and "the number of staff responsible for", D(112) = 0.16, p<.001 were all significantly non-normal.

Hence, a non-parametric test had to be used to detect whether there is a correlation between managerial responsibility and number of e-mails sent and received. The **chi-square test** cannot be used, as the assumption of chi-square concerning the "minimum expected cell frequency" was violated.

Based on these conditions the **Spearman's rho and Kendall's tau** to check for correlations were calculated – see appendix P for detailed SPSS outputs. The tests' results show, that the significance value is higher than .001 therefore it can be concluded that also based on the quantitative survey results, there is no significant correlation between the number of e-mails sent / received and the managerial responsibility. In other words: the correlations show no association between the variables tested.

Figure 102 displays the results from opinions on email traffic and use. The respective n of these items are mentioned on the figure. There is consensus that e-mail traffic is increasing as 71% either agree or strongly agree on that. Similarly 75% of the respondents state they have their e-mail mailbox under control, with 19% being undecided about that and only 6% disagree. 54% strongly agree always having the e-mail program open, 22% agree on that 13% are undecided and 12% disagree or strongly disagree on that. The item whether emails are checked right upon their arrival is answered diversely: 10% strongly agree, 24% agree, 29% are undecided, whereas 25% disagree and 11% strongly disagree with that. 47% of the respondents agree or strongly agree with the suggestion that the handling of e-mails should be addressed again at their organisation, while 27% are undecided on that, 18% disagree and 9% strongly disagree.
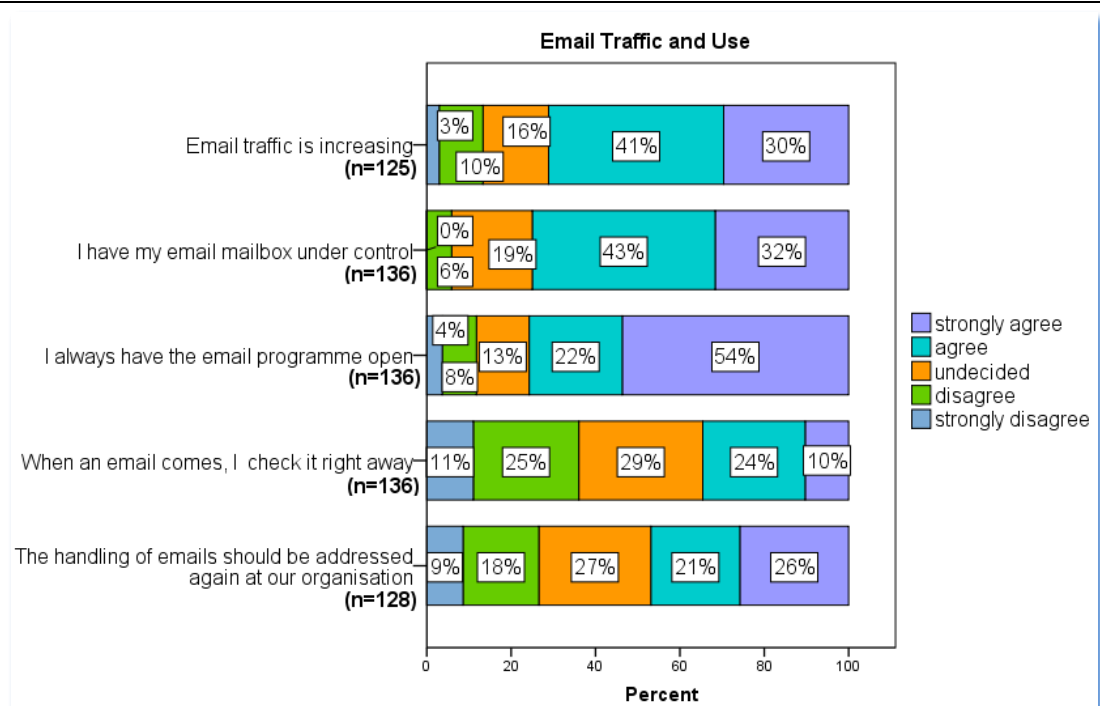
Figure 102: Opinions on e-mail traffic and use, source: self-study

The respondents were asked if there are clear rules in their organisation for the handling of the email traffic (e.g. within which deadline a reply should be given or how "Cc" is handled. The result to that question is visualised in Figure 103. 27% (n=137) affirm that there are such documents, 64% state that there are no such documents and 9% state that they do not know whether or not such documents exist.
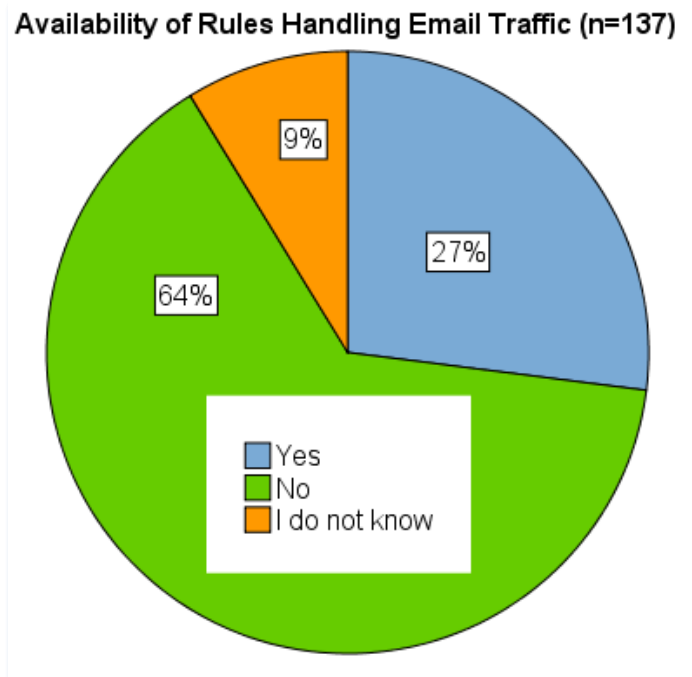
Figure 103: Respondents knowledge of rules handling email traffic, source: self-study

5.6   Results - Conclusion

Chapters 4 and 5 displayed the rich results resulting out of the empirical actions taken based on the rigorous methodology. Both result chapters delivered the aspired insights on how communication in hospitals FM departments takes place and hence contributed to achieving research objective B.

This objective will now be completed through discussing these empirical data in, which is done in the next chapter. This then leads up to research objective C the development of the initial framework for optimal FM communication based on key results from objectives A (background) and B.

6 DISCUSSION

This chapter is the first of the upcoming synthesis chapters, drawing together the contribution to the research topic. The discussion critically examines the results in the light of the previous state of the subject as outlined in the background, explores links between the results and makes judgments as to what has been added through this thesis's empirical work. This chapter consists of four structuring main parts, visualised with blue squares on Figure 104, an excerpt of Figure 23 the explained figurative conclusion of the background chapter. Hence, these four parts: communication structure, communication experiences and beliefs, scheduled meetings and email communication, arise from the main components of the background and results chapters, taking into account also the other visualised elements making up the versatile context of FM communication in hospitals.
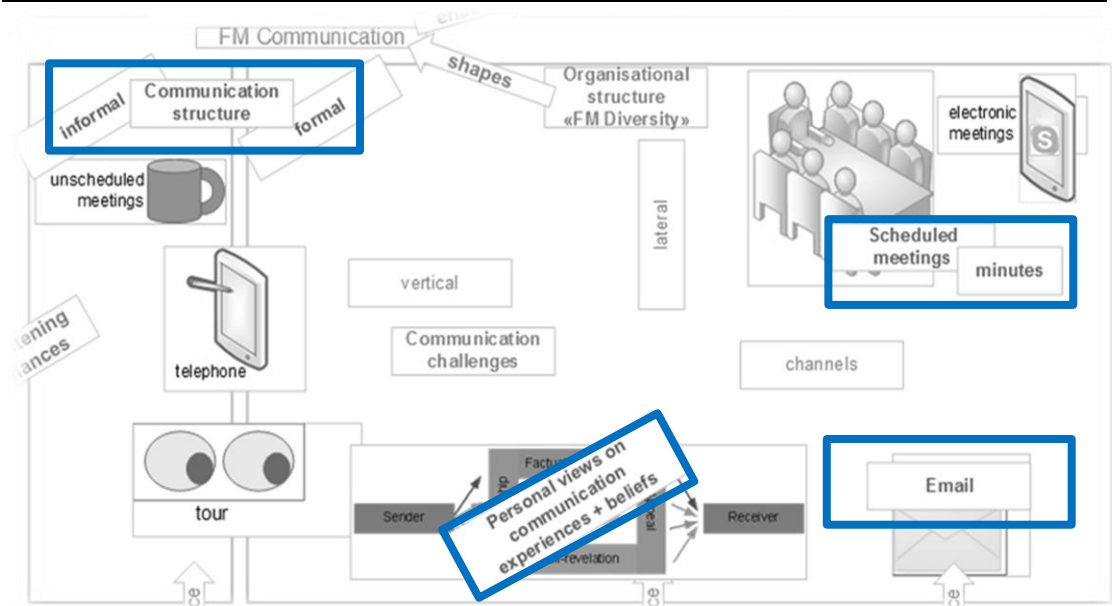
Figure 104: Structuring elements of discussion chapter, source: self-study based on Figure 23

This discussion leads into stating the required elements to feed into the aspired communication framework. These are based on key results from objectives A and B. These elements consist of the quintessence / bottom line of each structuring element, visually presented in tables, as schematically introduced in Table 37.

The aim of these elements is to provide **applicable content** to be considered by FM executives to check and adjust communication activities in their respective areas of responsibility. Key aspects, that need special attention, which are derived out of the discussion, support the aims of the key elements. Both aim and aspects of these elements are purposely phrased as the best possible outcome of them. This way they present the goal FM executives should aspire to, when checking and if applicable adjusting their communication activities.

Table 37: schematically introduction of discussions' key elements visualisation, source: self-study

Key elements supporting optimal FM communication: *respective topic*
Subtopic if applicable
Aim: respective aim
Key aspects
• *List of key aspects*

6.1 Communication Structure

As derived from the background, the communication structure consists of two main elements: formal and informal communication shaped by the used communication channels. The following subsections discuss the corresponding findings within the context of FM in Swiss hospitals.

6.1.1 Formal Communication

One of the two cases (case 2) analysed in the qualitative sequence is ISO 9001 certified and hence has a document clearly defining and supporting organisational communication within the FM department. Case 1 has a guiding document on communication established by corporate communication addressed to the hospital's organisation as a whole; hence it is non FM specific. The quantitative survey revealed that 47% of the respondents (Figure 79, p.166) state that such documents are not available or that they do not know if they exist. Moreover, 41% of the respondents in charge of leading scheduled meetings, being a major communication channel, state that they do not consciously evaluate their meetings' efficiency (Figure 87, p. 173). These results indicate that a vast part of hospitals' FM departments are having either non-specific or non-existing documents and evaluation procedures of major communication channels, clearly defining and supporting communication. Alone this supports the relevance of this thesis.

Surely, also without such documents, communication does still take place, as indicated by the results of the quantitative survey and significantly underpinned by Watzlawick, Hemlick Beavin and Jackson (1967) statement. The existing formal communication does not per se have to be mismatching its purpose. However, in light of communication being a vital part for any organisation to manage its purpose and reach its goals based in a complex surrounding (Rüegg-Stürm, 2005); and further in light of communication practices enabling dynamic interactions to accomplish set organisational goals (Rajhans, 2012), interactions that form the base to fit necessary elements of organisations are outlined in chapter 2.2.2 Elements of Organisations. From that and from the background of intensifying financial challenges affecting the FM department in any Swiss hospital, as outlined in the background threads on 2.1 Healthcare and 2.3 Facility Management, a non-consciously planned, executed and regularly checked and accordingly adapted communication structure as a basis to deliver communication content effectively and efficiently is not advised at all.

In other words: The positive potential impact of consciously defined and specifically fitted communication structures addressing the current challenges of FM in hospitals seems not yet to be fully evolved in Swiss hospitals.

The following paragraphs dive deeper into that matter by discussing the aspects detected in both the qualitative and quantitative element of this thesis's research, leading up to necessary elements to be considered in the communication framework for the benefit of an evolving use of the communication potential within hospitals' FM departments.

6.1.1.1 Communication Channels

Results from the quantitative survey revealed that the communication channels used to interact, besides face-to-face scheduled or informal meetings, are dominated by e-mail communication and mobile phones while instant messaging is not very much applied. Results from the interviews indicate, that the use of such channels is not yet fully advanced due to lacking rules and regulations. For instance the use of WhatsApp for corporate business, which comes along with data protection issues. This is supported by more respondents stating to use their private mobile phones for that tool, instead of their business mobile phone (see Figure 80: Used communication tools (n=160), p. 167). Further the use of communication tools across the FM department is defined by their accessibility. Not all staff have for example access to e-mail communication.

Another aspect referring to the use of available communication channels is the estimated degree of digitalisation by the respondents of the quantitative survey, revealing that the vast majority of them consider themselves to work 50% or less digitally. Considering the respondents' age structure and their estimated level of digitalisation there was no statistically significant correlation explaining the different degree of digitalised working style. Still, interview results indicate that there is a link between the diversity of staff and the alignment with electronic communication channels, as represented by this quote: «*we were alarmed to see how many employees do not even have a* private email *address, how many of them are not dealing with electronic media*» (source: IP#15). The aspect of how to deal with digitalisation that arose within the key element of communication channels is taken up in section 6.4.3 Communication in 10 Years.

Results on the use of communication channels and estimation of digitalisation show that, in the specific context of FM in Healthcare, the potential of today's information technology possibilities is far from being exhausted. This is in line with what Gilbert Silvius (2007) posed by concluding that in most companies IT is not aligned with business strategy and hence the alignment between business needs and IT capabilities is a prominent area of concern. This is a source still valid today in the hospital context due to the complex and hence fragmented nature of hospitals' organisations (see 2.2.3 Hospitals as Organisations) directly affecting their highly fragmented IT landscape (Gerber, 2018). This situation is reasoned by what Kurti, Barolli and Sevrani (2013) identify as "related to the human dimension". The authors ask for organisations to put more efforts into developing the individual skills and knowledge of their

employees' IT skills to improve business-IT alignment. They further state that business-IT alignment is a collaborative undertaking as neither business (for this thesis's context FM departments) nor IT (for this thesis's context hospitals' IT) can achieve any progress without the cooperation and commitment of the other (Kurti, Barolli and Sevrani, 2013). Edwards (2000) states that the CEO is in the best position to facilitate and foster that necessary alignment, from which it can be derived that any FM executive in hospitals, especially the head of FM departments has the power to foster or delay the use of available IT resources and hence the path of digitalisation within FM.

One aspect mentioned in the two case studies as not to be underestimated is the use of formal communication channels, such as hospital magazines or intranet sites to promote FM, to ensure *FM Visibility.* The importance of FM being visible beyond departments' borders is stressed by both heads of departments of the two cases analysed. This relates to the importance of positioning the FM function in hospitals as outlined in 2.3.1.2 Position of FM Function. The use of platforms such as hospital magazines, newsletters, is a visibility that needs to be proactively driven by the FM department in order to directly influence what and how FM activities and hence FM perception is promoted. In regard to FM being the hospital area typically under pressure with the tightening environment this visibility is not to be underestimated.

Based on the above, Table 38 presents the derived key elements for the topic of communication channels.

Table 38: Key elements – communication channels, source: self-study

Key elements supporting optimal communication: ***formal communication***
Communication channels
Aim: A conscious and correct use of the available channels.
Key aspects   • *There exists a clear display of available communication channels / tools to use within the FM department, including their pros and cons*   • *The channels are used deliberately and purposefully, expectations of them are aligned to avoid misinterpretations*   • *The skills of the employees are in line with the requirements of the available channels*   • *Purposeful use of available communication opportunities outside the FM department to ensure FM visibility*

6.1.1.2 Scheduled Meetings

Scheduled meetings consume a substantial part of managers' resources, see 2.4.3.2. This is confirmed by the results for the context of FM in hospitals, see Figure 83: Number of regularly led meetings by FM executives (n=121), p. 170 and Figure 88: Number of regularly participated meetings (n= 139), p. 174 and further by the visualised communication structures of the qualitative research. These resources are predominantly spent in classic meeting structures as indicated in Figure 84: Meeting structure classic vs. newer modes (n=100), p. 171.

Structure and rhythm of that important formal communication channel varies, as visually highlighted in many figures in the results chapter. The next paragraphs evaluate that more deeply, together with developing the results on survey and interview participants' opinions on meeting preparation, procedure and content.

Structure and Rhythm

Figure 105 displays schematically the variety of the detected formal meetings, by summarising the components used for formal communication found in the qualitative analysis. Classic *department, division and subdivision meetings* dominate the situation. These are *complemented by less formal standing meetings and regular less formal, division and subdivision specific morning assemblies*. The morning assemblies' purpose is to pass on agile information updated on a daily basis. *Staff information events* and *development meetings* taking place less frequently enrich these meetings. Divisions and subdivisions with staff not comprehensively having access to electronic communication devices make use of physical *notebooks and team boards*, whereas technically oriented divisions use *system-based information* as an important source structuring and informing formal communication (CAFM software).
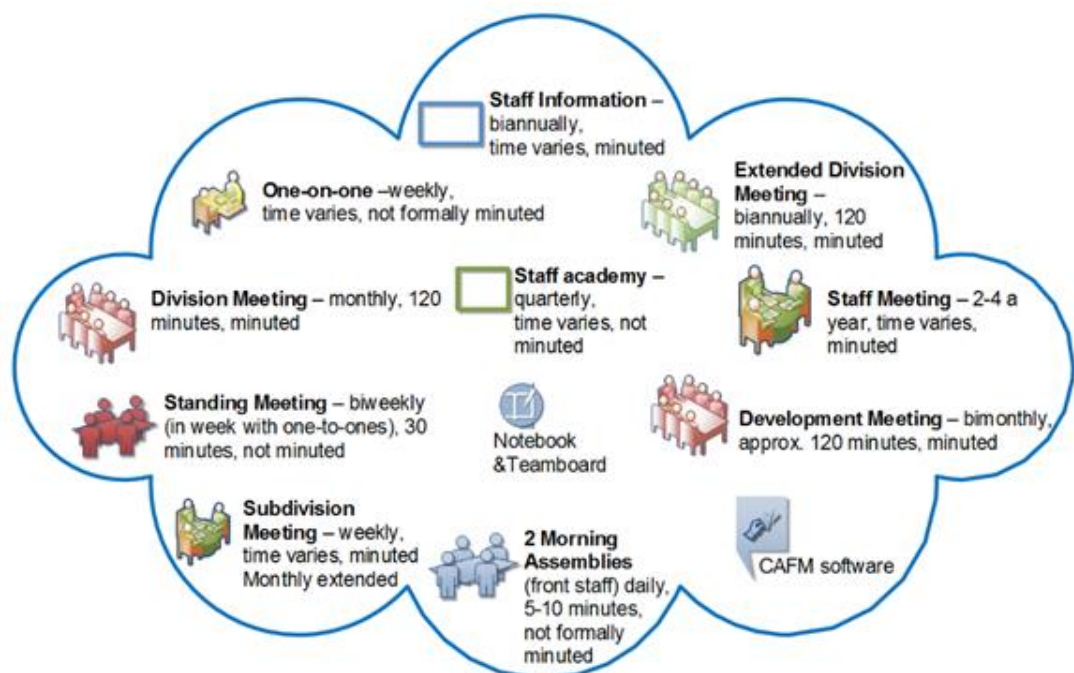
Figure 105: Schematic visualisation of detected meeting structure and rhythms, source: self-study.

Regular, hence formal, scheduled interdivisional meetings are not reported in the data. Only case 1 reports one between housekeeping and engineering. This indicates that necessary communication supporting the discipline's tasks flows mostly within divisions and that the department meetings provide sufficient platforms to exchange interdivisional information. In addition, data about informal communication indicates that interdivisional information exchange takes place beyond formal channels. Neilson and Wulf (2012) state that the degree of integration required in an organisation's management team depends on how related the division's tasks are. Taking FM's heterogeneous nature and the result that formal encounters between the different disciplines and their divisions seem to take place almost exclusively within department meetings it can be derived that FM disciplines in hospitals predominantly focus on and function within their own respective sub organisations, not having major demand for formally organised interdivisional information exchange. The question is however, since the formal information is classically cascaded down laterally, whether or not this predominant lack of formal communication between FM disciplines is consciously determined or has just evolved over time.

Case 2 contains more formal meetings in addition to regular department and division ones, focusing on content developing the divisions and hence the department as a whole. Such as the annual management event or the regular staff information event addressed exclusively to FM staff, whereas in case 1 staff information beyond the department and division meetings is provided in events addressed to staff across hospitals departments. One reason for that is indicated by the different size of the FM departments and the two hospitals. Another reason lies in case 2's explicit mission to be a leading player within the Swiss hospitals' FM and hence puts effort in meetings especially conventionalised to its continuous improvement as seen in Figure 43 catering and Figure 45 infrastructure and engineering. These kinds of meetings seem to be very much in line with the purpose of meetings stated by Drucker (1967) being an important platform for productive collaboration, see 2.4.3.2 Scheduled Meetings, p. 63.

Regarding the meeting structure it can be stated that despite their variety they do provide a tangible aspect enabling the distinct communication functions essential for organisational systems, as identified by Modaff, Butler and DeWine (2016). The meetings support the constitutive function of communication by creating connections within FM departments and do act as binders allowing the coordination of activities. In addition, they provide crucial platforms to enable the vital maintenance function of communication. The adaptive function of communication, referring to a constant information exchange between the organisation system (FM department) and the environment (hospital and its surroundings) cannot be judged based on the meeting structure but will be discussed in the next subsection on the minute content of FM meetings.

The meeting structure further provides tangible evidence of enabling formal communication to flow both vertically and laterally, a communication fundamental stated by Robbins and Judge (2010). In the example of the department meetings, it is the head of the FM department provid-

ing lateral communication, whereas the participating division heads provide vertical communication to their peers and lateral communication to their superior. In terms of a seamless flow of lateral communication throughout the organisational structures it can be stated that the reported rhythms of formal meetings on the different hierarchies do not provide explicit evidence that they are especially aligned to match. For example, in case 1 the formal department meeting takes place biweekly and the division meetings biweekly, monthly or even less frequently. In case 2 the department meeting takes place every three weeks and the division meetings monthly, every three weeks, biweekly and even weekly. Hence, the information cascade is more characterised by the requirements of the divisions than the department meeting generating the clock of the meeting rhythm.

The importance of spatial factors impacting communication structure between organisational entities (Johnson, 1992; Lenntrop, 2008) is provided by results of case 2, the multisite hospital. The division heads of the two smaller sites travel to the main site where most of the department meetings take place. This way the risk of interactions diminishing with the distance is ruled out by using the advantages of face-to-face communication. It was further stated that the department meetings are occasionally held at the two smaller sites as well to acknowledge these sites' importance for the organisation. Head of divisions also emphasise the importance for one-on-ones to be held at the site at which their subordinates work on a daily basis.

Meeting Opinions

The quantitative survey delivered results on meeting opinions these are discussed in light of the qualitative data, where meeting opinions are included in interviewees' answers on communication experiences & beliefs.

***Preparation*:** As visualised on Figure 90, p. 175, the participants rate their own meeting preparation higher (79% state that it is almost always or often true that they are prepared meaning to have submitted topics for the agenda and read provided documents) than how they rate the chairperson being appropriately prepared (71%). Hence, the chairperson's role in preparing meetings is seen more critically than their own preparation. Referring to the importance of meetings within formal communication, this number of non-satisfied responses suggests that we need to critically, and foremost consciously, examine both the expected way of meeting preparation in the light of the actual way meeting participants do it, and the expected versus experienced role of the chairperson in preparing a meeting.

Similarly to the opinions on meeting preparation scores, the opinions on meeting agendas, see Figure 91. 61% of the respondents state that clarity on why the topics of the agenda are important is almost always or often true. While 39% are not satisfyingly agreeing with that by rating it to be only sometimes (25%), seldom true (12%) or even never true (2%) that it is clear why the topics on the agenda are important. 65% of the respondents state that the really important topics are on the agenda, while 35% of the respondents state this to be less than often true. The results of these meeting aspects also suggest that we should critically and consciously examine the meeting agenda's topics. This suggestion is supported by Leach et al.

(2009) reporting a written agenda and the completion of all scheduled agenda items during the meeting being the two main elements influencing participants' perception of the meeting being a good one. Connecting evidence of the rating of meeting preparation and use of meeting agenda is further found in the qualitative data, where interviewees repeatedly express their dissatisfaction of the collaborative preparation of the meeting agenda, see 6.2.1 Formal Structure.

Procedure: Figure 92 displays opinions on how the meetings take place, on meeting procedures. The rated items provide a coherent picture. About a third of the respondents are not satisfied (by rating it never, seldom, sometimes true) with listening and responding to the opinions of others being standard practice, matters being discussed on a broad basis of trust, the presence of an open and solution-orientated approach to conflicts, and adherence to meeting time. Three items fall out of this "one third" observation: only 23% critically rate that opinions can be brought in without negative consequences, whereas the majority of respondents (54%) state that it is less than often true that clearly defined behavioural norms (meeting rules) are in place and where there are such rules 40% of the respondents rate them to be respected less than often true. Also these results suggest that despite literature providing guiding elements to achieve positive meeting perceptions, such as Kauffeld (2007); Kauffeld and Meyers (2009); Kauffeld and Lehmann-Willenbrock (2012); Kauffeld (2014); Schulte, Lehmann-Willenbrock and Kauffeld (2014) that the potential benefit of such elements is not yet reached.

Content: The section in the quantitative survey asking respondents to rate certain items taking place in scheduled meetings, see Figure 93: Opinions on meeting content, reveal that there is optimisation potential not only regarding the meetings' structure, see above, but also for their content. The ratings provide an equal picture. The range of items being rated sometimes, seldom or never true scores mostly around 45%. Moreover, these are the number of opinions to be improved in order to improve overall meeting perception. The survey results do not allow us to draw more detailed conclusions leading to these ratings but the results of the qualitative analysis of meeting minutes does provide indications to that, see 6.2.2 Minute Content. Two of the items nested within the ones asked to detect opinions on meeting content require a more detailed interpretation as they provide grave information in the light of the challenges hospitals' FM increasingly has to deal with. These items are once more displayed in Figure 106, which is an excerpt of Figure 93 Opinions on meeting content. The red square highlights the area of interest.
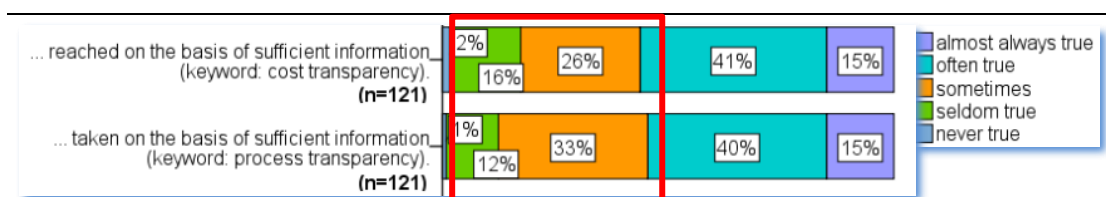
Figure 106: Excerpt of results on meeting opinions, focusing on cost and process transparency, source: self-study

In order to face the challenges of tightening finances, with process transparency being a pre-requisite of cost transparency, the improvement of these ratings should be of high priority.

The results on scheduled meetings correspond with what has been outlined in 2.4.3.2 Scheduled Meetings, p. 63, about meetings being often considered to be a dissatisfying communication channel despite them scoring high on managers' and employees' task lists. Table 39 displays the key elements to be considered in accordance with scheduled meeting supporting optimal communication, these elements suggest activities to provide a good meeting design, a factor that is key for meeting perceptions being positive (Kauffeld, 2007; Kauffeld and Lehmann-Willenbrock, 2012; Kauffeld, 2014; Schulte, Lehmann-Willenbrock and Kauffeld, 2014).

Table 39: Key elements – scheduled meetings, source: self-study

Key elements supporting optimal FM communication: *formal communication*
Scheduled meetings
Aim: an aligned structure of scheduled meetings, fitted to the requirements of the individual FM department's characteristics and positively assessed by both meeting chair and participants is in place.

✓ *A visual display of the current communication structure acts as a basis for any improvement. Such a figurative representation helps to check whether structure and rhythm, as a whole, matches by providing a tangible overview of the*
  o *meeting hierarchy; what takes place on which level*
  o *timing of meetings; enabling cascade top-down to prevent delays*
  o *lateral and vertical communication flow,*
  o *interdivisional communication activities*
✓ *Conscious decision of where meetings take place; conscious use of spatial factors is especially important for multisite hospitals*
✓ *Mindful decision of meeting style – classic sit-down scheduled meeting vs. newer meeting styles, by reflecting on styles used and trying newer ones that might fit better.*
✓ *Preparation: Shared definition of what makes a good preparation for participants and chairpersons; by*
  o *detecting and taking into account participants' expectations of the chair role*
  o *clarifying participants' tasks in preparing meetings*
  o *agreeing on the use and preparation of meeting agenda by participants and chairs*
  o *clarifying why topics on standing agendas are important and how they relate to the department's activities and aims; reviewing the agenda if necessary*
✓ *Procedure: Expectations on meeting procedures including role of the participants are managed in order to prevent negative meeting feelings interfering with the aspired meeting outcome by*
  o *reflecting on time adherence*
  o *jointly defining and agreeing on behavioural norms and regularly reflecting on their adherence.*
✓ *Content: Opinions and expectations on meeting content are clarified and jointly agreed on. Discussions and decisions are primarily based on cost and process transparency and where this is not possible, the lack of either of these crucial aspects is recognised and measured to reach transparency.*
✓ *Meeting Evaluation: Takes place regularly by both the meeting chair and participants.*

Further discussion points regarding the content of FM meetings is provided in section 6.2 Scheduled Meetings - Document Analysis.

6.1.1.3 One-on-ones

Results revealed that from a management perspective, one-on-ones make up for a substantial amount of working time, depending on the number of direct subordinates a manager has. As in case 2 the head of the FM department schedules weekly one-on-ones with five directly subordinated department heads, not including additional direct subordinates in staff positions. This makes up to five hours of working time for this communication channel alone. The same situation is valid for the head of the catering division in case 2. Results revealed that the rhythm and level of formalisation of one-on-ones also varies across hospitals and FM disciplines, this is a normal situation as frequency and times depend not only on the number of subordinates but also on the level of individual attention employees need as stated by Saunders in Knight (2016). A duration of 60 minutes or less can be regarded as standard. Results characterising their frequency differ as all three possible options: weekly, every fortnight and when applicable have been ticked in the quantitative survey and the figures based on the interviews also show a variety. Often the meetings are scheduled for 60min as a fixed agenda item but the allotted time is not always used to the max.

Alignment with other communication elements varies too. In case 1 the predominantly bi-weekly one-on-ones alternate with the biweekly department meeting. In case 2 however the department meeting takes place every 3 weeks and the one-on-ones across all levels have a weekly rhythm, whereas the division and subdivision meetings follow varying rhythms ranging from monthly, every 3 weeks, biweekly to weekly.

Links to spatial proximity of the involved parties can be derived. In case 1 a deputy division head reports not to have official one-on-ones due to spatial proximity (sharing of an office with the department head), enabling and fostering an ongoing information exchange, which is critically seen by Moon (2014), as outlined later on. Moreover, in case 2 subdivision heads on the remote sites appreciate that division heads travel to them for one-on-ones to take place in their everyday surrounding.

Minute-taking predominantly takes place in the form of notes and not as formal minutes. Interview results suggest that both involved parties (manager and subordinate) take notes but the ones of the subordinated staff members being the more detailed ones. The results on how minutes are taken indicate that the degree of preparation of these one-one-one encounters also varies. The methodology used did not involve analysing one-on-ones' content. However, in light of cost and process transparency being a basis of FM activities it can be suggested that one-on-ones also should be a platform where the degree of importance of these issues is discussed, because it does not matter where decisions and discussions take place, these issues should be the ground of any FM communication. Table 40, further down, provides a suggested one-on-one structure where these items can be raised.

Prompted by the amount of time managers spend in one-on-ones, a deeper evaluation of corresponding literature in order to disclose applicable aspects benefiting this time is necessary. "Nothing quite beats a face-to-face, one-on-one meeting" states Saunders in Knight

(2016), reinforcing the benefit of a face-to-face meeting mode as stated before explicitly with one-on-one's. The same author states one-on-ones to be the most important productivity tool a manager has as these encounters with a subordinate provide a platform to ask strategic questions, such as are we focusing on the right things? And from a leadership point of view they provide a platform to show appreciation and attention to the subordinate. Moore in Knight (2016) rates this dual purpose of one-on-ones as crucial but also very challenging, as the aim to support a subordinate to develop and grow while at the same time remembering the organisational goals and to determine how to work towards them might be contradictory. A further challenge the author mentions is the balance between asking questions and listening to what the subordinate has to say.

Regarding their frequency, the same author states that it does not directly matter how often they occur, the important factor is that they are scheduled as repeating events. Highlighting that a standing event reduces the chances of subordinates barraging managers with a persistent stream of interruptions (Saunders in Knight, 2016). On the other side last minute cancellations of such meetings are not suggested as they undermine the message of one-on-ones being a platform of attention to the subordinate (Hedges, 2013; Saunders, 2015). Also substituting them by an open-door policy is not recommended because it also contradicting the meeting's dual purpose, increasing an inefficient communication. A quote from Saunders (2015) nails that down: "not taking the time at the front end to effectively manage your direct reports leads to a lot of wasted time on the back end". The author stresses, that from a time management point of view adherence to regular one-on-one's adds to a culture where regular meetings are respected and dropping by is the exception, which is supported by Hedges (2013). This helps creating an efficient and effective culture supporting managers' and employees' ability to align their time investments with their priorities (Saunders, 2015).

Table 40 below provides a simple but effective structure for one-on-ones as suggested by Hedges (2013). That author acknowledges that these encounters are shaped by the organisation's characteristics as well as participants' backgrounds and preferences but proposes that following this type of format supports proactivity and enables the participants to constructively and jointly make the best use of the one-on-one time. In that light the structure can also be used to check individual one-on-one routines against and might deliver hints to improve their efficiency.

Table 40: Suggested one-on-one structure, self-study based on Hedges (2013)

Time and Topic (based on 45 minutes)	**Responsibility**
15 Minutes – Issues the subordinate needs to raise with the manager (e.g. approval of activities)	Subordinate
15 Minutes – Issues the manager needs to raise with the subordinate (e.g. delegate, feedback provision)	Manager
10 Minutes – free time dedicated to long-term issues (e.g. concerns, progress reports)	Mutual
5 Minutes – State accountabilities, agree on follow-up activities	Manager

Based on above, Table 41 presents the derived key elements for the topic of one-on-ones.

Table 41: Key elements – one-on-ones, source: self-study

Key elements supporting optimal communication: *formal communication*
One-on-ones
Aim: Effective and efficient use of one-on-one time focusing on bilateral topics.
Key aspects • *One-on-ones are included in displaying the current situation of the formal communication structure, enabling the participants to check whether structure and rhythm match* • *A regular frequency is adhered to by both participants* • *Expectations of structure, preparation, note taking and accountabilities are clear and agreed on by participants* • *The content is shaped by relevant topics positively evolving the participants' area of responsibility*

6.1.1.4 Differences between FM Disciplines

The different nature of the specific processes and work tasks within the FM disciplines (see 2.3.1.1 Range of FM Services) influences their formal communication, as highlighted in Table 42, these derivations come from results in level 2 and 3 induced communication.

Table 42: Communication structure differences across FM disciplines, source: self-study

FM discipline	Particularities
Catering	On operational level importance of morning assemblies to situationally inform on the day's events Teamboard and to inform over shifts and part time to deliver non-electronic information
Housekeeping	Unskilled employees, teamboard, in comparison with other disciplines fewer staff meetings, due to electronic communication not accessible to all, also nature of tasks such as cleaning high degree standardised and hence need for situational information less than in other disciplines.
Infrastructure / Engineering	Skilled employees, importance of system-based information feeding communication (CAFM), project based information to maintain and develop technical infrastructure, including the technological progress
Procurement & Logistics	Rolling overview of procurement activities serve as meeting basis in both cases, because procurement projects evolve over time and include actors beyond the FM department hence a well-structured overview is crucial

Based on the detailed communication structures happening in the different FM disciplines it can be concluded that the higher in the hierarchy, the more strategical/tactical communication using written and electronic channels takes places, while on operative levels oral communication (morning assemblies) with the use of conventional pin boards / team boards is preferred. In addition, educational backgrounds and language skills impact the way it is communicated, (see upcoming discussion on communication challenges). Another aspect defining differences between FM disciplines and between the two cases is the size of the department and divisions in combination with being a single or multiple sited hospital. Scott and Marshall (2009) advocate focusing on and analysing the structures of an organisation including the nature of staffed

positions in it, the powers and duties attached to these and how they work towards organisa-tional goals as an essential management task. An issue in the Harvard Management Update (2006) also emphasises on the importance of learning what makes subordinates tick and using that knowledge to appeal to their particular goals, motivations and interests by building per-sonal relations. Taking into account the mentioned four-page communication model of Schulz von Thun (2008), see Figure 21 p.58, potential fails of each of these four parts caused by the FM diversity can be reduced by actively detect and acknowledge any differences. This active focus on differences and the need to overcome them is crucially important to determine a fitting FM communication, because, paired with different communication styles, this can be very challenging, especially while being in a conversation, hence directly communicating with someone. Goulston (2013) states that people who consider themselves good communicators often fail to actually hear each other due to a mismatch of communication styles and that chances for either person actually listening with an open mind are very low. Hence, it can be derived that the strength of FM being such a heterogeneous department is easily not used as that.

Based on the above, the detected diversity in the formal communication structure is on one hand positive, as it is fitted to the specific needs of the individual FM disciplines. Moreover, it indicates that the important management task of detecting and working with different needs of organisational parts and staff within these is carried out. On the other hand, the different rhythms provide a challenge for a neat communication cascade top down, especially when the meeting rhythm of the department level is less than the one on division and subdivision level. Besides the different needs for formal communication elements, different foci on meeting con-tent emerge from this diversity, as discussed several times throughout this chapter.

Based on the above, Table 43 presents the derived key elements for the topic of FM diversity within formal communication.

Table 43: Key elements – FM diversity, source: self-study

Key elements supporting optimal communication: *formal communication*
FM diversity
Aim: FM diversity is recognised and considered as an asset.
Key aspects
• *The different needs of communication activities across the FM department are identified and reflected in the formal communication structure*   • *FM diversity is actively addressed on all organisational levels*   • *FM diversity is jointly seen as an asset and not as a challenge*

Taking into account the above discussed elements of formal communication it can be stated that an organisation-specific formal communication structure needs to be consciously fitted, taking into account the peculiarities of the FM department and its disciplines, respectively the different requirements of staff working within them. The results of this thesis provided the com-munication structures of the two cases in a visual way. This turned out to be a useful way to detect the level of alignment of existing elements of formal communication.

6.1.2 Informal Communication

The interpretative summaries of the three major categories to emerge, do provide initial themes / concepts to be further discussed here, leading up to this element's key aspects.

Participants' PERCEPTION of informal communication within their respective contexts is predominantly positive. Based on the definition of informal communication, (see 2.4.1 Definition), this is a pleasant result as the "grapevine function" of informal communication (Jian, 2013) is a major tool influencing communication, hence FM communication, as a whole. Attributes leading to that positive perception describe informal communication to be open and uncomplicated, providing a direct link to the definition of effective communication, see 6.4.1. By implication, and in accordance with Jian (2013) suggestions, executives are advised to recognise and set up mechanisms to monitor informal communication activities and especially how they are perceived.

Despite informal communication referring to unsanctioned communication between organisational members (Jian, 2013), the prerequisite LINE ADHERENCE turned out to be a category contradicting this definition. It interrelates with the hierarchy level of the participant's position. The subcategory OPEN DOOR POLICIES from the category spatial reference indicates that such policies are in place across line hierarchies but bypassing the line is indicated as a strong "no-go". Hence, LINE ADHERENCE should also be part of executives' monitoring duties to foster a positive PERCEPTION of informal communication.

The role of technological and spatial factors is not predominantly linked with informal communication activities (Johnson, 1992), but results of this thesis indicate that these factors are tightly linked with it, because the developed category SPATIAL REFERENCE contains three subcategories referring to these factors. This is especially interesting, as the question, triggering opinions on informal communication, did not mention any of these factors. The subcategory BREAK is based on controversial results. While its importance for informal communication is frequently affirmed, opinions on whether or not a line manager shall take the break together with subordinate staff are divided. Also the range of BREAK use reaches from being purely recreational to providing a set-up to pass on information. Hence to find an appropriate balance of a manager taking part in breaks, using this set-up as a positive communication leverage (Jian, 2013), and to leave staff freedom to perform and benefit from their own informal time, the use of BREAK needs to be consciously determined and incorporated as part of the communication structure. The third sub-category reveals that the benefit of informal communication is both restricted and enhanced depending on SITE SPECIFICS. Hence, managers of FM departments across different sites need to factor that in to support the benefit and avoid restrictions due to such SITE SPECIFICS. This is supported by Kraut et al. (1990) stating that informal communication is generally mediated by physical proximity, and that substitution of personal encounters through electronic means involves too many trade-offs, hence face-to face encounters support informal communication the most.

In addition, formal communication elements do contain informal aspects too. Meinecke and Lehmann-Willenbrock (2015) allocate this channel providing a window into social dynamics in the workplace. Hence it can be derived that the way informal communication takes place and is perceived influences meeting procedures and through that meeting satisfaction. Therefore while analysing formal communication structures the informal aspect needs to be considered within those too.

Based on above, Table 44 presents the derived key elements for the topic of informal communication.

Table 44: Key elements – informal communication, source: self-study

Key elements supporting optimal communication: ***informal communication***
"The grapevine"
Aim: conscious use of informal communication options, taking into account 5 aspects that are particularly relevant for FM.
Key aspects   • *How employees perceive informal communication is identified, analysed and consciously addressed*   • *The importance of line adherence within the FM department's informal communication structure is determined and accordingly adhered to*   • *The value and usage of break time is consciously determined*   • *The degree of how the open-door policy is applied is consciously defined and adhered to*   • *Site specific's influence on informal communication activities (e.g. in hospitals with multiple sites) is analysed and consciously addressed*

This discussion about formal and informal communication structure shows, that despite similar communication channels being in place, the diversity of FM is reflected by using these channels differently in different FM disciplines. However, this FM diversity proves to be both an asset and a challenge impacting communication activities, as upcoming chapters continue to disclose.

6.2 Scheduled Meetings - Document Analysis

Various aspects of scheduled meetings have been discussed before under the aspect of scheduled meetings being an important communication channel within the formal FM communication structure. That discussion is based on results from the qualitative interviews and the quantitative survey. These insights are now enriched by discussing and adding the results of the document analysis to the important element of scheduled meetings. To do so the formal structure of minute meetings is analysed firstly, followed by discussing the revealed results on their content.

6.2.1 Formal Structure

With reference to the common schematic representation of the structure of meeting minutes, see section 2.4.3.2, it was stated in the results chapter that the documents analysed do contain

the required formal elements. The way these elements are represented is similar in the minutes within the two cases as organisationally defined document templates are used to write minutes. In view of the items represented within the minutes also a similar structure is visible within and across the two cases:

- top down information given by department / division / subdivision head
- dedicated items for representatives of each participating division / sub division
- standing items of general interest to all participants: such as quality, staff, miscellaneous

This common structure is very static. Based on the structure and phrasing of the agenda items no active elements indicating collaborative tasks are visible. The dedicated, lateral items for each participating FM division / subdivision are structured one after the other, with preliminary top down information. The question remains open, whether this static structure is consciously defined as matching or whether it has just evolved over time and might be in need of being revised. For example taking the environmentally induced challenge of facing cost pressure, see 6.2.2 Minute Content, it might makes sense to call agenda items something like "actions against cost pressure" within that all participants discuss joint actions contributing to the topic and hence strengthen the collaborating meeting purpose as emphasised by Drucker (2007), especially as the different backgrounds around the meeting table due to FM's diversity provide an excellent base to jointly collaborate on a common theme. Schwarz (2015) even suggests phrasing agenda items as questions, to trigger collaborative actions at the meeting.

In both cases, the document used to write the minutes, acts as an agenda in advance of the meeting. It is used as a "pre-minute document" meaning that meeting participants are required to enter the topics they want to raise at the meeting into the document upon a defined deadline. This practice is common in Switzerland. However, this procedure does not sufficiently work to the satisfaction of the meeting chairs within and across the two cases, as the following quote indicates: *«I have not yet found the optimal way to do it»* (source: IP#19). Practice partly follows the suggestion of Schwarz (2015) as participants are required to include items of their needs. However, this does not address agenda items directly but informative content of their already dedicated agenda slot,

Data analysis further revealed that the writing style of the agenda / minute documents is highly fragmented, contradicting the suggested clarity and comprehensiveness of Markel (2010), making the historical function of the minutes provided by a narrative of activities (Stanton, 2004) not thoroughly self-explanatory for readers not being an FM executive / meeting participant of the particular FM department.

6.2.2 Minute Content

Chapter 4.5 shows the results of the document analysis via hierarchy charts and coding summaries level by level, discipline by discipline. The following figures take these results a step further by presenting and discussing the results summarised by level 1 and level 2 minutes of

both cases. Figure 107 visualises the content in level 1 minutes of case 1 and case 2 by presenting the minute content itemised by the three main coding categories in a bar chart.
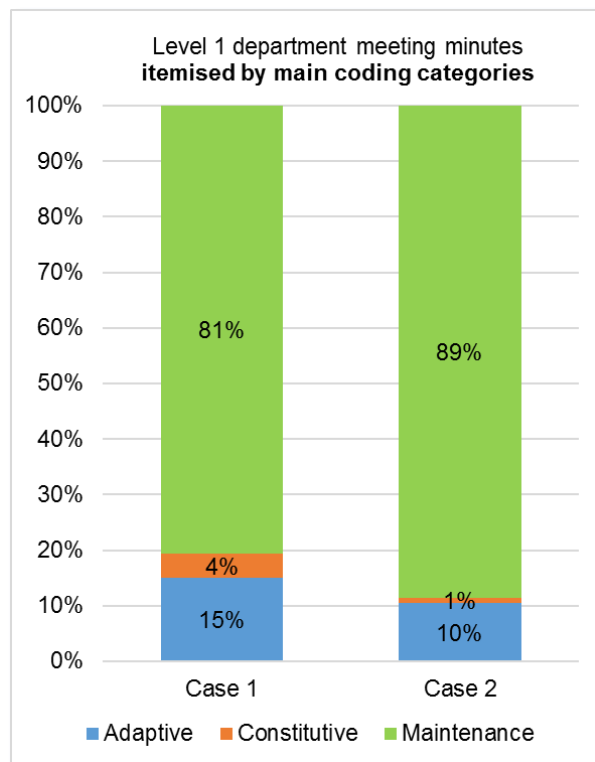
Figure 107: Level 1 department meeting minutes itemised by main coding categories, source: self-study

Figure 108 visualises the content in level 2 minutes of case 1 and case 2 also by presenting the minute content itemised by the three main coding categories in a bar chart. It shows a similar picture as the itemisation of the level 1 minutes.
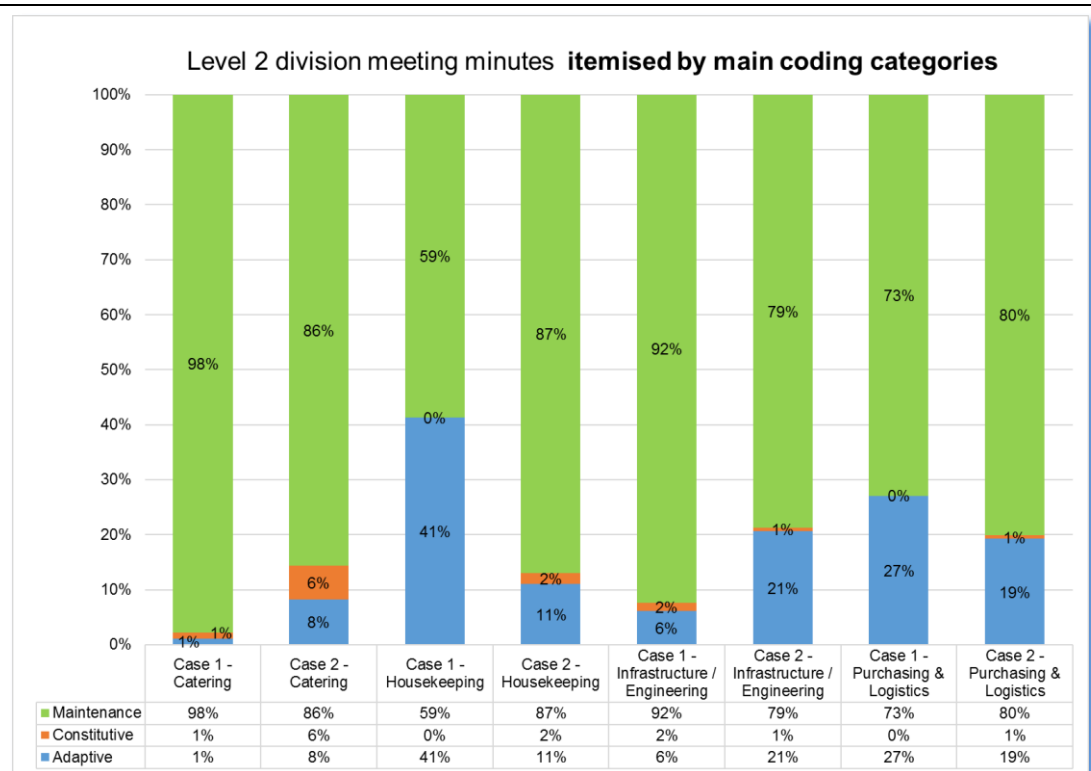
Figure 108: Detail information dedicated minute content – Level 2 division meetings, source: self-study

The figures clearly show that many more maintenance elements, represented as items of information, than constitutive elements, represented as hints of discussion with conclusions reached within the meetings were detected, despite the constitutive function of meetings being the one element that uses the collaboration potential of meeting participants for the benefit of FM.

These results contradict literature stating that scheduled meetings should be a platform for productive collaboration across disciplines (Romano and Nunamaker, 2001), especially as maintenance elements contain information exchange within FM that is "nice to know" but not explicitly necessary for all meeting participants to maintain their processes. Further the literature section stated that employees evaluate almost half of their meetings as ineffective (Schell, 2010, Lehmann-Willenbrock et al., 2016). Employees sitting in such FM meetings expecting a sense of cooperation will certainly evaluate the meeting negatively, whereas clarification on meeting purpose and managing expectations improves meeting perception and hence the use of meetings as such. This likely reason for dissatisfaction is supported by Schwarz (2015) stating that it is difficult for meeting participants to participate effectively if they do not know whether to simply listen, give their input, or be part of the decision making process. According to the same author, this possible unclarity is also reflected by the way items are put on the agenda, as stated in the previous subsection.

Figure 109 visualises the maintenance category of level 1 department meeting minutes itemised by FM disciplines. Level 2 division meetings have not been itemised per FM discipline as they focus on just one discipline, meaning their respective division such as catering or cleaning.
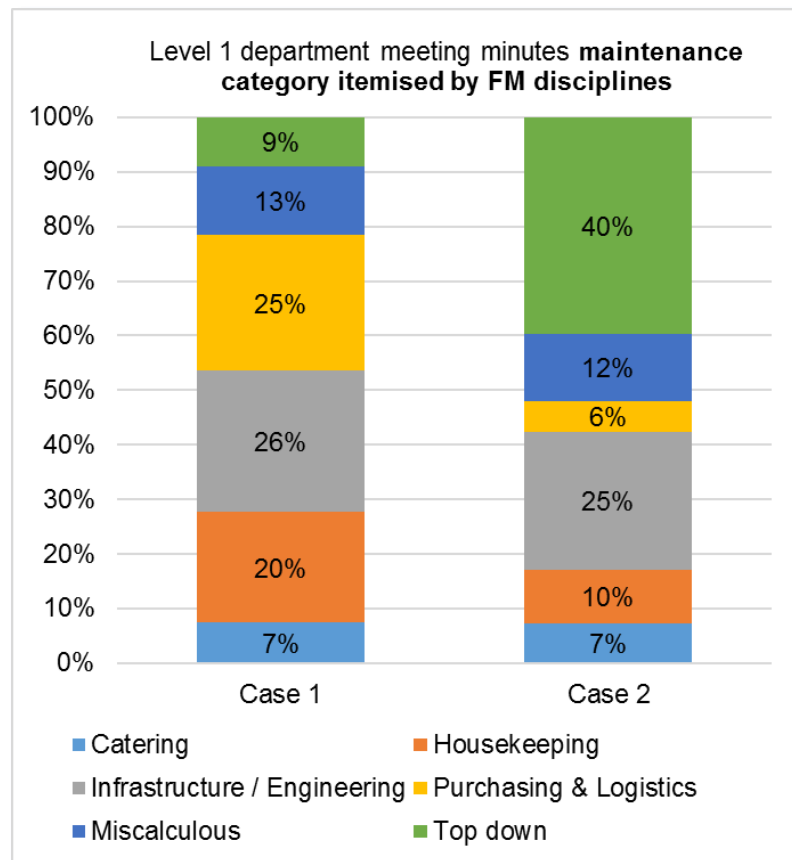
Figure 109: Level 1 department minutes maintenance category itemised by FM disciplines, source: self-study

The results differ across the cases, but infrastructure / engineering content consumes many items, which reflects the complex nature of this discipline. Still, in light of an aspired positive meeting satisfaction, results suggest that a conscious evaluation of how balanced the meeting content is in terms of time and items given to the participating representatives of the FM department is of benefit. From that also the informal component of the meetings can benefit, see section 6.1.2 Informal Communication.

However, the common things bonding FM disciplines together is the impact that the organisation's and environment's demands cause on the FM department as a whole. From that perspective, more collaborating elements should be represented in the minutes. Schwarz (2015) states that participants not spending most of the meeting time talking about interdependent issues will disengage. Based on the data such a focus on interdependent issues is not yet the case. This shows also the sparse results of the analysis considering interdependent catchwords indicating challenges FM in hospital faces, (see section 4.5.6 Evidence of Hospital Challenges). Even though the number of 152 accounting for the largest word "Saving" seems high, based on the total number of 1,420 Pages, this number, and the quickly decreasing ones of the other words, does not provide significant evidence that current hospital challenges are sufficiently represented in the minutes and through that are leading agenda items at the meetings. This matches the discussion of the quantitative study, as displayed in Figure 106 p. 193

indicating that the fundamentals of cost and process transparency are not consistently seen as the basis for any actions.

The method leading to these results provides a systematic procedure for FM executives to analyse and if applicable improve the purpose of their meetings. In times of a tightening financial environment within the healthcare context, available resources such as meeting time must be used to their full extent.

Based on above, Table 45 presents the derived key elements for the topic of scheduled meetings.

Table 45: Key elements scheduled meetings - minutes, source: self-study

Key elements supporting optimal communication: *formal communication*
Scheduled meetings: Conclusion from minute analysis
Aim: effective and efficient use of meeting resources
Key aspects   • *Meeting minutes – hence meetings – are systematically looked at by asking: what meeting time is actually spent with: adaptive, constitutive, maintenance activities*   • *Based on this systematic look, it is consciously decided on whether the meeting content fits the resources used*

6.3   E-mail Communication

The increasing amount of this communication channel has been introduced as part of communication challenges in the background chapter. Based on the results, this increase is confirmed for the context of FM in hospitals with 71% of respondents agreeing or strongly agreeing to it. In addition, almost half of the respondents are agreeing that the handling of e-mails should be consciously addressed in their organisations. This is supported by the result of 73% of the respondents stating that there are either no clear rules defining the handling of e-mails available or that they do not know whether or not such rules exist. In his study Mintzberg (2015) revealed managers' preference to gravitate their time towards activities that are current, specific, well defined and non-routine and that they prefer "hot", instant information, see 2.4.1. This matches the results of 76% of participants either agreeing or strongly agreeing that their email programme is always open. This match remains, even though the item that e-mails are checked right upon their arrival is answered diversely (10% strongly agree, 24% agree, 29% are undecided, whereas 25% disagree and 11% strongly disagree).

Test-statistics did not reveal a significant correlation between the number of e-mails sent / received and the managerial responsibility. Hence, the increasing e-mail traffic is a challenge to be handled across the FM department. Considering the average numbers of e-mails received in one working day and combining these results with e-mail interruptions being a drain on productivity (Jackson, Dawson and Wilson, 2003; McMurtry, 2014) and with the above stated results on usage of the e-mail programme and practice of immediate checking of received e-mails, it can be concluded that e-mails are a productivity drain also in the particular context of FM in hospitals. Slightly contradictory to these results are participants' responses

on having their e-mail inbox under control, which is agreed and strongly agreed by 75% of them. Still, the introduced challenges of e-mail communication also apply for this context. From that it can be further derived that clear e-mail policies should be in place to assist FM managers and employees using e-mail communication both effectively and efficiently.

The need for a policy can be derived by **evaluating the problem of e-mail overload** in the organisation. To do so, Span (2007) reports six symptoms to consider, see Table 46.

Table 46: Symptoms indicating e-mail overload based on Span (2007)

Symptoms indicating email overload
• e-mail backlog of unanswered and unread e-mails in the inbox
• low responsiveness by e-mail replier
• e-mail stress directly affecting employees wellbeing
• e-mail guilt due to not being able to respond in time
• large and disorganised inbox with lost track of which e-mails still have to be answered
• implication on private life referring to employees also dealing with e-mails in their time off work, this matches with the challenge of mobile work as mentioned in chapter 2.4.3.

The question remains which components such a policy should include. This requires a analysing causes leading to e-mail overload in conjunction with solution approaches, as displayed in Table 47.

Table 47: Causes of e-mail overload and solution approaches based on Gulati (2007), Vacek (2014), McMurtry (2014), Agema (2015), Sarrafzadeh et al. (2019), Marulanda-Carter and Jackson (2012),Gupta , Sharda and Greve (2011) and Sarrafzadeh, Awadallah and Shokouhi (2019)

Causes of e-mail overload	Corresponding solution approaches
• **The cc syndrome:** originally, the intention of this function is that only the persons in the address bar have to reply. The addressees in the cc bar were not required to respond. Content is not necessarily relevant for the cc receiver. However, the receiver does not know that beforehand and has to at least scan the message for relevant content.	• Consciously reduction of cc-lists by judicial use of both *cc* and *reply to* field.
• **Overproduction:** occurs when people send email when other communication tools like the telephone would be more effective. Typical are internal replies – meaning that two colleagues within one organisation both spent time writing an email and replying to it. E-mails tend to be abused for this purpose with an excuse that a phone call might be disturbing for the other person.	• Reduction of the number of emails, also by increasing the usage of other communication tools when it seems more effective or efficient to use them instead. Especially as based on this thesis results the distribution of sent and received email indicates that the majority of e-mail traffic happens internally, see section 5.5.1.
• **Constant interruption:** Feelings of e-mail overload increase when being constantly interrupted by incoming messages.	• Literature suggests the optimal number of times for checking e-mail being two or four times per day, depending on types of employees. It is further suggested to deactivate the notification when dealing with a task, which asks for a certain level of concentration.
• **Multiple subjects:** results in difficulties filing of the e-mail. A second problem arises when multiple people are addressed with not all subjects being important for everyone. Hence each recipient has to read through irrelevant information and likely gets replies on subjects of non-importance.	• Reduce content of e-mails to one subject per message. Especially with e-mails addressed to a number of people, because a receiver being uncertain about how to deal with one subject, will not send a reply before all the questions in the e-mail are dealt with, which delays processing the e-mail.
• **Unfitting subject titles:** causing the receiver several problems. The message has to be scanned in order to determine the importance of it and it may lead to difficulties in prioritizing the e-mail in order to effectively deal with a potential backlog.	• Consciously decide on fitting subject header indicating both content and importance of the message. It is also suggested to agree on common header categories within an organisation to ease the use of fitting subject titles.
• **Exclamation Mark:** the goal of this functionality is to gain attention from the receiver in order to increase the speed of the e-mail to be dealt with. An over usage of it undermines this goal	• Contacting receivers beforehand creates a mutual understanding of the following e-mail. This can boost response time as the receiver can adequately schedule to answer the e-mail.
• **Lack of Training:** includes supportive key features of e-mail programmes not known by the users, and other deficiencies slowing down email processing such as not being able to touch-type.	• Here a direct link to a previously mentioned key element can be made: Alignment of staff skills with the available communication channels has to be ensured. See chapter 6.1.1.1
• **Pressure to respond:** people feel they must immediately respond to e-mails, when this it is not possible a sense of guilt arises. Especially as many e-mails are sent without a clear timeframe, in which the email should be answered by.	• Adding 'reply before date' to e-mail messages creates profit for both sender and receiver. The sender approximately knows when to expect an answer, and the receiver can plan answering the e-mail.

• **Attachments** – e-mail is not a document management system and does not support versioning, it has limited storage per user and creates redundant copies of files for each recipient. Users tend to defer e-mails when handling them involves replying, reading carefully, or clicking on links and attachments.	• Document management should not take place via e-mail. The use of shared file storage instead of sending attachments is suggested, especially for internal email communication.

Despite these solution approaches serving the development of an organisation wide e-mail policy, Gallo (2012) poignantly states that such a policy will not solve e-mail problems but employees have to focus on their own behaviour as their direct area of control. Taking into account the diversity of FM, including the different background of executives and employees working in it, it is clear that such a policy cannot paint email usage with the same brush. However, the solution approaches are aligned with the empirical results of this thesis and do provide key aspects for the aspired communication framework.

Based on the above, Table 48 presents the derived key elements for the topic of e-mail communication, which is part of formal communication.

Table 48: Key elements - e-mail communication, source: self-study

Key elements supporting optimal communication: *formal communication*
Email communication
Aim: a conscious use of e-mail communication.
Key aspects
• *Opinions regarding e-mail usage within the FM area are identified, a potential overload is detected*   • *Specific causes of e-mail overload are detected and addressed*   • *The existing policy on e-mail communication is jointly reviewed or such a policy, supporting employees to cope by stating corresponding solution approaches, is developed*

6.4 Communication Experiences & Beliefs

The interpretative summaries of the major categories emerging from the qualitative data do provide initial themes / concepts on communication experiences & beliefs. These are now being discussed in conjunction with the corresponding results of the quantitative data and background information. Whereas the previously developed key elements specifically addressed items of formal and informal communication, characterised by predominantly tangible elements, the key elements of communication experiences & beliefs are of a much more intangible nature. As the following discussion reveals, they do influence communication activities per se, resulting in key elements being used to check every other key element against.

6.4.1 Effective Communication

Referring to the definition of effectiveness as doing the right things (Drucker, 2007), (see section 2.2.2.5), effective communication is the prerequisite for the variety of communication

channels used within hospitals' FM being used efficiently. The identified attributes leading to communication being experienced as effective, see Figure 47, apply to both written and oral communication activities. Literature characterises effective communication as the result of well-working communication elements (Tomescu-Dumitrescu, 2016), which can be traced back to the for-page communication model of Schulz von Thun (2008). The results of the primary findings from this qualitative work in the specific case setting do compare with existing literature, as they are stating characteristics of effective communication clearly relating to this communication model. How, is elaborated in detail in the next passage.

Hence, executives are advised to scrutinise their communication activities against these attributes to enable effective communication. To do this in a structured way, the identified attributes need to be somehow categorised. To do so, the communication model from Schulz von Thun (2008) as introduced in section 2.4.1, provides a structuring frame. Based on their semantic content, the attributes have been assigned to one of the model's four layers, as displayed in Figure 110. Thereby the numbers in brackets (1, 2, 3) refer to the significance they were assigned, as displayed in the word-cloud of the attributes, see Figure 47. The process of assigning the attributes to these layers further enabled the researcher to group them in sub-categories, written in bold, summarising their meaning. Hence, the results of what is perceived as effective communication within the context of FM in hospital can be assigned to three of the four layers of the communication model and these three categories contain a total of five sub-categories. These are categories FM executives are advised to check their communication activities against to enable and ensure communication is effective. Interestingly three of the five attributes with significance level (1) are assigned to the self-revelation layer, indicating that this layer contributes considerably to how communication activities are perceived.
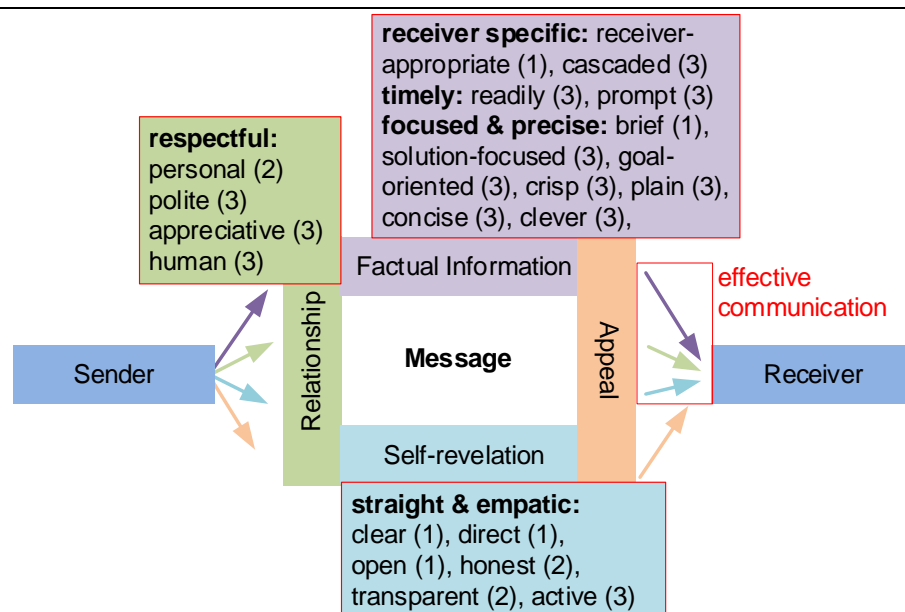
Figure 110: Attributes of effective communication joint with the communication model, source: self-study based on Schulz von Thun (2008)

The results of the interviews do not enable a clear distinction of whether these attributes are seen from a sender or receiver perspective. However, based on lacking attributes for the appeal layer, it can be derived that they especially apply to the receiver perspective. From that one, the appeal layer is the accumulation of the three other ones. This is further supported by the way the interview question was posed: What is it "for" you and not how "do" you do it.

Based on the above, Table 49 presents the derived key elements for the topic of effective communication. The intangible nature of the results was overcome by thoroughly assigning the results to a profound theoretical concept, the communication model.

Table 49: Key elements – effective communication, source: self-study

Key elements supporting optimal communication: *experiences & beliefs*
effective communication
Aim: communication activities are checked against the perceived characteristics of effective communication.
Key aspects   • *The factual content of any message is communicated receiver specific, timely and focused & precise*   • *The relationship indicator of any message is characterised by respect*   • *The sender reveals him-/herself as a straight & empathic executive*

6.4.2 Challenges, what works well, what could work better

Results revealed that the developed categories of communication challenges, what works well and what could work better share similarities. Due to that, these three aspects are discussed in one subsection. To do so, Table 50 initially presents a joint matrix display of the interpretative summaries of the three items, displaying these similarities.

Table 50: Joint interpretation of communication experiences and beliefs, source: self-study

Category	Interpretative summary **challenges**	Interpretative summary **what works well**	Interpretative summary **what could work better**
CLARITY RULES STRUCTURES	Not to get tangled up in communication procedures due to lack of CLARITY RULES STRUCTURES is frequently mentioned.	Participants consider STRUCTURE of meetings in their command as working well, written RULES about communication landscape are considered as useful.	Even though participants consider existing CLARITY RULES and STRUCTURE as useful (link what works well), there are aspects in need of more attention -cc handling and accessibility stand out.
clarity rules structures TIME	TIME is mentioned as an essence causing negative meeting perceptions and also referring to the short-term nature of information to be adequately passed on.		
AMOUNT & COMPLEXITY	Reference to AMOUNT & COMPLEXITY is	Relation to CLARITY RULES STRUCTURES as the presence of that in	

	made on all levels throughout the cases.	form of clear processes help to handle AMOUNT & COMPLEXITY (just 1 code)	
LANGUAGE & CULTURE	LANGUAGE & CULTURE Includes besides insufficient German language skills also references to intellectual capacities of information recipients.	In contrast to the same code used in challenges, here it is focused on the CULTURE within management team, which is shaped as open, trustful and transparent.	Despite CULTURE being considered as open and trustful (link what works well), participants mention that there still is a silo mentality between FM disciplines. Further interdisciplinary communication within the whole hospital still has potential to work better. It is mentioned that FM should position itself better as part of the whole hospital.
Language & culture EMOTIONS	Detection and Handling of underlying EMOTIONS hindering communications		
TO BE UNDERSTOOD	Strong reference of TO BE UNDERSTOOD to the communication model and its sender receiver component.		
TO BREAK DOWN	The ability TO BREAK DOWN information receiver appropriate strongly relates to AMOUNT & COMPLEXITY as well as to LANGUAGE & CULTURE		There is a contrast within this category on one hand participants mention that despite the FLOW to pass on information down hierarchy working well (link what works well), comprehension of the information that is broken down could work better. On the other hand, the interest staff have to comprehend the received information is questioned.
To break down FLOW		FLOW of information participants receive from top down is widely considered to work well, does not seem related to the challenge of breaking the information further down.	Accessibility of communication MEANS can disrupt communication processes as accessibility differs between hierarchy and FM discipline. The use of Email communication could work better, this is related to CLARITY RULES and STRUCTURE
USE OF MEANS	There is a strong relation of USE OF MEANS to LANGUAGE & CULTURE	Reference to the benefits of informal communication and effective communication by the use of face-to-face communication	

The table shows that the categories CLARITY RULES STRUCTURES, TO BREAK DOWN and LANGUAGE & CULTURE are the ones with interpretative summaries in each of the three queried areas. This indicates that these categories have a central role in how communication is perceived by the interview participants. However, whether this centrality is significant cannot be stated. The results of the quantitative survey, where the participants were provided with a

list of challenges and they had to tick the ones they agree to be challenges, did not state these categories to be the major challenges, see Figure 81.

Considering more closely the category CLARITY RULES STRUCTURES it shows that a lack of that is seen as a major challenge, while availability of it is seen as an asset ("What works well"), that still has room for improvement ("what could work better"). The interpretative summaries of this category and its subcategory TIME align with communication obstacles outlined in section 2.4.3.4. The importance of aligned and clear rules and structures as a prerequisite for any formal communication activities is supported by the nature of FM in hospitals. Its diversity, as detailed in section 2.3 and in light of communication in section 2.5 provides a challenge in itself, enforcing the prerequisite of clear communication structures for optimal FM communication. Moreover, this enforces the importance of the aforementioned developed key elements, especially the ones supporting an aligned formal communication structure and hence supporting FM executives to shape this prerequisite.

Categories not having interpretative summaries in every area are worth evaluating too, because also the absence of interpretative summaries has inferences. Taking the category AMOUNT & COMPLEXITY. It is mentioned as a challenge throughout all hierarchical levels in both cases and this challenge is rated as one of the major ones in the quantitative survey, see Figure 81. This strongly corresponds with what was outlined in section 2.4.3.1, revealing information overload as one of today's major communication challenges. Hence, it can be concluded that this major challenge also applies to the specific setting of FM in hospitals. The idea of too much information, impaired by multiple formats and channels available for its communication (Bawden and Robinson, 2008), in this setting is further supported by the different communication channels used, see chapter 6.1.1.1. Especially by results out of the category USE OF MEANS, referring to different levels of literacy to appropriately use these channels, leading to the derivation that this again fosters the perception of information overload. A further aspect fostering information overload are the numerous challenges hospitals are facing, increasing the already high complexity of healthcare as such, as outlined in section 2.4.5. As indicated in Table 50, there is just one (1) code for what works well in the category of AMOUNT & COMPLEXITY. This does not classify it as a pattern and hence a category (Saldana, 2016). However, it was kept because the absence of a pattern is interesting. It can indicate that the handling of communication amount and complexity is not coped with predominantly well, which again supports the challenge of information overload.

The interpretative summaries of the category LANGUAGE & CULTURE strongly refer to the cultural awareness being a prerequisite for any complex organisation to function as proposed by Schein (2010), outlined in section 2.2.2.1 and to the importance of shared "Norms and Values" and "Concerns and Interests" as emphasised in the new St. Gallen Management model Rüegg-Stürm (2005), described in section 2.2.2. Besides that, it also refers to the heterogeneous nature of FM, with language barriers due to multinational staff, which again implicates the category TO BE UNDERSTOOD.

The strong reference in the category TO BE UNDERSTOOD to the communication model and its sender receiver component underpins the aforementioned elaborated aspects in the key element about effective communication. It neatly states a challenge whose formulation at first glance seems very simple but as a closer evaluation subsumes the essence of any communication activity.

Considering more closely the category TO BREAK DOWN, its strong relation to the categories AMOUNT & COMPLEXITY and LANGUAGE & CULTURE makes sense as executives are constantly required to decide which aspects out of the large and complex amount of information they receive has to be broken down, addressing different receivers. The process of breaking down is largely characterised by the diversity of information receivers shaped by the nature of FM in hospitals. This fits the interpretive summary mentioning that comprehension of the information that is broken down could work better and explains that the interest staff have to comprehend the received information is questioned.

And lastly analysing the category USE OF MEANS: Results of qualitative and quantitative data revealed that literacy to appropriately use existing communication channels is very diverse, depending on personal attributes such as educational background, age (digital native or not) and language competency, which justifies the relation of this category to LANGUAGE & CULTURE.

In conclusion the categories developed in the area of "what could work better" support the categories developed in "challenges" and the challenges provide relevant content for FM executives to consider and hence find their way into the communication framework. From a methodological perspective, it can be stated that the relations between the three areas of the categories provide data triangulation, supporting the robustness of the results. However, even though the above discussion is grounded by referring to the background section of this thesis, there is still an amount of intangibility attached to it.

To overcome this, a communication model again provides a structuring frame, as it did before with "effective communication". But, the previously used communication model from Schulz von Thun (2008) as introduced in section 2.4.1, does not provide an adequate fit to attach the challenges to, since it focuses on attributes of messages, perfectly fitting for the results of "effective communication", but the elaborated categories of communication challenges contain more than just attributes. Therefore the extended communication model of Shannon and Weaver (1949), also introduced in section 2.4.1, provides the required fit.

Figure 111 shows the result of joining the results of the communication challenges, from Figure 81 aligned with their categories of Table 30 within the context of FM in hospitals with the communication model. The numbers in brackets indicate the relevance based on the count of the challenges within the quantitative study, 1 being the most relevant, 10 the least. The process of doing this alignment revealed that the challenges act as noise, potentially disturbing optimal communication; hence information is not received by the recipient as intended by the sender.

Whereas the original model simplistically attaches noise to the "channel" information is transmitted with, the modified model of this thesis differentiates the noise by attaching the challenges to the elements where they are likely to disturb. It is visualised that in the step of encoding and decoding information things can go wrong. Whereas "information overload", and the prerequisite of "clarity rules structures" are underlying both senders' and receivers' capabilities to encode and decode information. In addition, the most relevant challenge "TO BE UNDERSTOOD" aligns with the feedback loop, the application of which enables us to check whether this challenge has been overcome. One challenge queried in the quantitative study refers to leadership style, influences the process of decoding, revealing something about the sender, hence it is coloured the same as the self-revelation element in Figure 110.
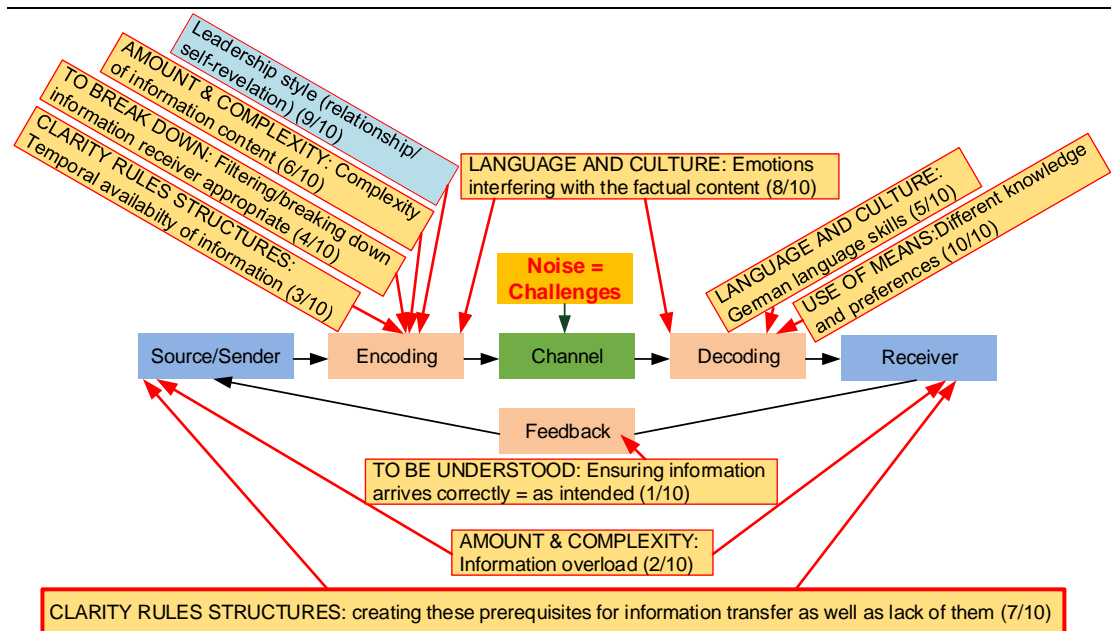
Figure 111: Communication challenges joint with the communication model, source: self-study based on Shannon and Weaver (1949) and Nerdinger (2019)

Based on the above, especially on Figure 111, Table 51 presents the derived key elements for the topic of communication challenges. As stated in the introduction of section 6.4, they do influence communication activities per se and hence are used to check every other key element against. Moreover, other key elements already contain aspects addressing the challenges. For example, by providing guidance in how to develop various elements of the formal communication structure directly addressing the challenge category CLARITY RULES STRUCTURES.

Table 51: Key elements – communication challenges, source: self-study

Key elements supporting optimal communication: *experiences & beliefs*
Challenges
Aim: communication activities are checked against frequently experienced challenges influencing the perception of communication being effective and efficient.
Key aspects   • *Amount and complexity* of information content and information overload   • Receiver appropriate *breaking down / filtering* of information   • The absence as well as the creation of *communication rules and structures*   • *Language and culture* related to emotions that disturb the factual level of information and often lacking German language skills of FM employees   • Poor use of *communication channels*   • Information is **not understood** as intended by the sender

6.4.3 Communication in 10 Years

Results of both qualitative and quantitative data suggest FM communication in hospitals will become more digital. A development containing ambiguities as it contains both opportunities (change in use of communication channels) and concerns (fear of decrease of human interaction). This fits what was stated in the background chapter on what organisational communication is and especially on its challenges and obstacles executives have to consider, see sections 2.4.1. and 2.4.3. It further fits with the development within healthcare, where technological progress is shaping the future, influencing also FM in hospitals. On the other hand, the characteristics of FM in hospitals, as shown in sections 2.3.1 and 2.3.2. need to be taken into consideration while evaluating future trends in communication. So the level of digitalisation at operational level is rather low, (see results on formal communication structures), illustrated by this quote: «*we were shocked to see how many employees do not yet have a private email address*» (source: IP#15). Further the hospital environment is part of the politically fostered public healthcare industry, where the introduction of contemporary structures is much slower than in the corporate sector, as poignantly stated by this quote: *«in my view, there will be no significant change. Healthcare is very much about keeping old practices, rarely willing to accept new ones»* (source: P#64).

This initial situation requires awareness to consciously introduce innovation and corresponding chance of communication activities. This awareness requires knowledge management as well as leadership including technical or functional expertise to combine complementary skill sets (Rogers, 2004) among staff within the FM department. Earlier Pathirage et al. (2008) were cited emphasising that understanding the types of knowledge facility managers may need, use and create in the future is an important area for investigation for FM organisations to remain competitive. For the situation of FM communication, this means that FM executives need to be aware of the different trends influencing FM communication mainly pushed by digitalisation. Hence, they need to adequately introduce it to their own organisation, addressing fears accompanying this trend and overcoming the complexity of communication in hospitals, as stated

in sections 2.4.5 and 2.5. In order to proactively and consciously meet the trends leading to the future of FM communication, Table 52 states the key elements of "future communication" displaying the essence of this thesis empirical results, discussed in light of the background material.

Table 52: Key elements – communication in 10 years as "future FM communication", source: self-study

Key elements supporting optimal communication: *future FM communication*
-
Aim: the trend is being monitored in response to changing demands on technology and employee skills.
Key aspects   • *There is an FM specific strategy in place for dealing with increasing digitalisation*

6.5 10 Key Elements for the Framework

This discussion chapter identified 10 key elements supporting an effective and efficient FM communication in Swiss acute hospitals. Key elements that according to its introduced purpose need to be represented in the FM communication framework. These elements are now transferred into the next synthesising chapter, the development of the initial FM communication framework.

7 INITIAL FM COMMUNICATION FRAMEWORK

Now, the carefully derived content of earlier chapters culminates in this chapter by presenting the essence of the discussion: the initial communication framework. According to this thesis's research aim, the aspired communication framework should stipulate the criteria FM executives are advised to address in order to communicate effectively and efficiently. In order to comprehend the benefits of such a framework the nature of frameworks as such is evaluated, providing the basis for the subsequent introduction of the initial communication framework.

7.1   The Nature of Frameworks

So far, the term "framework" has been used many times in this thesis. Surely, the reader has a view on what a framework is. For example, the methodological framework of this thesis, whose meaning is quite clear. However, in order to prepare the reader for the construction of this thesis's ultimate goal "the FM communication framework" a semantic reflection of the definition of the term framework is necessary. Table 53 presents a selection of definitions from renowned dictionaries.

Table 53: Definitions of the term "framework"

Framework definitions
• "a system of rules, ideas, or beliefs that is used to plan or decide something" (framework, 2018a)
• A basic structure underlying a system, concept, or text (framework, 2018c)
• Broad overview, outline, or skeleton of interlinked items which supports a particular approach to a specific objective, and serves as a guide that can be modified as required by adding or deleting items. (framework, 2018d)
• a basic conceptual structure (as of ideas), a skeletal, openwork, or structural frame (framework, 2018b)
• a basic conceptual structure used to solve or address complex issues (framework, 2018e)

In the context of research, Miles and Huberman (1994) define a conceptual framework as a visual or written product, one that "explains, either graphically or in narrative form, the main things to be studied, the key factors, concepts, or variables, and the presumed relationships among them" (p. 18). Díaz and et. al (2015) add that conceptual frameworks provide common terminology and structure for the variables that are the focus of a system analysis, and propose assumptions about key relationships in the system. These authors further state that conceptual frameworks have the ability to provide a shared language and a common set of relationships and provide definitions to make complex systems as simple as they need to be for their intended purpose. Conceptual frameworks are an important aspect of management research, as they can increase the external validity of the field and are readily adaptable for organisations through providing guidelines for managers (Meredith, 1998).

Having stated these definitions it can be concluded that a conceptual framework is an analytical tool with several variations and contexts, applicable wherever an overview of a concept is needed.

From the above it can further be derived that a framework should be designed to fit its purpose, enabling it to take any form. For example, it can be a list of objectives or a diagram providing a step-by-step outline (course of action) for achieving a goal. It is crucial that it is readily understood and adaptable to the situation. This is essentially the purpose of this study: to create a flexible guideline fitting to the heterogeneous nature of FM in hospitals. A guideline whose content is systematically derived out of the discussion as a result of combining the background with the empirical results. The developed communication framework strives to characterise the key features of organisational communication in the specific setting of hospitals' FM. Hence, the communication framework intends to stipulate the criteria FM executives should address in order to communicate effectively and efficiently within their area of responsibility, within the FM department.

As indicated before, organisational communication is very specific and also very personal. Hence, the FM communication framework cannot present "THE" solution to guarantee effective and efficient communication for the benefit of a thoughtful FM in Swiss acute hospitals. BUT it activates and guides users to consciously reflect personal and organisational behaviours of communication based on evidence-based results and procedures. Which ultimately is the purpose of any guideline (guideline, 2019).

7.2   Structure of the Initial FM Communication Framework

Based on the above outlined framework essentials, this passage introduces the elements and structure and hence the initial design of the initial FM communication framework. The design is further informed by the principle found in many textbooks, providing key points and self-check questions at the end of each main chapter. This feature addresses the essence of the transferred knowledge and by that supports the processing and application of that knowledge. Bryman and Bell (2011) and Saunders, Lewis and Thornhill (2016) are examples of this practice. Hence, the elements and their key aspects feeding into the framework, as displayed in section 6.5, are enriched with corresponding self-check questions. These were developed by transferring the key elements' aspects, which are purposely phrased as their best possible outcome to questions. Questions that need to be posed by FM executives in order to assess the current status of these elements within their respective areas of responsibility. The result of this transformation, the self-check questions are displayed in Table 54. It was consciously rejected to address every aspect of the key elements with a question, because this would interfere with the aspired crispness of the framework. Instead, the questions have the purpose to act as trigger questions from where all aspects can be taken into account by FM executives while assessing the current status of FM communication taking place within their respective areas of responsibility.

Table 54: Self-check questions for FM executives, source: self-study

Key element	Self-check questions
Formal communication Communication channels	• Which communication channels are available in your area of responsibility? • Do staff thoroughly know how to use these channels • Do you make use of available possibilities to promote FM visibility in the hospital?
Formal communication Scheduled meetings	• How does your formal communication structure look? • Do you consciously decide where your meetings take place? • Does the style of your meetings fit their purpose? • Is there a shared definition of what makes a good meeting preparation? • Are the expectations on meeting procedures managed? • Are opinions and expectations on meeting content managed? • Are discussions and decisions in your meetings primarily based on cost and process transparency? • Do you regularly evaluate your meetings?
Scheduled meetings Conclusions from minute content	• What is your meeting's time spent on: adaptive, constitutive, maintenance activities? • Does the agenda of your meetings fit the resources used? • Is the purpose of the meeting and their expected contribution clear to the participants?
Formal communication One-on-ones	• Are one-on-ones included in the alignment of the formal communication structure? • Are the expectations of structure, preparation, note taking and accountabilities clear? • Is the content evolving the participants' area of responsibility?
Formal communication FM diversity	• Are the different needs of communication identified and reflected in the formal communication structure? • Do you actively address FM diversity and use it as an asset?
Informal communication "The grapevine"	• How do you characterise informal communication in your area of responsibility? • How are the aspects of line adherence, use of breaks, open-door policy dealt with? • Do you take site specifics into account?
E-mail communication	• Is there an email overload in your area of responsibility? • Are the causes of any email overload detected and addressed? • Do you have an email policy in place?
Experiences & beliefs Effective communication	• How does your factual communication look? • How do message receivers perceive yourself? • How do you reveal yourself?
Experiences & beliefs challenges	• Do you consciously check the communication activities in your area of responsibility against the frequently experienced communication challenges?
Experiences & beliefs Communication in 10 years	• Do you have a strategy addressing the aspects of digitalisation, aligned with the characteristics of your area of responsibility?

Based on executives' constant challenge of information overload, see section 2.4.3.1, the framework design is consciously kept as neat as possible. That is a challenge in itself, as it requires stripping down complex content to its core while at the same time ensuring that the rigour behind it is being kept.

Figure 112 shows the resulting structure of the FM communication framework. The elements are enriched with corresponding self-check questions and information on what the key element is about, which is derived from this thesis background chapter. The use of figurative frames structuring the content and three simple icons, provided by the shape collection of Microsoft Visio "i" for information on key element, "!" for element's aim and key aspects and "?" for self-check questions assisted in solving the challenge of a neat framework design.

Figure 112: Structure of the FM communication framework, source: self-study

Equipped with thorough background knowledge of both where its content arises from and why it is structured as it is, the reader is now ready to be introduced to the initial FM communication framework in hospitals.

7.3   The Initial FM Communication Framework

Based on aforementioned content this thesis is now cumulating in its ultimate goal: the presentation of the developed communication framework.

Figure 113 and Figure 114 display the initial version of the "Framework for optimal FM Communication in Hospitals" in English. For the remaining methodological step, the validation see chapter 8 Framework Validation, the framework was translated into German, see section 3.13.2.4 for translation issues in research stages. The German version is shown in appendix Q.

The initial design is based on two (2) A3 format pages because it is expected that this allows a neatly arranged presentation of the content. A frame surrounding the two pages visually frames the key elements. Efforts to use only one (1) A3 page were not successful due to the amount of relevant, thoroughly elaborated content. The framework's key aspects are enriched with introductory passages explaining the purpose and background of it and by providing a figurative overview of FM communication's structure in hospitals. The key element of scheduled meetings is enriched with an example on how to visually display the formal communication structure as a basis for any improvements. The key element of e-mail communication is accompanied by a box stating common symptoms of e-mail overload with corresponding solution approaches, since e-mail communication turned out to be an emotional topic within FM communication.

How this initial design was received and interpreted by FM practitioners is taken up in chapter 8 Framework Validation.

Framework for Optimal Facility Management Communication in Hospitals 1/2

Purpose & Background

Well-defined organisational communication is a prerequisite for any organisation to function. Also for the complex area of facility management (FM) in hospitals, comprising the non-medical processes.

This framework provides **FM executives in hospitals** with a guidance to check and if necessary adjust communication activities within their area of responsibility.
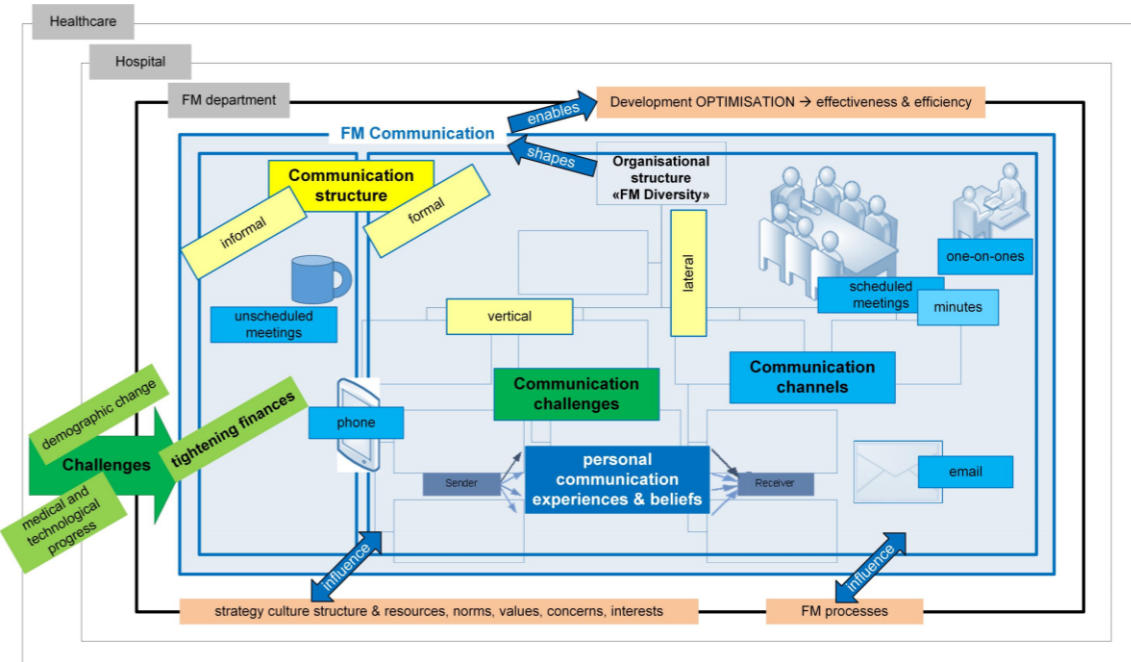
To do so, the framework displays **10 key elements** and their corresponding aspects, necessary to align organisations specifically for optimal FM communication in hospitals. It also provides tangible self-check questions for FM executives to assess the status of these key elements within their respective areas of responsibility.

The content of this framework is the **result of empirical research**, combining elements of management theory, focusing on organisational communication, with the particularities of FM in Swiss hospitals. The **key elements** evolved out of methodological rigour and represent the main communication activities within hospitals' FM departments. Yet, the framework raises no claim to completeness, especially due to the diverse nature of FM departments in Swiss hospitals.

FM Communication in Hospitals - an Overview

The figure on the right presents elements influencing and shaping communication activities within FM in hospitals. It points out:

- the major **challenges** affecting healthcare, hospitals and their FM, among these especially tightening finances are fostering modes of development to optimise effectiveness and efficiency of how FM is provided.

- that **development** and **optimisation** is enabled by aligned FM communication activities, which in turn are shaped by the **FM diversity** through providing a variety of support processes managed by staff with different professional backgrounds.

- that **structuring forces** (strategy, structure, culture) as well as the specific set-up of **FM processes** and **interaction issues** (resources, norms and values, concerns, interests) influence communication and hence FM as such.

- the elements structuring communication: **formal** and **informal**, **vertical** and **lateral**, major **communication channels** as well as the influen**ce subjective personal experiences and beliefs** have on communication activities.

- that **communication challenges** are a central element to either obstruct (if poorly managed) or foster (if proactively handled) communication activities.

FM Diversity

(i) FM incorporates diverse professional fields, such as catering, housekeeping, infrastructure/engineering, procurement & logistics, where staff with different professional backgrounds and different communication approaches work together.

(!) FM diversity is recognised and considered as an asset.
- ✓ The different needs of communication activities across the FM department are identified and reflected in the formal communication structure
- ✓ FM diversity is actively addressed on all organisational levels
- ✓ FM diversity is jointly seen as an asset and not as a challenge

(?)
- Have you identified the different needs of communication and are they in the formal communication structure?
- Do you actively address FM diversity and use it as an asset?

Informal Communication

(i) Refers to emergent, unofficial, and unsanctioned communication among FM staff through informal social contacts.

(!) Conscious use of informal communication options, taking into account 5 aspects that are particularly relevant for FM:
- ✓ How employees perceive informal communication is identified, analysed and consciously addressed
- ✓ The importance of line adherence within the FM department's informal communication structure is determined and accordingly adhered to
- ✓ The value and usage of break time is consciously determined
- ✓ The degree of how the open-door policy is applied is consciously defined and adhered to
- ✓ Site specific's influence on informal communication activities (e.g. in hospitals with multiple sites) is analysed and consciously addressed

(?)
- How do you characterise informal communication in your area of responsibility, is it positively perceived?
- How are the aspects of line adherence, use of breaks, open-door policy dealt with?
- Do you take site specifics into account?

Structure of this Framework

[▢] Key element supporting optimal FM communication

(i) Information on key element: **What it is about**

(!) Element's aim and key aspects: **What to look out for**

(?) Self-check questions: **Supporting FM executives** assessing their communication activities

Communication Channels

(i) FM uses a variety of different communication channels (e.g. meetings, email, phone, electronic platforms, ...).

(!) A conscious and correct use of the available channels.
- ✓ There exists a clear display of available communication channels / tools to use within the FM department, including their pros and cons
- ✓ The channels are used deliberately and purposefully, expectations of them are aligned to avoid misinterpretations
- ✓ The skills of the employees are in line with the requirements of the available channels
- ✓ Purposeful use of available communication opportunities outside the FM department to ensure FM visibility

(?)
- Which communication channels are available in your area of responsibility?
- Do staff thoroughly know how to use these channels
- Do you make use of available possibilities to promote FM visibility in the hospital?

Effective Communication

(i) In terms of the definition of effectiveness as doing the right things, effective communication means that appropriate communication channels are used in the right way. A number of FM executives were asked: What makes communication effective? The result are attributes that could be condensed into three aspects referencing to how a message is sent and received.

(!) Communication activities are checked against the perceived characteristics of effective communication.
- ✓ The factual content of any message is communicated receiver specific, timely and focused & precise
- ✓ The relationship indicator of any message is characterised by respect
- ✓ The sender reveals him-/herself as a straight & empathic executive

(?)
- How do you characterise your factual communication?
- How do message receivers perceive yourself?
- What do you reveal of yourself through your mode of communication?

Communication Challenges

(i) Organisational communication comprises many challenges. Within the context of FM in hospitals 6 areas of leading challenges were identified.

(!) Communication activities are checked against frequently experienced challenges influencing the perception of communication being effective and efficient.
- ✓ AMOUNT & COMPLEXITY of information content and information overload
- ✓ TO BREAK DOWN / FILTERING information receiver appropriately
- ✓ CLARITY RULES STRUCTURES creating these, as well as lack of them
- ✓ LANGUAGE & CULTURE referring to emotions interfering with information's factual content and lack of German language skills among FM staff
- ✓ USE OF COMMUNICATION MEANS different knowledge and preferences
- ✓ TO BE UNDERSTOOD information is not understood as intended by the sender

(?)
- Do you consciously check the communication activities in your area of responsibility against the frequently experienced communication challenges?

Author: Franziska C. Honegger, framework is product of PhD thesis submitted September 2019 at Liverpool John Moores University

Figure 113: Initial FM Communication Framework Part 1, source: self-study

Framework for Optimal Facility Management Communication in Hospitals 2/2
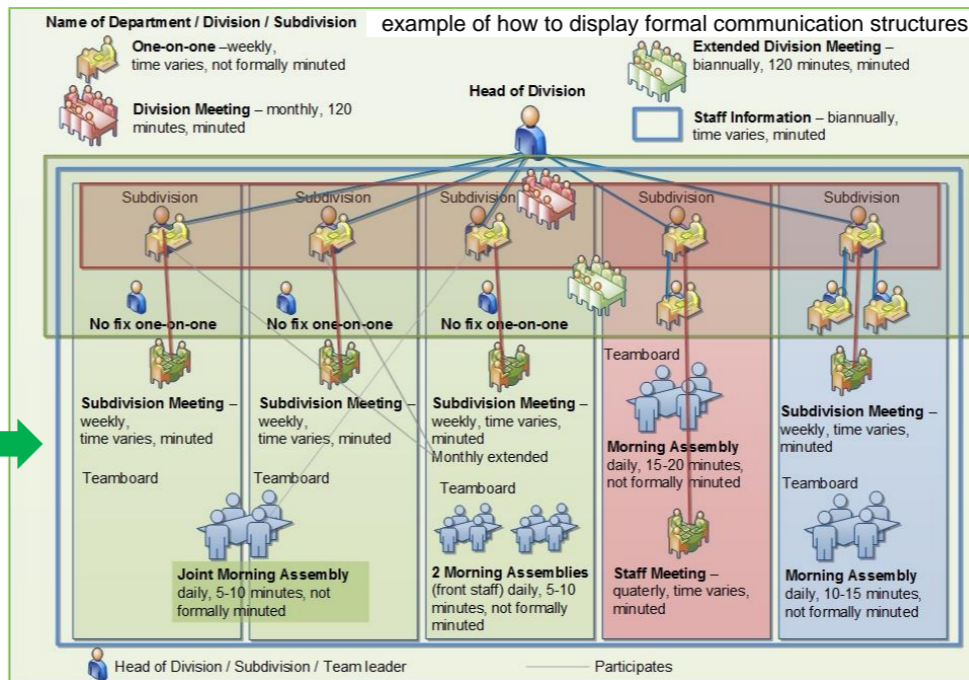
Scheduled Meetings

(i) Scheduled meetings consume a substantial part of FM executives' resources. Hence, it is important that their structure is aligned and meeting time is used purposefully.

Peter Drucker one of the most widely known and influential thinkers on management states a striking definition of a meetings purpose: *«We meet because people holding different jobs have to cooperate to get a specific task done. We meet because the knowledge and experience needed in a specific situation are not available in one head, but have to be pieced together out of the knowledge and experience of several people».* This definition applies to the key aspect «scheduled meetings – conclusion from minutes» too.

(!) An aligned structure of scheduled meetings, fitted to the requirements of the individual FM department's characteristics and positively assessed by both meeting chair and participants is in place.

- A visual **display of the current communication structure** acts as a basis for any improvement. Such a figurative representation helps to check whether structure and rhythm, as a whole, matches by providing a tangible overview of the
  o meeting hierarchy; what takes place on which level
  o timing of meetings; enabling cascade top-down to prevent delays
  o lateral and vertical communication flow,
  o interdivisional communication activities
- Conscious decision of where meetings take place; conscious use of spatial factors is especially important for multisite hospitals
- Mindful decision of meeting style – classic sit-down scheduled meeting vs. newer meeting styles, by reflecting on styles used and trying newer ones that might fit better.
- Preparation: Shared definition of what makes a good preparation for participants and chairpersons; by
  o detecting and taking into account participants' expectations of the chair role
  o clarifying participants' tasks in preparing meetings
  o agreeing on the use and preparation of meeting agenda by participants and chairs
  o clarifying why topics on standing agendas are important and how they relate to the department's activities and aims; reviewing the agenda if necessary
- Procedure: Expectations on meeting procedures including role of the participants are managed in order to prevent negative meeting feelings interfering with the aspired meeting outcome by
  o reflecting on time adherence
  o jointly defining and agreeing on behavioural norms and regularly reflecting on their adherence.
- Content: Opinions and expectations on meeting content are clarified and jointly agreed on. Discussions and decisions are primarily based on cost and process transparency and where this is not possible, the lack of either of these crucial aspects is recognised and measured to reach transparency.
- Meeting Evaluation: Takes place regularly by both the meeting chair and participants.

(?)
- How does your formal communication structure look?
- Do you consciously decide where your meetings take place?
- Does the style of your meetings fit their purpose?
- Is there a shared definition of what makes a good meeting preparation?
- Are the expectations on meeting procedures managed?
- Are opinions and expectations on meeting content managed?
- Are discussions and decisions in your meetings primarily based on cost and process transparency?
- Do you regularly evaluate your meetings?

example of how to display formal communication structures

Name of Department / Division / Subdivision
One-on-one – weekly, time varies, not formally minuted
Division Meeting – monthly, 120 minutes, minuted
Head of Division
Extended Division Meeting – biannually, 120 minutes, minuted
Staff Information – biannually, time varies, minuted

Subdivision / Subdivision / Subdivision / Subdivision / Subdivision
No fix one-on-one
Subdivision Meeting – weekly, time varies, minuted
Teamboard
Monthly extended
Morning Assembly daily, 15-20 minutes, not formally minuted
Joint Morning Assembly daily, 5-10 minutes, not formally minuted
2 Morning Assemblies (front staff) daily, 5-10 minutes, not formally minuted
Staff Meeting – quaterly, time varies, minuted
Morning Assembly daily, 10-15 minutes, not formally minuted

Head of Division / Subdivision / Team leader — Participates

One-on-Ones

(i) One-on-ones usually take place bilaterally between manager and subordinate, providing a vital platform to show direct attention to subordinates and their tasks. Typically they take less than 60 minutes and are not formally minuted. A regular frequency is advised.

(!) Effective and efficient use of one-on-one time, focusing on bilateral topics.

✓ One-on-ones are included in displaying the current situation of the formal communication structure, enabling the participants to check whether structure and rhythm match
✓ A regular frequency is adhered to by both participants
✓ Expectations of structure, preparation, note taking and accountabilities are clear and agreed on by participants
✓ The content is shaped by relevant topics positively evolving the participants' area of responsibility

(?)
- Does the frequency of your one-to-one interviews fit into the overall structure of formal communication?
- Are the expectations of structure, preparation, note taking and accountabilities clear?
- Is the content evolving the participants' area of responsibility?

Email Communication

(i) The use of this communication channel is increasing, fostering the communication challenge of email overload.

(!) A conscious use of e-mail communication.

✓ The perception and status of email overload within the FM department is consciously assessed
✓ Specific **causes of email overload** are detected and **addressed**
✓ The existing policy on email communication is jointly reviewed or such a policy, supporting employees to cope by stating corresponding solution approaches, is developed

(?)
- Is there an e-mail overload in your area of responsibility?
- Are the causes of any overload detected and addressed?
- Do you have an e-mail policy in place?

Common symptoms of email overload with solution approaches
- **The cc syndrome** - conscious reduction of cc-lists by judicial use of both *cc* and *reply to* field.
- **Overproduction** - reduction of e-mail volume by increasing the use of other communication tools
- **Constant interruption** by incoming messages - reduction of the daily number of times for checking e-mail, deactivation of notification when dealing with a task, asking for a certain level of concentration
- **Multiple subjects** result in difficulties filing the e-mail and when multiple people are addressed not all subjects being important for everyone - reduction to one subject per message
- **Unfitting subject titles** - conscious decision on fitting subject title indicating both content and importance of the message
- **Overuse of exclamation mark** - contacting receivers beforehand creates a mutual understanding of the following e-mail
- **Lack of training** as supportive key features of e-mail programs are not known by users - alignment of staff skills with the available communication channels has to be ensured
- **Pressure to respond** - adding 'reply before date' to e-mail messages creates profit for both sender and receiver
- **Attachments**, users tend to defer e-mails when handling them involves clicking on links and attachments - document management should not take place via e-mail

Scheduled Meetings – Minutes Analysis

(i) According to the aforementioned meeting definition the asset of FM diversity should boost every FM department and division meeting. But analysis of FM meeting minutes revealed that **many more maintenance elements**, represented as passive items of information, than **constitutive elements**, represented as hints of discussion with conclusions reached within the meetings, were detected. Also only a few **adaptive elements**, content from the hospital's environment impacting the FM, which meeting participants can not necessarily retrieve themselves but need to know to carry out their tasks, were detected. This contradicts literature stating that meetings should be a platform for productive collaboration across disciplines. Especially as maintenance elements contain information exchange within FM that is "nice to know" but not explicitly necessary for all meeting participants to maintain their processes.

(!) Effective and efficient use of meeting resources.
- Meeting minutes – hence meetings – are systematically looked at by asking: what meeting time is actually spent with: adaptive, constitutive, maintenance activities
- Based on this systematic look, it is consciously decided on whether the meeting content fits the resources used

(?)
- What is your meeting's time spent on: adaptive, constitutive, maintenance activities?
- Does the agenda of your meetings fit the resources used?
- Is the purpose of the meeting and their expected contribution clear to the participants?

Future Prospect of Communication

(i) Increasing digitalisation is also affecting FM communication.

(!) The trend is being monitored in response to changing demands on technology and employee skills.

✓ There is an FM specific strategy in place for dealing with increasing digitalisation

(?)
- Do you have a strategy addressing the aspects of digitalisation, aligned with the characteristics of your area of responsibility?

Author: Franziska C. Honegger, framework is product of PhD thesis submitted September 2019 at Liverpool John Moores University

Figure 114: Initial FM Communication Framework Part 2, source: self-study

8   FRAMEWORK VALIDATION

The purpose of this chapter is to explain the execution of the focus group interview used to validate the developed initial FM communication framework and to present the results obtained from the validation process, transferring the initial version of the FM communication framework into its final version. Validation is recognised as the process of verifying research data, analysis and interpretation to establish their validity / credibility / authenticity (Saunders, Lewis and Thornhill, 2016). In light of this research being set in the methodological frame of business and management research, see section 3.1, it needs to be emphasised that practitioners were involved in this validation process to ensure the aspired usability of this research aim in practice.

8.1   Validation Process

Focus groups are a contemporary method of data collection within qualitative research settings (Parker and Tritter, 2006). The following passages rationalise the choice for a focus group interview to validate the initial FM communication framework, describe the selection of the participants, the conduct of the focus group and how data was prepared for the analysis.

8.1.1   Reason for a Focus Group

Taking the example of the work carried out by Stewart et al. (2008) and Masuri (2015) and advice from Creswell (2013) the focus group is regarded as an appropriate method to validate the findings obtained from the previous phase of the research. Hence, the focus group method was implemented in fulfilling Objective D of this thesis: Validate the initial framework in order to ensure applicability in practice. In the process of selecting focus group as the appropriate method, other methods have been considered as well but were ruled out in favour of focus group. A quantitative survey did not fit as items only allow in a limited way to collect immediate reactions and explore why participants rate items as they do. Qualitative semi-structured interviews were not considered as they do not allow the valuable distinctive feature of focus-group interviews: its group dynamics, meaning data collected through the social interaction of the group, data that are often deeper and richer than those obtained from one-to-one interviews as suggested by Thomas et al. (1995) and affirmed by Rabiee (2004). And since the framework is designed for the benefit of a group of people: FM executives, the group dynamics from these were of interest in its validation process.

8.1.2   Participant Selection

Conscious selection of the participants is a prerequisite for any focus group (Parker and Tritter, 2006). Purposive sampling is an appropriate method to recruit the participants as it encourages deeper data mining about the topic (Creswell and Plano Clark, 2011). Thus, it is very crucial to select the participants from among professionals who have profound experience and

knowledge of FM in healthcare. Table 55 outlines the eligibility criteria for the focus group participants.

Table 55: Focus group participants' eligibility criteria, source: self-study

Eligibility criteria	Justification
Experience in FM in healthcare	This criterion is concerned with having experience and hence being knowledgeable within the complex FM in healthcare context, including current challenges FM departments face.
Executive position within the FM department	As the communication framework is primarily addressed to FM executives, an executive position within the FM department is mandatory to participate in the validation discussion of the focus group.
Knowledgeable about and responsible for communication activities within the FM department	As part of their executive role, the participants need to be both knowledgeable about communication activities and be responsible for some of these, in order to comment on the usability of the communication framework.

The network of the researcher's professional knowledge, (see CV in appendix A), helped to find adequate participants. To ensure the choice of fitting participants, it is essential to design a sampling procedure satisfying the purposive sampling strategy, as failure to recruit the right participants would divert the whole strategy to convenience sampling (Teddlie and Yu, 2007). Figure 115 shows the purposive sampling rationale applied to ensure a sound sampling procedure, based on Teddlie and Yu (2007) and on the example of Masuri (2015).
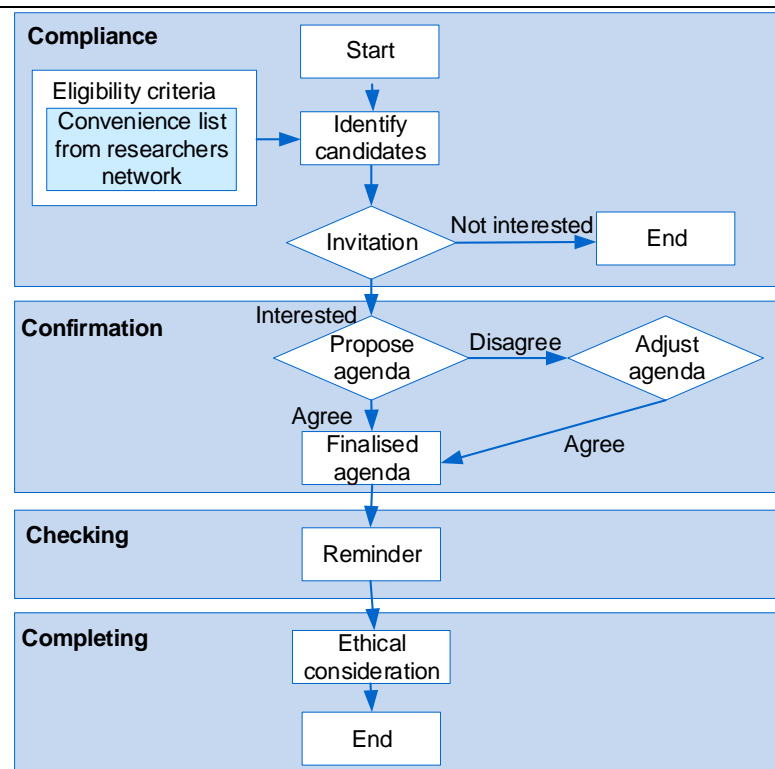
Figure 115: Purposive sampling rational, based on Teddlie and Yu (2007) and the example of Masuri (2015)

According to Bryman (2012) the 'compliance' is concerned with the relevance of the participants to the research questions and their capability to contribute to the framework validation. Apart from fulfilling the secondary factors such as cost, time and distance, the participants must meet the criteria set as in Table 55. Teddlie and Yu (2007) promote that objectives of the

research and the findings obtained should dominate the sampling strategy. For that, Objective C of this research and findings obtained from previous stages were utilised in choosing the participants. The 'confirmation' is to warrant the practicality and the efficiency of the focus group session. The meeting agenda containing details such as time, location and points of discussion was prepared as a platform to obtain consensus from each participant. The 'checking' kept the participants alert about the meeting; reminding e-mails were sent four (4) days before the meeting. To 'complete' the sampling strategy, Teddlie and Yu (2007) state that the ethical requirements should be considered. Before the focus group session started, the participants were asked to sign a consent form.

Three (3) participants with broad experience as executives in FM in healthcare showed interest in participating in the focus group and took part. Table 56 provides the experience in an executive position within the field of FM in healthcare of each participant, who were coded as FGP#1, FGP# and FGP#3. The participants represented both single and multi-sited hospitals. Their executive experience complies with the eligibility criteria raised in Table 55. Hence, the three participants were eligible to take part in the focus group.

The number of three participants is justified by following elements. Krueger and Casey (2014) proposes five factors to consider while determining the size of the focus group and further states that small focus groups are gaining in popularity because they are comfortable for participants allowing to express themselves. These factors are evaluated in light of this studies validation purpose:

- The purpose of the study. If the purpose is to understand an issue or behaviour, invite fewer people. If the purpose is to pilot-test an idea, invite more people → purpose is to validate the issue of the framework and its design, which is much more than just an idea, hence few participants.
- The complexity of the topic. More complex, invite fewer people → due to the amount of content the framework is complex, hence few participants.
- Participants' level of experience or expertise. More experience, invite few people → participants are experienced FM Executives, see Table 56, hence few participants
- Participants' level of passion about the topic. More passionate, invite fewer people → the three participants share a passion for FM in hospitals and being an executive, hence few participants
- The number of questions to cover. More questions, fewer people → the questions posed were not many (3) but the content of the framework these questions addressed were many (10 key elements), hence few participants.

Krueger (1994) and Burrows and Kendall (1997) as cited in Rabiee (2004) further suggest, that for a simple research question the number of focus group participants may only be three or four. Considering the three straight forward questions, see chapter 8.1.3, this further supports the choice of three participants. Morgan (2012) further justifies the use of three participants, by advocating three points for focus-groups with two and three participants: firstly, that

the important characteristic of interactive discussions is undeniable also the case in this small size. Secondly, that this size allows to get more data from the individual participants which results in an increase in the amount of depth and detail data collected from each participant and thirdly that this group size is much more feasible in terms of recruiting participants. The experience of Masuri (2015) additionally supports the choice of three participants, by providing evidence of a successful framework validation with three focus-group participants.

Table 56: Profile of focus group participants

	Participant's codes		
	FGP#1	FGP#2	FGP#3
Single/multi sited hospital	Single-sited	Multi-sited	Multi-sited
Executive experience in FM in healthcare	20+ years	20+ years	11 years

8.1.3 Setting, Moderation and Conduct

The focus group was held on 19 August 2019. The focus group session took 1.5 hours, including an approximately fifteen-minute presentation on introduction, background and process followed by a 15 minute self-study time for participants to study the distributed initial FM communication framework and hence prepare themselves for the 60 minute discussion of the initial FM communication framework. The participants were provided with two (2) sheets of A3 document: the initial FM communication framework.

The summary of the meeting details, acting also as the meeting agenda sent to participants, is provided in appendix R. Appendix T shows the PowerPoint slides used for the initial presentation. Appendix S displays the participants' information and consent form.

Prior to moderating a focus group, several issues need to be considered. For instance, the seating plan of the focus group is essential in order to minimise the complexity when moderating the session, to enhance the quality of the collected data to be easy to transcribe and analyse (Smithson, 2000). To ensure the focus group is well recorded, two (2) high-quality voice recorders were used. At the beginning of the meeting, the participants were reminded about the ethical aspects with a list of 'dos and don'ts' (Smithson, 2000) including explanation of the role of the researcher as the moderator, asking the participants to respect each other, assurance of confidentiality, and a request to speak clearly.

Upon completion of the initial presentation, the participants were asked about the practicality of the developed framework. Thereby three (3) questions acted as guidance to collect participants' opinions to validate the initial communication framework:

1. Is the design understandable?
2. Is the content understandable?
   - Information about key elements
   - Aim and aspects
   - Self-check questions

3. Is the content useful?

In question number 2 all elements placed on the framework papers were systematically evaluated. The discussion started with the "*Purpose & background*" and "*FM Communication in hospitals – an Overview*" and then addressed the content of each of the 10 key elements.

Generally, the participants were impressed with the creation of the framework. However, the A3 design was not perceived to be as clear and comprehensible as intended by the researcher, as outlined in detail in the analysis part of this validation chapter.

8.1.4 Preparing the Analysis

The audio record of the focus group interview was transcribed by the researcher. Word count analysis discovered that the total number of words generated in the focus group interview was 6,728 words, of which 5,410 (80.4 per cent) came from the participants, whereas 1,318 (19.6 per cent) were produced by the researcher acting as moderator. A sample of the transcript is displayed in appendix U.

8.2 Data Analysis

Although the discussion took only 60 minutes, the researcher discovered that there were situations where 'data saturation' had occurred in which the existing ideas were repeated frequently throughout the interview. Myers and Oetzel (2003) advise that such a situation indicates that the excitement in the discussion has dropped, whereas Morse (1995) suggests the researcher should make a judgement on the adequacy of the collected data in such a situation. Referring to the situation experienced it can be stated that 60 minutes provided enough time to collect the validation data needed. The upcoming subsections take up the structure of the guiding questions from the discussion and present the results of the focus group interview.

8.2.1 Structure / Content / Usability

Qualitative analysis carried out on the focus group interview identified statements regarding structure / design, content's clarity and usability of the framework. The results of these aspects are summarised in the following paragraphs, supported by revealing quotes of the participants.

Structure: candidly, it can be stated that the initial design based on two A3 documents, aiming to present the content at "two glances" was not appreciated by the participants, they missed ordering features of the key elements guiding readers through the content:

> «The whole thing is extremely complex, I am missing any sequence of the content.»
> (Source: FGP#1)
>
> «I think, if it is presented in this way, what happens to me is that I think ah, that's far too theoretical.» (Source: FGP#3)

The textbook analogy of the ten key elements though, was received well, especially the self-check questions:

> «The 10 blue boxes I think are great! […] and this [shows on the box explaining the structure] is a good story.» (Source: FGP#1);
>
> «I also think it's great that you divide between information, aim and what to be considered, marked by the three colours, which I think is very well divided, that helps»
> (Source: FGP#2)

The two figures were also received well, but rated as being too complex:

> «The two figures are great but they are overwhelming the readers.» (Source: FGP#1)

Based on their impressions of the structure / design, participants discussed suggestions of what in their view would be more appropriate and agreed that some sort of numbering of the key elements would act as a guiding system:

> «I definitely think numbers would probably help guide you.» (Source: FGP#2)
>
> «If it should be a guideline [and not a poster], I would rather expect successive chapters with one key element each, that way it would probably be easier to digest.»
> (Source: FGP#3)

Content: unpinned from their display, the content of the key elements was understood by the participants and they can relate it to their work. Hence, one of the key aims of the framework was affirmed, the other one being usability of it in practice. However, in terms of weaknesses, the title of the initial framework is vulnerable to misunderstanding and misinterpretation of the terms used. The German translation is "guideline for optimal FM communication in hospitals", as the term "framework" does not work. But also the English title "framework for FM communication in hospitals" is vulnerable in the same way.

> «And maybe I would change the title, if you write it that way, the expectation is that a recipe [for optimal communication] is coming, and that's just not coming.»
> (Source: FGP#2)

Triggered by the misleading title also the whole purpose of the framework was received to be vulnerable to misinterpretation. Hence, the level of what to expect of the framework / guideline: a detailed recipe vs. hints to raise awareness was judged to be unclear.

> «You did not want to provide a recipe [for optimal communication], is that a conscious decision?» (Source: FGP#3)
>
> «[...] in principle you only know where the problem is, but you do not yet have any solution for it.» (Source: FGP#2)

A further point that the participants considered to interfere with the crispness of the content turned out to be the writing style, which was rated to be "too academic". The use of bold text style however was seen as supportive to lead readers through a large amount of text.

«It is demanding to read and I believe the less [text], the easier it is for people to implement it» (Source: FGP#1)

«Text in bold provides an important aid to orientation, in the sense of "these are the important notes", which is not consistently taken advantage of.» (Source: FGP#2)

Usability: On several occasions, the discussion tended to drift off from the guiding questions and participants were discussing how they meet the key aspects in practice. For example, email communication and scheduled meetings triggered many emotions based on dissatisfying email practices and ill-prepared meetings. In terms of the validation process, this is rated positively as the key elements clearly triggered participants' awareness to reflect on current practices. Hence, this tendency to drift off affirmed the usability of the framework. Usability in the sense of "raising practitioners' awareness to check and potentially adjust communication activities" was affirmed by all participants, as the replies to the focus group interview's last question validate:

Researcher: «Is the framework usable for your everyday work, if designed differently?»
FGP#1: «**Yes**», FGP#2: «**Yes**», FGP#3: «**Yes**»

Strengths and Weaknesses of the Initial Framework

Table 57 brings the detected strengths and weaknesses of the initial FM communication framework to the point, thereby providing the ground to eliminate and mitigate the weaknesses in the final version of the framework.

Table 57: Strengths and weaknesses of the initial FM communication framework

Strengths	Weaknesses
Structure / Design	**Structure / Design**
• Text book like structure with the three icons • Self-check questions as they directly address FM executives • Figures – although they are seen as complex	• Too complex – too much content on just two pages → A3 format • Too complex – figures hard to take in • No order of key elements, lack of organising sign posts
Content	**Content**
• Content of all 10 key elements is understandable, participants can relate it to their work	• Purpose of guideline not clear - awareness vs. recipe – what to expect? • Misleading title • Too much text, occasionally complicated writing style
Usability	**Usability**
• Given – in the sense of raising awareness and based on a less complex / heavy design	• No detailed recipe in how to solve malfunctioning communication issues available

In conclusion: the design of the initial FM communication framework as two compact A3 documents was not appreciated, whereas the focus group participants rated the content of the key elements as understandable and more importantly can relate it to practice, where it provides usability for them in their role as FM executives.

The focus on the design aspect of the initial framework within the focus group is not entirely surprising. Lu and Liu (2011) state that all design decisions comprise some subjective and objective parts and that the subjectivity of design decisions is concerned with social realities that are driven by human preference, whereas the objectivity, such as design parameters and process variables, relates to evidence. Hence, the subjective preference of the researcher that led to the conceptualisation of the initial framework did not meet the preferences of the focus group participants, whereas the objective content of the initial framework was understood and deemed to be usable by them.

8.3   Measures Taken to Amend Initial Framework

The detected weaknesses of the initial FM communication framework were carefully considered by the researcher. Corresponding measures have been developed and taken to constructively address and hence mitigate them, as outlined in Table 58.

Table 58: Measures taken to amend initial framework

Weaknesses	Measures taken to mitigate weaknesses
Structure / Design	**Structure / Design**
Too complex – too much content on just two pages → A3 format	• Shift to a classic A4 design: less content on one page, causing less "information overload" to the reader. An issue more appreciated by the focus group participants than the initial "at a glance" focus of the two A3 pages.
Too complex – figures hard to take in	• Figure 1 more prominent with fewer items around on page 2 – to let its content speak less interrupted by other content • Figure 2 simplified by taking out the level of different sites
No order of key elements, lack of organising sign posts	• Numbering of the 10 key elements to provide a visual support guiding the reader– but clearly stating that numbers do not refer to the element's significance.
Content	**Content**
Purpose of guideline not clear (awareness vs. recipe – what to expect?)	• Introduced yellow labels / banners, acting as clear sign posts to state the purpose on the first and last page of the framework
Misleading title	• Amended title now reading: "towards optimal FM communication in hospitals – A guideline for FM executives", which clearly states that no complete recipe providing measures to a guaranteed optimal communication can be expected.
Too much text, occasionally complicated writing style	• Signposting key phases / words within the text in bold throughout the document to provide visual guidance for the reader • Simplified writing style where possible, without losing content
Usability	**Usability**
No detailed recipe in how to solve malfunctioning communication issues available	The thesis did not apply methodology nor specific research questions to provide evidence based "recipes" to solve issues within the derived key aspects. Expectations are now managed by clearly stating the purpose of the framework, together with the recommendation that literature provides information on subsequent actions.

Chapter 8.5 Result of the Validation Process – The Final Framework presents the final version of the FM communication framework. To finalise the topic on the validation, the following section explains that the additional validation measures taken as a result of the focus group led to a major revision regarding its design.

8.4 Additional Validation Measures

The German version of the amended framework (see section 8.5) was sent via e-mail to the three (3) participants of the focus group to receive feedback on the amendments. The e-mail contained a table with three questions guiding the feedback, with space for participants' written feedback. Table 59 shows these questions, derived from the original focus group questions, with their corresponding replies.

Table 59: Result of second validation

Result of second validation: feedback questions and results (summarised & quotes)
Question #1: Is the design of the amended version clear and more attractive?
Response FGP#1: «for me there are too many frames and colours, too many changes in the design, suggest to apply not more than two different text sizes» (Source: personal e-mail communication 4.9.19)
Response FGP#2: «Yes, the design is clearer, more relaxed in the sense of less dense and easier to understand» (Source: personal e-mail communication 3.9.19)
Response FGP#3: «Yes, the design is much clearer and more attractive. » (Source: personal e-mail communication 2.9.19)
Question #2: Is the purpose of the guideline now clear?
Response FGP#1: «well described» (Source: personal e-mail communication 4.9.19)
Response FGP#2: «Yes, it is now clear from various indications that it is about raising awareness of the different types of communication and challenges. Important is too that it is now emphasised that it is not a recipe » (Source: personal e-mail communication 3.9.19)
Response FGP#3: «Yes. This is mentioned several times and the yellow text modules also help» (Source: personal e-mail communication 2.9.19)
Question #3: Is the guideline in its amended version usable for you as FM executives?
Response FGP#1: «can you test the framework on someone else?» (Source: personal e-mail communication 4.9.19) → an action taken independent from this suggestion, see further down.
Response FGP#2: «yes, I think so, I think about using it (if I may) for our communication workshop in November as a basis for introduction and reflection» (Source: personal e-mail communication 3.9.19)
Response FGP#3: «Yes, It's a lot of text, but it's a guideline and not just a quick input» (Source: personal e-mail communication 2.9.19)

FGP#2 and FGP#3's feedback on these three questions is positive, whereas FPG#1 states that the design is not according to his/her taste, but also affirms that the purpose of the framework is now clear. That person did not provide feedback on the usability of the amended framework. However as that person regarded the content of the framework to be useful based on a less dense design in the original focus group, it can be concluded that usability for FM executives is delivered. Especially as FGP#2 wants to use the framework as an introduction feature in an already planned team workshop on communication. Based on these results from this second validation, no further amendments were made to the adjusted framework. The

amended framework became the final one, as presented in the next subsection. To mitigate any potential risk of the small focus group and its outcome focusing on the frameworks design, an additional validation step was applied. As a further step to validate the amended final version of the framework regarding clarity of its structure and purpose and its usability in practice – five (5) FM executives out of the sample of the quantitative survey, who stated that they would like to be notified of the final product by providing their e-mail address, were approached electronically. They had no connection to the initial version of the framework. They were sent the amended framework together with three feedback questions similar to the ones used for the focus group participants. Implied consent to use their reply to these anonymised was obtained. Responses of three (3) FM executives were received after a reminder email was sent to them. Table 60 shows the questions posed and the feedback received, referring to the respondents as R#1-3. R#3 emphasised to have absolutely no time for this «survey» but still provided feedback, whose quality is limited.

Table 60: Validation final framework through version neutral FM executives

Feedback questions	Feedback (please insert)
• Is the guideline design understandable?	R#1: «Yes» (Source: personal e-mail communication 9.9.19) R#2: «It took some time until I understood the structure, but then the structure was clear». (Source: personal e-mail communication 18.9.19) R#3: «Way too complicated and confusing. Less is more!» (Source: personal e-mail communication 16.9.19)
• Is the purpose of the guideline clear?	R#1: «Yes» (Source: personal e-mail communication 9.9.19) R#2: «Yes» (Source: personal e-mail communication 18.9.19) R#3: «I would have invest about 30min. of my valuable time, which I currently cannot do» (Source: personal e-mail communication 16.9.19)
• Is the guideline usable for you as FM executive?	R#1: «This will become apparent.» (Source: personal e-mail communication 9.9.19) R#2: «You really have to deal with the text, read it carefully to be able to question / reflect on your own communication structures. This takes a lot of time, which is not always available. I could imagine reading this once a year, reflecting on and optimizing the current structures. For daily use, I find the guideline less useful, since there is no time. If the document were more compact, one-pager, you could use it more regularly in practice.» (Source: personal e-mail communication 18.9.19) R#3: «No comment» (Source: personal e-mail communication 16.9.19)

R#1 additionally wrote: «I think the guideline is a successful thing». The result of this additional validation step confirmed, that the measures taken to amend the initial framework were successful. Clarity and usability are confirmed, although the design remains subject to personal taste.

8.5   Result of the Validation Process – The Final Framework

The results of this validation process led to an adjusted FM communication framework. The adjustments have been made both in the English and German version of the framework. Figure 116 up to Figure 122 show the English version of the seven page long final guideline for FM communication in hospitals. The final German version is displayed in appendix V. This is the successful accomplishment of research objective E: Produce evidence-based communication framework supporting an optimal communication in Swiss hospitals' FM departments.

Towards Optimal Facility Management Communication in Hospitals
A Guideline for FM Executives

What this is about

Well-defined organisational communication is prerequisite for any organisation to function. Also for the complex area of facility management (FM) in hospitals.

Here you find a guideline with **10 key elements** that regarding optimal FM communication have to be adapted to your area of responsibility. **27 questions** support you to self-check these elements. The guideline does not include a detailed recipe for your optimal FM communication – it **raises your awareness** where in your area of responsibility you should potentially implement optimisations.

Goal: to raise awareness as a basis for optimisation

The 27 questions of the 10 key elements at a glance

1 FM Diversity
- Are the different needs of communication identified and reflected in the formal communication structure?
- Do you actively address FM diversity and use it as an asset?

2 Informal Communication
- How do you characterise informal communication in your area of responsibility?
- How are the aspects of line adherence, use of breaks, open-door policy dealt with?
- Do you take site specifics into account?

3 Communication Channels - as a general rule
- Which communication channels are available in your area of responsibility?
- Do staff thoroughly know how to use these channels?
- Do you make use of available possibilities to promote FM visibility in the hospital?

4 Communication Channel - Meetings
- How does your formal communication structure look?
- Do you consciously decide where your meetings take place?
- Does the style of your meetings fit their purpose?
- Is there a shared definition of what makes a good meeting preparation?
- Are the expectations on meeting procedures managed?
- Are opinions and expectations on meeting content managed?
- Are discussions and decisions in your meetings primarily based on cost and process transparency?
- Do you regularly evaluate your meetings?

5 Communication Channel - Minutes
- What is your meeting's time spent on: adaptive, constitutive, maintenance activities?
- Does the agenda of your meetings fit the resources used?
- Is the purpose of the meeting and their expected contribution clear to the participants?

6 Communication Channel - one-on-ones
- Are one-on-ones included in the alignment of the formal communication structure?
- Are the expectations of structure, preparation, note taking and accountabilities clear?
- Is the content evolving the participants' area of responsibility?

7 Communication Channel - E-Mail
- Is there an email overload in your area of responsibility?
- Are the causes of any email overload detected and addressed?
- Do you have an email policy in place?

8 Communication Challenges
- Do you consciously check the communication activities in your area of responsibility against the frequently experienced communication challenges?

9 Effective Communication
- How does your factual communication look?
- How do message receivers perceive yourself?
- How do you reveal yourself?

10 Future Prospect of FM Communication
- Do you have a strategy addressing the aspects of digitalisation, aligned with the characteristics of your area of responsibility?

ⓘ **Where do these questions come from?**
Take a look at the further information

Author: Franziska C. Honegger, framework is product of PhD thesis submitted September 2019 at Liverpool John Moores University

Figure 116: Final FM Communication Framework page 1/7
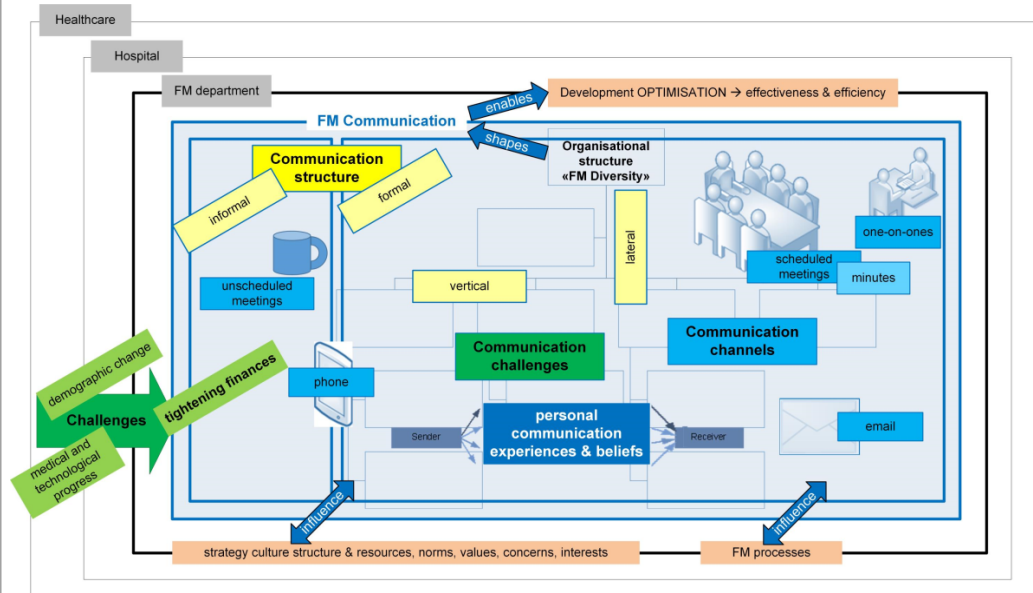
The figure points out:

- the major **challenges** affecting healthcare, hospitals and their FM among these especially tightening finances are fostering modes of development to optimise effectiveness and efficiency of how FM is provided.

- that **development** and **optimisation** is enabled by aligned FM communication activities, which in turn are shaped by the **FM diversity** through providing A variety of support processes managed by staff with different professional backgrounds.

- that **structuring forces** (strategy, structure, culture) as well as the specific set up of **FM processes** and **interaction issues** (resources, norms and values, concerns, interests) influence communication and hence FM as such.

- the elements structuring communication: **formal** and **informal**, **vertical** and **lateral**, major **communication channels** as well as the influen**ce subjective personal experiences and beliefs** have on communication activities.

- that **communication challenges** are a central element to either obstruct (if poorly managed) or foster (if proactively handled) communication activities.

Structure of this Framework

Key elements supporting optimal FM communication blue: concrete activities, green: overlaying topics

Information on key element: **What it is about**

Element's aim and key aspects: **What to look out for**

Self-check questions: **Supporting FM executives** assessing their communication activities

Key Elements – where from?

The key elements were **derived from data from practice**. They represent focal points of communications, concerning executives within hospitals' FM departments.

The numbering of the elements serves the organisation of the guideline and says nothing about their importance. This is organisation specific and therefore differs in individual FM areas.

2/7

Figure 117: Final FM Communication Framework page 2/7
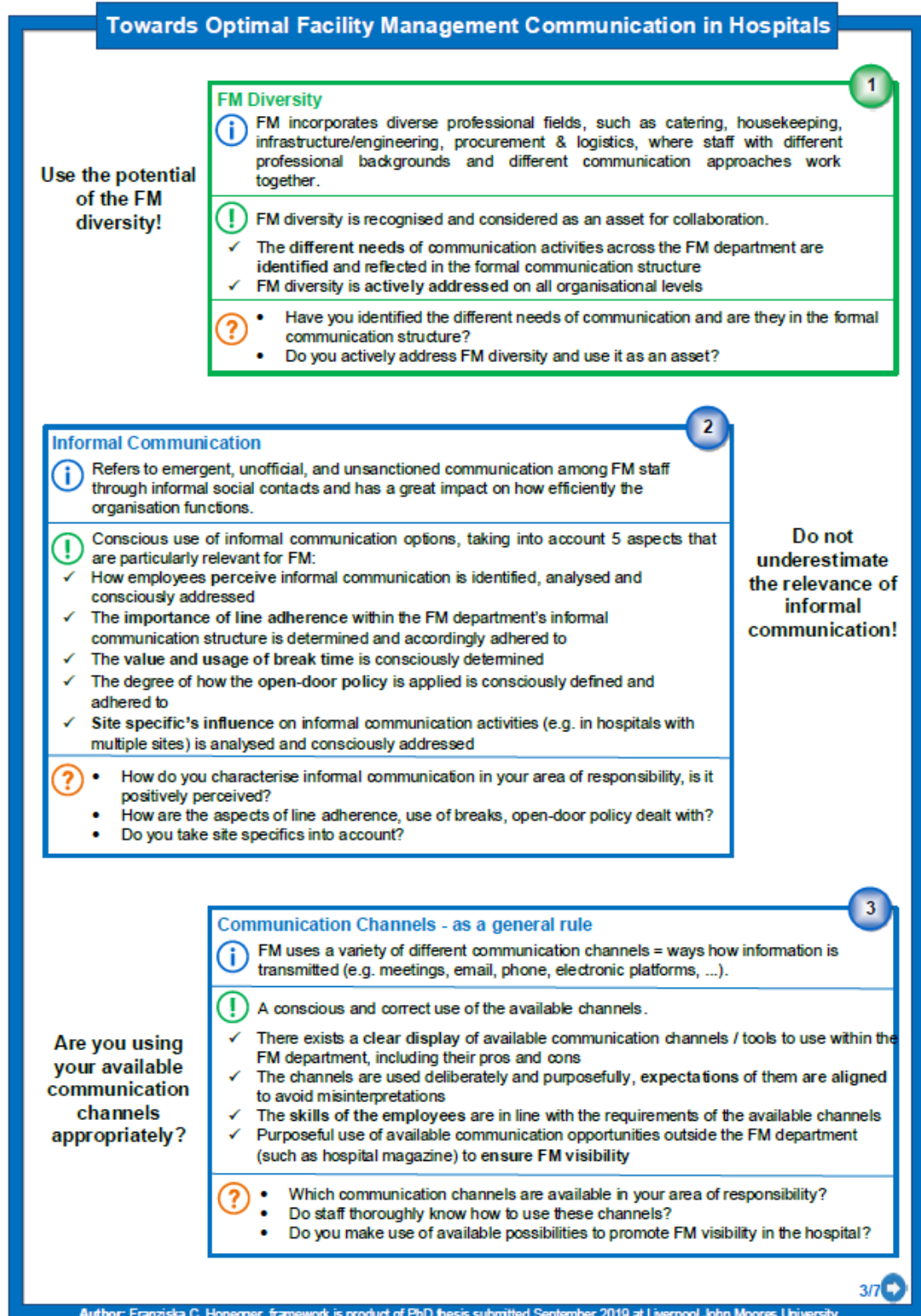
Figure 118: Final FM Communication Framework page 3/7

Towards Optimal Facility Management Communication in Hospitals

4

Communication Channel - Meetings (with more than two persons)

ⓘ Scheduled meetings consume a substantial part of FM executives' resources. Hence, it is important that their structure is aligned and meeting time is used purposefully.

Peter Drucker, one of the most well-known representatives of management theory, defines meetings as necessary when people with different jobs have to cooperate to complete a joint task. Because the knowledge and experience needed to do that does not exist in only one mind, but has to be built from the knowledge and experience of several people. FM Diversity offers the best conditions for this.

⚠ An aligned structure of scheduled meetings, fitted to the requirements of the individual FM department's characteristics and positively assessed by both meeting chair and participants is in place.

Do not waste any meeting time!

- A visual **display of the current communication structure** acts as a basis for any improvement. You find an example of such a display on page 5 of this guideline. Such a figurative representation helps to check whether structure and rhythm, as a whole, matches by providing a tangible overview of the
  - o meeting hierarchy; what takes place on which level
  - o timing of meetings; enabling cascade top-down to prevent delays
  - o lateral and vertical communication flow,
  - o interdivisional communication activities
- Conscious decision of **where meetings take place**; conscious use of spatial factors is especially important for multisite hospitals
- Mindful decision of **meeting style** – classic sit-down scheduled meeting vs. newer meeting styles, by reflecting on styles used and trying newer ones that might fit better.
- **Preparation:** Shared definition of what makes a good preparation for participants and chairpersons; by
  - o detecting and taking into account participants' expectations of the chair role
  - o clarifying participants' tasks in preparing meetings
  - o agreeing on the use and preparation of meeting agenda by participants and chairs
  - o clarifying why topics on standing agendas are important and how they relate to the department's activities and aims; reviewing the agenda if necessary
- **Procedure**: Expectations on meeting procedures including role of the participants are managed in order to prevent negative meeting feelings interfering with the aspired meeting outcome by
  - o reflecting on time adherence
  - o jointly defining and agreeing on behavioural norms and regularly reflecting on their adherence.
- **Content:** Opinions and expectations on meeting content are clarified and jointly agreed on. Discussions and decisions are primarily based on cost and process transparency and where this is not possible, the lack of either of these crucial aspects is recognised and measured to reach transparency.
- **Evaluation:** Takes place regularly by both the meeting chair and participants.

❓
- How does your formal communication structure look?
- Do you consciously decide where your meetings take place?
- Does the style of your meetings fit their purpose?
- Is there a shared definition of what makes a good meeting preparation?
- Are the expectations on meeting procedures managed?
- Are opinions and expectations on meeting content managed?
- Are discussions and decisions in your meetings primarily based on cost and process transparency?
- Do you regularly evaluate your meetings?

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Author: Franziska C. Honegger, framework is product of PhD thesis submitted September 2019 at Liverpool John Moores University

Figure 119: Final FM Communication Framework page 4/7

Figure 120: Final FM Communication Framework page 5/7

Figure 121: Final FM Communication Framework page 6/7

Towards Optimal Facility Management Communication in Hospitals

(8)

Communication Challenges

(i) Organisational communication comprises many challenges. Within the context of FM in hospitals 6 areas of leading challenges were identified.

(!) Communication activities are checked against frequently experienced challenges influencing the perception of communication being effective and efficient.
- ✓ **Amount and complexity** of information content and information overload
- ✓ Receiver appropriate **breaking down / filtering** of information
- ✓ The absence as well as the creation of **communication rules and structures**
- ✓ **Language and culture** related to emotions that disturb the factual level of information and often the lacking in German language skills of FM employees
- ✓ Poor use of **communication channels**
- ✓ Information is **not understood** by the recipient as intended by the sender

(?) • Do you consciously check the communication activities in your area of responsibility against the frequently experienced communication challenges?

Actively address the handling of these typical challenges!

(9)

Effective Communication

(i) In terms of the definition of effectiveness as doing the right things, effective communication means that appropriate communication channels are used in the right way. A number of FM executives were asked: What makes communication effective? The result are attributes that could be condensed into three aspects referencing to how a message is sent and received.

(!) Communication activities are checked against the perceived characteristics of effective communication.
- ✓ The **factual content** of any message is communicated **receiver specific**, **timely** and **focused** & **precise**
- ✓ The message is sent r**espectfully**
- ✓ The sender reveals him-/herself as a **straight** & **empathic** executive

(?) • How do you characterise your factual communication?
• How do message receivers perceive yourself?
• What do you reveal from yourself through your mode of communication?

How effectively do you communicate?

(10)

Future Prospect of FM Communication

(i) Increasing digitalisation is also affecting FM communication.

(!) The trend is being monitored in response to changing demands on technology and employee skills.
- ✓ There is an **FM specific strategy** in place for dealing with increasing digitalisation

(?) • Do you have a strategy addressing the aspects of digitalisation, aligned with the characteristics of your area of responsibility?

How fit are you with regard to the increasing digitalisation?

Has your awareness of communication activities in your area of responsibility been sharpened?

Have you discovered optimisation potential? Approach it – it is worth it!

Specialised literature and the internet provide you with a wealth of information to organisation specifically develop and implement optimisations.

I wish you to be successful!
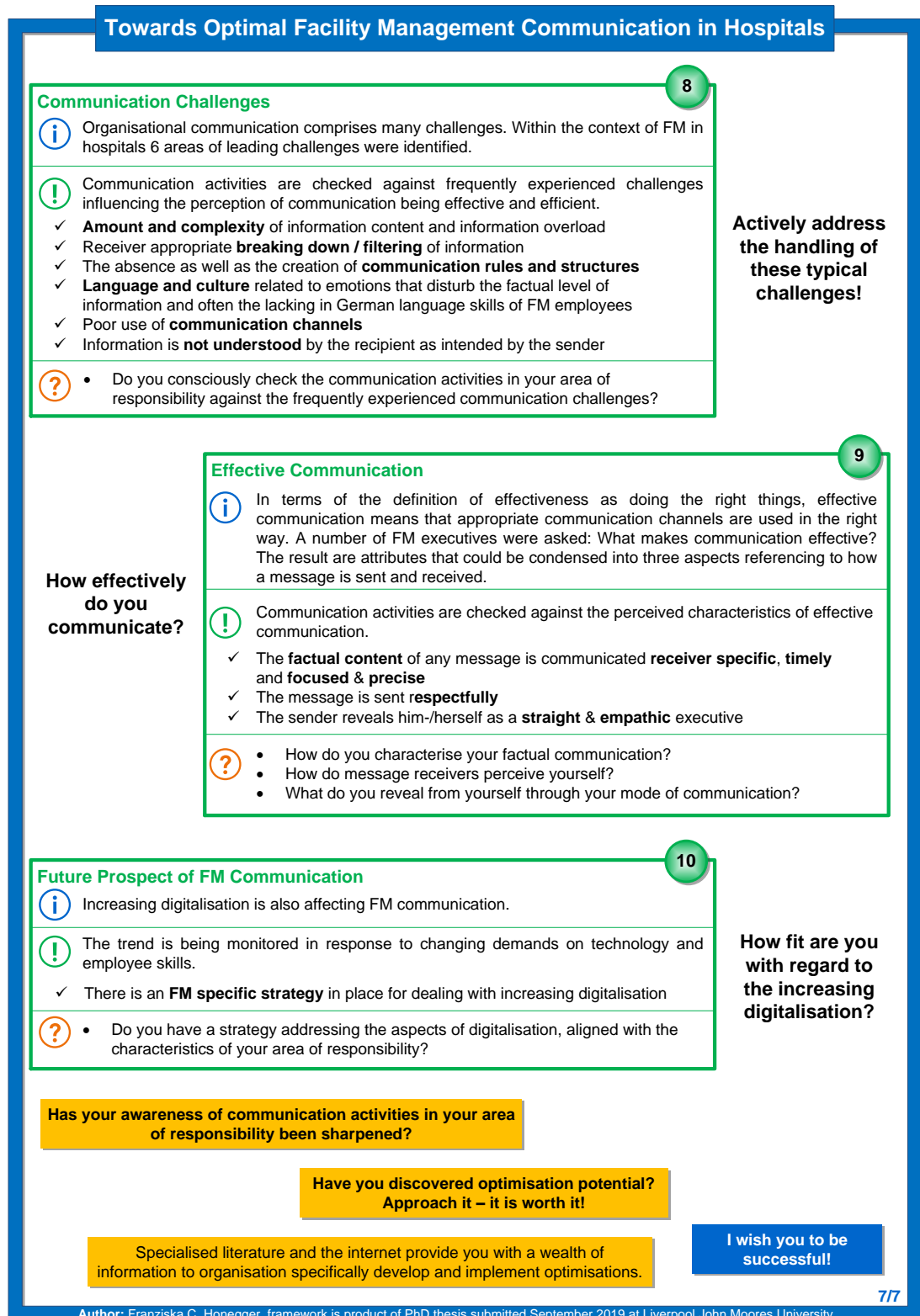
7/7

Figure 122: Final FM Communication Framework page 7/7

9 CONCLUSION

This chapter considers what has been achieved by this research. It responds directly to the thesis aim and objectives. It critically reflects on them, responds to the aimed contribution to knowledge, reflects on the thesis's practical relevance, outlines research perspectives and concludes the thesis with a final remark.

9.1 Critical Review of Research Aim & Objectives

This research set out to: *develop a framework optimising communication procedures in Swiss hospitals' FM departments. The framework shall support FM executives to check and if necessary adjust communication procedures within their respective areas of responsibility.*

In preparation to reflect on the research aim, firstly the research objectives A-E set to operationally investigate the aim are critically reviewed:

9.1.1 Research Objective A

Research objective A
Establish existing knowledge to inform subsequent research objectives, particularly the applied data collection instruments needed to achieve objective B. . This is achieved by the application of a thorough literature review.
Content acquired: Chapter 2 and Chapter 3

According to Nutt and McLennan (2000) FM knowledge largely relies on borrowed management concepts and on expertise from other professional fields. This principle guided the process of establishing existing knowledge informing the subsequent objectives. The funnel analogy worked well to contribute literature by combining the four main theoretical threads on healthcare, FM, organisational theory and organisational communication drawn together to the specifics of this thesis context: FM communication in hospitals. A challenge throughout this process was balancing the complexity of healthcare and within that hospitals and FM as such. Nevertheless, the acquired background contained the aspects needed not only to inform the research tools applied but also to critically examine the results in light of the previous state of knowledge in the synthesis part of this thesis, leading to the 10 key elements of the FM communication framework. Moreover, the carefully derived conclusion of the background served as a guiding structure to present the thesis results, guided their discussion and hence enabled a neat overall structure of this thesis content.

9.1.2 Research Objective B

Research objective B
Establish existing communication activities in hospitals FM departments. To state current communication procedures in terms of channels used, responsibilities and corresponding challenges. **Guiding sub-question: How does communication in hospitals FM departments look?**
Content acquired: Chapters 4, 5 & 6

The methodological actions based on a mixed-method case study research design nested within business and management research were suitable to achieve this objective. The applied data collection methods brought a wealth of information. The process to suitably display the results used many resources in terms of deep engagement with particularly qualitative data analysis procedures. The substantial methodology chapter of this thesis provided necessary guidance to thoroughly address this research objective. After completing it, Nolen and Talbert's (2011) statement that it is especially demanding for the qualitative researcher to engage in philosophical and theoretical inquiry as a guidepost for the lens that will be applied in design selection, sampling procedures, data collection and data analysis protocols can now be fully affirmed by the researcher of this thesis. Retrospectively, the highly attentively developed methodological actions proved to be the right ones to establish this research aim. Another important aspect for this positive outcome provided the combination of the researcher's methodological skills and interest and her professional background with profound knowledge of FM in healthcare. Without this qualification, the complex actions needed to achieve this research objective would not have been managed.

Despite the fitting application of the chosen methodology, the answer to the guiding sub-question is also limited by the same measures. The case study design does not allow us to conclude how communication structures in FM departments of all Swiss hospitals look. Nevertheless, according to Yin (2009) it enables us to draw generalisations from the cases in order to form an overarching theory, which refers to the FM communication framework. In addition, the qualitative results were further backed up with results from the quantitative survey. Hence, the content that fed into the framework is based on a meticulous derivation.

This derivation revealed that communication activities mainly rely on traditional channels such as email, phone and scheduled meetings, with digitalisation still being in its early stages. Meetings and e-mail communication consume substantial resources while being at risk of not using these effectively and efficiently. The majority of hospitals' FM departments do not have specific and consciously aligned communication guidelines available. Meeting minutes revealed that the "FM diversity" by providing a variety of support processes managed by staff with different professional backgrounds and expert knowledge is not thoroughly used as an asset to collaboratively achieve tasks together.

9.1.3 Research Objective C

Research objective C
Develop the initial framework optimising FM communication procedures based on key results from objectives A and B.
Content acquired: Chapter 7

The synthesis of objective A and B cumulated in the development of the initial FM communication framework. The decision to develop poignant key elements was significant as a way to deal with the complexity of the established content. The structure of the key elements required

the researcher to focus on the very essence of the synthesised results. Always bearing in mind the aim of the elements: to provide applicable content to be considered by FM executives to check and if necessary adjust communication activities in their respective areas of responsibility. This involved another reduction of complexity while at the same time ensuring not to lose relevant content. Once the content of these key elements was suitably derived, the question of the nature of a framework turned out to be a challenge in itself. Reflection of the definitions revealed an ample scope in their configuration, led by their individual purpose. Hence in light of the framework's aim to support FM executives the initial version of the framework was developed.

Assembling the content, the 10 key elements, into the figurative framework, provided time to reflect upon them. At times the researcher thought that they almost seem "too simple" to be the result of the rigorous research methodology applied. But trailing their derivation through the discussion and results chapters, through their methodological derivation up to their roots in the background chapter quickly reinforced faith that despite their "simplicity" they do reflect evidence-based aspects of FM communication in hospitals. FM executives are strongly advised to assess, to detect and address potential areas of optimisation. The most revealing aspect shaping FM communication in hospitals is what is summarised in the term "FM diversity". It provides a key aspect overlaying all the others and nails the peculiarities of FM in regard to other management disciplines down to the point. At the same time, it provides also the most challenging aspect for FM executives as it requires them to thoroughly identify this diversity in order to take full advantage of it. Limitations of this research objective came out into the open while dealing with the following research objective D.

9.1.4 Research Objective D

Research objective D
Validate initial framework in order to ensure applicability in practice.
Content acquired: Chapter 8

The validation process of the initial framework was another challenge to be met with the support of rigorous methodological procedures. The discussion on the subjectivity of the design was useful and the amendments following it are comprehensible. The discussion about the purpose and the limitations of the framework and hence its usability in practice were much more substantial. Critical reflection on it leads back to the research problem, stating that no equivalent evidence-based research focusing on FM communication in Swiss hospitals exists. This incorporates that firstly some evidence-based principles needed to be established. What this thesis did was in the sense of elaborating where FM executives' awareness needs to be raised as a basis to optimise communication activities in their areas of responsibility. Within the validation process, this contribution to research and knowledge was acknowledged. Further, based on the fact that the research implication's focus lies on enabling the awareness and not on providing a detailed recipe to ensure optimal FM communication procedures within

the heterogeneous nature of hospitals' FM departments, the validation process confirmed its applicability in practice. A detailed pathway how the research implication's usability in practice is ensured, is provided in section 9.4 Usability of the Research Implication.

9.1.5 Research Objective E

Research objective E
Produce evidence based communication framework supporting a potential optimisation of communication activities in Swiss hospitals' FM departments.
Content acquired: Chapter 8

The thorough validation process led to the final version of the FM communication framework. Based on subjective preferences of FM executives, its design remains open to critique, the content however is based on methodological rigour and the clear statement of the framework's purpose "to raise awareness as a basis for optimisation" including a redefinition of its title, manages expectations of its beneficiaries and clearly positions the value of the framework.

Equipped with the reflection on the research objectives, the reflection on the detailed part of the *research aim* can be done, as presented in following paragraph:

The framework incorporates evidence based information → yes the content of every key aspect is rooted in evidence derived from rigourous methodological actions *on the appropriate use of different communication channels* → it reveals which channels dominate within the context of FM in hospitals, points out aspects to consider for their appropriate use as well as common challenges hindering an appropriate use, but is limited in the way of not being able to exactly specify the appropriate use, this is down to the individual context of FM departments *and points out challenges to handle in order to facilitate an effective and efficient communication within the FM department* → yes it does by stating the six leading challenges within the contest of FM in hospitals overshadowing the appropriate use of communication channels. *The framework is applicable to FM departments in Swiss hospitals.* → Yes it is, in the sense of raising FM executives' awereness on communication activities in their area of responsibility, as a basis for optimisation, triggering executives to consult further literature on how to adress their detected optimisation potential.

9.2   Contribution to Research

The research problem this thesis addressed, was that no equivalent evidence-based research focusing on FM communication in Swiss hospitals existed, triggering the research question: *What are optimum communication procedures in terms of roles, channels and content in order to facilitate effective and efficient support services in Swiss hospitals?* Hence, this thesis set out to provide evidence of originality by going beyond the predominant generic guidelines of organisational communication, by firstly combining management theory, focusing on organi-

sational communication, with the particularities of FM in Swiss hospitals and by providing tangible guidance for FM executives on how to apply the findings for the benefit of hospitals' FM departments. Based on the above critical reflection of the research aim and objectives, addressing the research problem and corresponding question, it can be concluded that this aspired contribution to research was reached through this research. However, the mentioned limitations in the continuum of "raising awareness vs. providing a detailed recipe", see section 9.5, needs to be considered. Hence, the contribution to research provides a first step as a basis for future research opportunities evaluating in more detail the "recipe" aspect desired by FM executives.

A contribution to research that was not foreseen in the beginning of this thesis is, that its fully articulated literature background and rigorous methodological actions offer guidance for researchers to extend the findings to settings beyond the parameters of this thesis. Highlighted within the various methodological procedures developed and used to analyse FM communication activities, can be the ones used to analyse meeting minutes. These actions were received well by both academics and practitioners at a conference presentation with corresponding publication in the proceedings (Honegger, Tucker and Hofer, 2019). In addition, the suggested method of figuratively representing data of current communication activities, as a basis to assess their alignment, turned out to be a viable tool to bring optimisation of FM communication activities forward.

Based on above, it can be summarised that this research fits in with the existing academic literature by providing a clear analysis of aspects influencing FM in hospitals, with focus on organisational communication. It further synthesises these aspects by combining them with empirical work, designed to detect areas of improvement, resulting in the communication framework directly addressing these areas. Hence, this research adds to existing academic literature by providing methodological procedures and research implication directly focusing on the particular business area of FM in hospitals. Through that, it provides an elaborated starting point for further research, as outlined in section 9.6.

9.3   Contribution to Practice

Set in the multidisciplinary field of business and management research an essential requirement for the research results is to have some practical relevance to the business (Toffel, 2016). The practical relevance of this thesis "product" the stand-alone 7-page communication framework optimising FM communication in Swiss hospitals was demonstrated in chapter 8 Framework Validation. Its limitations were outlined before as well. The given practical relevance is also rooted in the background of this thesis. The challenges that healthcare, hospitals and with that FM in hospitals face, do not allow any resources being wasted through ineffective and inefficient communication activities. Once more, it needs to be emphasised that fitting FM communication activities are a prerequisite for the FM to function, to deliver its agreed services

to support the hospital's core business medicine and care. The crisp style of the FM communication framework, directly addressing FM executives through self-check questions and evocative statements certainly supports the alignment of fitting FM communication activities.

9.4   Usability of the Research Implication

Aligned with the research implications resulting out of research applied in the area of business and management research, see chapter 3.1, whose characteristic is the requirement for the research results to have some practical value of benefit to the business, this section addresses how the usability of FM Communication Framework is ensured in practice. According to Soegaard (2020), usability is part of the broader term "user experience" and refers to the ease of access and/or use of a product. This process is also known as "knowledge dissemination", the process of connecting research findings in academia to broader communities (Sá et al. 2011). Gainforth et al. (2015) define this process as "moving research into the hands of research users" (p. 56).

In accordance with above, this thesis's research implication shall be easily accessible for its beneficiaries, the research users, which are primarily FM executives in Swiss hospitals. These beneficiaries are practitioners, hence they generally do not have access to traditional academic distribution channels such as ResearchGate, academic journal or proceedings of academic conferences. Hence, an openly accessible distribution channel needs to be used to overcome this barrier. In their study, Kjellberg and Haider (2019) state that alternative kinds of scholarly communication with peers through academic networks or general-purpose social media are considered important and are actively fostered. These authors further state that social network sites, as well as webpages, are predominantly perceived of and used as tools to promote publications. The use of online distribution channels to distribute research implications is also recommended by Duffy and Pooley (2017) who state that online visibility is increasingly turning into something individual researchers have to consider. Fittingly, Manca and Ranieri (2017) highlight that academic digital practices are varied and "motivations and associated practices" reflect "the diversity of the different conventions that characterise each academic discipline."

Referring back to the academic discipline of business and management research this thesis's research implication is derived from and taking the motivation for it to be easily accessible for FM executives, the use of an online distribution channel frequented by the beneficiaries needs to be considered to promote and distribute the FM communication framework. Based on these requirements, LinkedIn was chosen as a fitting distribution channel. LinkedIn is the world's largest professional network on the internet and can be used to write posts, articles and upload documents (LinkedIn, 2020). Even publishers providing traditional academic channels advise authors to use this network, such as Cambridge University Press - Author Hub (2020) stating that showcasing publications from within LinkedIn profiles encourages peers and others who are interested in the work, to find out more about it and provides them with an easy way to

access them. Another advantage of using the thesis' author personal LinkedIn profile to publish the FM communication framework is that the publication stays with the profile and hence is independent from any changes of the professional affiliation. For that reason, sole publication on the researcher's institutional website was ruled out, to ensure sustainable access to the publication. Further, with reference to the authors CV, see appendix A, there is a strong network with over 230 followers of the authors profile available, many of them being FM executives in hospitals. Appendix W Framework Usability – LinkedIn Post shows the post generated to distribute the FM communication framework for the benefit of practitioners. After two weeks of posting it, the post has been viewed more than 2'400 times, see Figure 123.
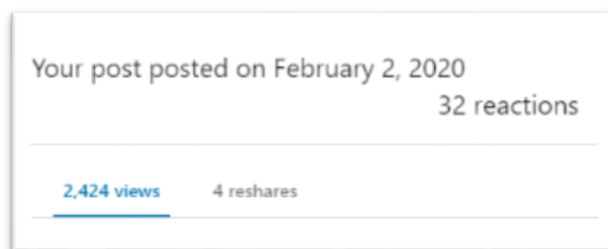

Figure 123: Post Views, source: LinkedIn Statistics, February 16th 2020

To mitigate the risk of just focusing on one publication channel, although it is a powerful one, the research implication is additionally distributed at conferences frequented by the beneficiaries. Figure 125 shows the example of a publication that can be distributed as a poster or flyer at conferences frequented by FM executives. The design can easily be adapted to the conferences requirements. Centerpiece is a QR code that leads the potential beneficiary directly to the LinkedIn post from where the framework can be downloaded, see Figure 124. Advantage of using a QR code is that it allows easy access to the publication through the use of a QR code reader on a smartphone, a device which today almost every conference participant carries along. The display of the poster and or flyer shall actively nudge FM executives to download their personal copy of the framework. Taking into account how social media platforms work, these downloads again trigger publicity of the framework and assist in distributing it further within the fitting network of hospital FM executives.

Figure 124: QR code leading to the LinkedIn post distributing the research implication, source: self-study

Figure 125: Example of poster / flyer distributed at conferences frequented by FM executives, source: self-study

For the German version of the FM communication framework, the same procedures to ensure its usability in practice have been applied. Both, the German LinkedIn post and the corresponding poster triggering beneficiaries to use the framework was launched at the 2020 event of the annual conference "FM Perspektiven" hosted by the Institute of Facility Management at Zurich University of Applied Sciences (ZHAW IFM, 2020). The institute focuses on applied

research and development for the benefit of FM practitioners in healthcare. Hence, the conference is directly frequented by the beneficiaries of the framework.

Barriers to adoption of the research implication in practice are seen in the actual use of the FM communication framework. Ease of access is one important part of adopting it in practice, for the beneficiaries to actually use the framework to analyse and adjust communication activities within their area of responsibility is the other part. The design of the framework, containing questions aimed to directly trigger FM executives to think about their meaning, supports this part of adoption in practice. The barrier of actual use can further be overcome by positive word of mouth within the community of hospital FM executives, supported by FM executives who have successfully used the framework. An example of that is shown in Figure 126.
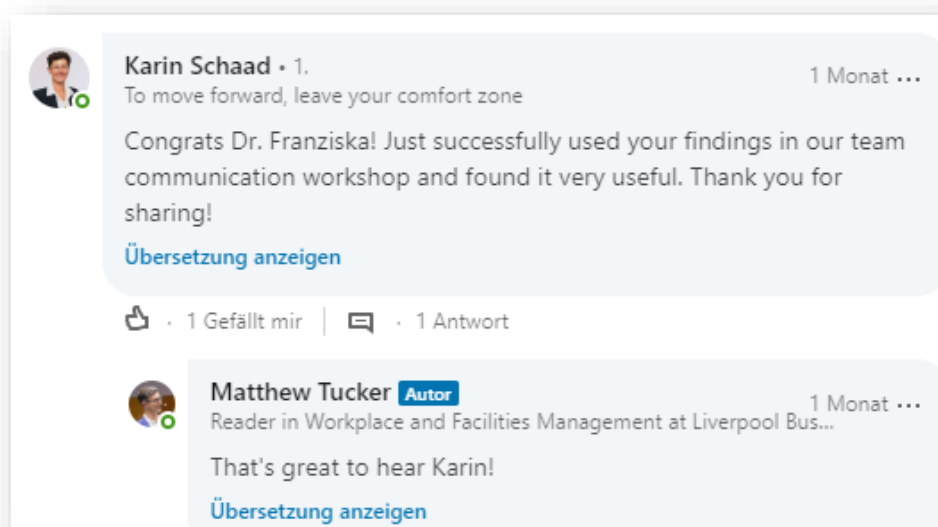
Figure 126: Example of positive reaction to adoption of research implication in practice, source: Tucker (2019)

The applied mechanisms to ensure usability of the research implication are fitted to sustain over time and will continuingly be promoted by the author herself in her role as an FM executive in a hospital. The fact that the author is a direct beneficiary of the FM communication framework herself supports credibility and hence usability of it.

9.5   Research Limitations

Research limitations are rooted in the choice of the methodology. The particular focus on communication activities within the particular setting of FM departments in German-speaking Swiss hospitals, suitably addressed by an extensively elaborated case study inquiry strategy, is equally a strength of this research as it is a limitation. By the nature of case study research, generalisations beyond that particular setting cannot be made. Hence, the research implication is limited to that particular setting. But, as the beneficiaries of the research implications

are located within that particular setting, this limitation does not diminish the value of this thesis. It just confines its potential benefit to similar settings as its use, for example for hospitals in the UK context, cannot be scientifically confirmed.

Further research limitations are nested within the content of the FM communication framework and particularly emerged within the first phase of the validation process. The clearly stated purpose of the framework is to raise FM executives' awareness on their communication activities. Hence, it is limited as the frameworks content does not go beyond stating where to raise awareness by providing detailed measures on how to actually optimise FM communication. Measures in the sense of providing detailed "recipes" for FM executives guaranteeing them optimal FM communication structures. Considering the diversity of hospitals' FM departments influenced by individual backgrounds and preferences of FM executives and by the shaping organisation of the hospital itself, it is questionable whether such recipes are achievable.

Nevertheless, despite these two main areas of research limitations, the thesis provides a solid basis to overcome these limitations as they trigger future research opportunities. These opportunities are introduces in the next section.

9.6   Recommendations for Further Research

Based on the aforementioned limitations and that this thesis firstly addressed the specific context of FM communication in Swiss hospitals, there are four recommendations for further research to be pursued as a logical extension of this thesis:

- the continuum of "raising awareness vs. providing a detailed recipe" needs to be elaborated towards exploring ingredients for recipes. In terms that are more scientific: the developed 10 key aspects of this thesis need to be equipped with concrete actions supporting FM executives beyond their rising awareness that aspects of the element need to be improved. To derive evidence-based results, a profound methodology is required.
- the FM Diversity as a unique element of FM as such offers potential to be exposed in more detail, regarding FM communication emphasis should be laid on how to foster collaborative engagement factoring in the different needs of the various professional backgrounds.
- the evolvement of digitalisation in hospitals' FM departments and the skills required to keep up with this trend, by offering supporting research results to handle this change.
- further, this thesis's implication for future research can be seen in terms of the methodological procedures provided, which could be aligned to explore other research questions.

With regard to the concept of generalisability, see chapter 3.12.3, recommendations for further research furthermore include to evaluate to what extent the findings of this thesis do apply to research settings other than the particular context of German-speaking Swiss hospitals. For example could the methodology used be applied to the particular context of NHS hospitals in the UK or hospitals in any other country. Further, the methodology used could be applied for FM in other settings than hospitals, for example of large industrial companies. Such research

could then lead to FM communication frameworks aligned with eventual particularities of these settings.

9.7   Final Remark – Rigorous Simplicity

Organisations must strive and continually adapt in order to sustain competitiveness and remain viable within uncertain environments. Organisational communication plays a crucial role in this continuing process. The title of this thesis is: OPTIMISING FACILITY MANAGEMENT (FM) COMMUNICATION IN SWISS HOSPITALS: THE DEVELOPMENT OF A FM COMMUNICATION FRAMEWORK. *Optimising* it is, through rising awareness, through shedding light on how FM communication in Swiss hospitals works. The *development* of the framework is the essential achievement and hence contribution of this thesis. It discovered layers of communication in front of the particular background of hospitals FM diversity. The resulting guideline is a framework and it guides but it provides also a snapshot of how current FM communication activities in Swiss hospitals are characterised. Something that due to the technological process fostered by increasing digitalisation has been and will be changing over time. Despite the fact that some of the framework's content might change over time, it is timeless in that it supports FM executives. Their role incorporates awareness of the diverse pathways of communication in their areas of responsibility. It incorporates providing a structure, suitable communication channels and knowledge of how to use them. It incorporates providing an aligned communication structure to enable an efficient and effective FM for the benefit of the hospital's core business. On that note, the product of this thesis, the framework acting as a guideline to raise FM executives' awareness to develop FM communication towards being optimal, aligned to their individual organisation's needs is an asset. Besides the development of the framework and the consequent contribution to knowledge, the other main strength of this thesis is the simplicity, clarity and hence applicability of the stand-alone 7-page framework. It provides accessible form and content that FM executives can relate to. **Content that looks simple but is engrained in rigorous methodology**. As the challenges healthcare and hospitals face are not expected to diminish, organisational communication within FM departments is not going to lose its significance either. Hence, the more of the framework's self-check questions FM executives check as accomplished, the better.

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11 APPENDICES

List of Appendices

A. CV Franziska C. Honegger

Professional Experience

September 2010 to present: Senior Research Associate Institute of Facility Management, Zurich University of Applied Sciences, Switzerland
Main responsibilities: Projects in applied research and development in the area of FM in healthcare with industrial partners, teaching activities on BSc level, consulting projects for hospitals and other institutions in the healthcare sector.

January 2019-to present: Head of Hotel Services, Kantonsspital Aarau AG (county hospital)
Responsibility of the departments: cleaning, kitchen, restaurants, patient services, 206 FTE/360 heads. Besides daily management work to move the area of responsibility forward in the context of restricting economical resources, the hospital plans a complete new build to be opened in 2024, which demands high involvement in the planning process to enable sustainable hotel services as part of hospitals facility management.

September 2017- December 2018: Head of Cleaning Department, Kantonsspital Aarau AG
Responsibility of the cleaning department 102 FTE/ 170 heads – focus on reengineering cleaning services

February 2008 to August 2010: Assistant of Head of Hotel Services
"Alterszentren" (nursing homes) of the City of Winterthur, Winterthur, Switzerland

Traineeships as part of the education
- **August 2006 to January 2007: Trainee in Management of Cleaning Department** University Hospital Bern, Bern, Switzerland
- **August 2005 to September 2005: Assistance in Management of Catering Department** Hospital Buelach, Buelach, Switzerland
- **February 2004 to July 2004: Trainee in Key Account Management** Sevis Facility Services AG (now part of ISS Switzerland), Zurich, Switzerland
- **August 2003 to January 2004: Trainee in Domestic Support Processes** Buergerspital St. Gallen (geriatric hospital), St.Gallen, Switzerland

Education

2015 – to present: PhD at Liverpool John Moores University, Faculty of Engineering and Technology
Thesis Title: Towards an optimal FM communication in Swiss hospitals - The development of a communication framework

2001-2013: Master of Science ZFH in Facility Management, Zurich University of Applied Sciences, Switzerland
Title master thesis: FM in Hospitals - Key Success Factors for Operating Schemes. Final Grade: 5.58 (6 is the highest, 1 the lowest grade), highest grade among the graduates of 2013.

2004-2008: Bachelor of Science in Facility Management , Zurich University of Applied Sciences, Switzerland
Title bachelor thesis: Hotel Services in Hospitals. Final Grade: 5.3 (6 is the highest, 1 the lowest grade)

Further Education
- 2014 CAS Hochschuldidaktik (university didactics)
- 2014 Mentoring Program – Women for leadership positions

Research Experience

Research Area: Facility Management in Healthcare
As project leader:
- 2016 - 2017 USZ FM Horizon 2030: Development of sustainable FM strategies for a Swiss University hospital in correspondence with a planned new build
- 2014 - 2016 KTI Project: Hospital Planning - Revisited and Reloaded (V2): Development of a guideline for hospital executives planning a new build
- 2013 - 2015 Hospitality Benchmark in Healthcare: Development of Cleaning Benchmark
As project staff:
- 2014 Professionalisation of FM in healthcare
- 2011 - 2012 KTI Project: Wirksamkeit von Kostform-Optimierungen
- 2011 Fachplanung Subprojekt FM: Development of tender documents for a hospital new build
- 2011 FM x 3: Reorganisation of FM department due to merger of 3 hospitals

- 2010 - 2012 KTI Project Value of Support x 2: Development of a Hospitality Benchmark in Healthcare – Focus Catering

Teaching Experi-
ence

ZHAW study program Bachelor of Science in Facility Management
- Module responsibility «scientific work 2» (2. semester)
- Course responsibility: «research methods» (2. semester)
- Co-course responsibility «Lodging Operations» (6. semester)
- Lectures in course «Hospitality Services» (1. semester)
- Lectures in course «event management» (6. semester)
- Supervision of Bachelor theses, project works, term works

ZHAW Study program Master of Science in Facility Management (taught in English)
- Introduction Week – Introduction of Hospitality Management
- Module Applied Research Project: Supervising Research Labs
- Diverse lectures on the topic of Facility Management in Healthcare
- Supervising FM International study week an der Liverpool John Mores University / GB

ZHAW Weiterbildungsstudiengang Facility Management
- Redesign Certificate of Advanced Studies (CAS) «Sourcing in Facility Management»
- Lectures on research methods Master of Advanced Studies (MAS) in Facility Management

Organisations

International Federation for Home Economics (IFHE): www.ifhe.org
- Vice-President Region Europe 2016-2020, Member Executive Committee
- Chair Swiss Section since 2014 www.ifhe.ch
- Chair Programme Committee for Institutional and Hospitality Management, since 2012

Publications
(Peer-Reviewed)

Honegger F.C.; Tucker, M.; Hofer, S. (2019). Minutes of FM Meetings in Swiss Hospitals – Worth a Look at. In: Tucker, M., Edit., Research Papers for the 18th EuroFM Research Symposium. EFMC 2019, Dublin, Ireland, 12-14 June 2019. EuroFM. p. 88-99.

Honegger, F. (2019). Towards an optimal FM Communication in Swiss Hospitals - the Development of a Communication Framework. Faculty of Engineering and Technology, Liverpool John Moores University, Poster for Faculty Research Week, 14.-16. Mai.

Honegger, F.C., Hofer, S.; Kosik, N. (2018). The use of facility management strategies in Swiss hospitals: an overview. In: ASFM Fall Colloquium at UNC Charlotte & IFMA World Workplace Academic and Research Track, Charlotte USA, 24. November 2018.

Honegger, F. (2018). Towards an optimal FM Communication in Swiss Hospitals - the Development of a Communication Framework. Faculty of Engineering and Technology, Liverpool John Moores University, Extended Abstract in Proceedings of Faculty Research Week, 14.-18. Mai.

Honegger, F. (2017). Towards an optimal FM Communication in Swiss Hospitals - the Development of a Communication Framework. Faculty of Engineering and Technology, Liverpool John Moores University, Poster for Faculty Research Week, 9.-13. Mai.

Honegger, F.; Mäder, M.; Wattenhofer, D.; Hofer, S. (2016). A Systematic Look at FM's Organisational Structure in Swiss Hospitals. IFMA Academic & Research Track Proceedings World Workplace Conference in San Diego.

Honegger, F.; Weilenmann, S. (2016). Hospital Catering – A Look at Products, Pricing and Atmosphere. In: International Federation for Home Economics (Hg.). XXlll IFHE World Congress 2016 - Abstract Book + Full Paper. Daejeon Convention Center, Daejeon, Korea. (145). Daejeon: IFHE.

Honegger, F.; Schmidt, R.; Zanettin, G.; Hofer, S. (2016). Moving non-nursing Activities to FM - example of a successful collaboration of FM research and practice. In: Susanne Balslev Nielsen; Per Anker Jensen (Hg.). Research Papers for Eurofm's 15th Research Symposium at EFMC2016 8.-9. June 2016 in Milan Italy (198-207). Lyngby: Polteknisk Forlag.

Honegger, F. (2016). Towards an optimal FM Communication in Swiss Hospitals - the Development of a Communication Framework. Faculty of Engineering and Technology, Liverpool John Moores University, Poster für Faculty Research Week, 9.-13. Mai.

Honegger, F.; Betschart, M.; Züger, G.; Hofer, S. (2015). A Method to Benchmark Cleaning Services in Swiss Hospitals: IFMA Academic & Research Track Proceedings World Workplace Conference in Denver. International Journal of Facility Management, 6, 1.

Züger, G.; Honegger, F. (2015). Coordination of staffing interactions and processes for providing food service in Swiss Hospitals. In: Alexander, Keith; Price, Ilfryn (Hg.). EuroFM Research Papers Advancing knowledge in FM. People Make Facilites Management. (44-50). PD Schiphol-Rijk: EuroFM Publications.

Honegger, F.; Hofer, S. (2015). People make FM – An approach to professionalising FM services in a Swiss Hospital. In: Alexander, Keith; Price, Ilfryn (Hg.). EuroFM Research Papers - Advancing knowledge in FM. People Make Facilites Management. (237-242). Schiphol-Rijk: European Facilities Management Network (EuroFM).

Züger, G.; Honegger, F. (2014). Essential Requirements for the Parameterization of Food Waste in Hospitals: IFMA Academic & Research Track. World Workplace Conference in New Orleans. International Journal of Facility Management, 5, 2. 111-120.

Windlinger Inversini, L.; Hofer, S.; Coenen, C.; Honegger, F.; von Felten, D.; Kofler, A.; Wehrmüller, T. (2014): FM research in Switzerland. Facilities, 32, 1/2. 18-26.

Hofer, S.; Honegger, F.; Züger, G. (2013): A Method to Benchmark Swiss Hospital Catering: IFMA Academic & Research Track Proceedings, World Workplace Conference in Philadelphia. International Journal of Facility Management, 4, 3.

Hofer, S.; Honegger, F.; Hubeli, J. (2012): Health tourism - definition focused on the Swiss market and conceptualisation of health(i)ness. Journal of Health Organization and Management, 26 60-80.

Hofer, S.; Honegger, F. (2012): Swiss Hospital Food - Optimisation Potential. International Federation for Home Economics (IFHE) XXII World Congress, Melbourne, Australia, 16.- 21.7.2012, Abstract Proceedings 124.

(non-Peer-Reviewed)

Honegger, F. (2019). Effiziente FM Kommunikation im Spital (un)möglich?: Referat. In: Projektnetzwerktreffen FM Perspektiven. Projektnetzwerktreffen . (5. April 2019). Wädenswil: ZHAW IFM KG HM.

Honegger, F.; Züger, G.; Betschart, M.; Ammann, B. (2016). Hotellerie Benchmark im Gesundheitswesen. Facility Management – Here we go! - Beitrag Symposiumsband ZHAW/IFM, Zürich Nov. 2016.

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Hofer, S.; Honegger, F. (2016). Facility Management (FM) – Unwort oder Allheilmittel?: Fachtagungsreferat. In: Fachtagung Bau und Betrieb von Spitäler . Fachtagung. (4. November 2016). Technische Universität Wien: Management Forum Starnberg GmbH.

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Honegger, F. (2016). Auch eine Spitalplanung kann reibungslos über die Bühne gehen!? – das etwas andere Handbuch: Kongressvortrag. In: Immohealthcare 2016. Kongress. (12. Mai 2016). Eimeldingen bei Basel: EUROFORUM Schweiz AG.

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Züger, G.; Honegger, F. (2015). 30 Prozent Food Waste. Heime und Spitäler, 2. 36-39.

Züger, G.; Honegger, F. (2015). Die zentrale Rolle des FM erkannt: Erster Schritt zur Kostentransparenz innerhalb der nicht-medizinischen Supportprozesse. Clinicum, 2. 104-106.

Honegger, F.; Hofer, S. (2014). «Qualifizierte Services in Geldwerte umsetzen?!?»: Konferenzvortrag. In: 4. Fachkonferenz, Strukturen des Spitals der Zukunft. Konferenz. (17 Oktober 2014). Luzern: Blezinger Healthcare Academy.

Hofer, S.; Honegger, F.; Züger, G. (2013). Prozessmanagement für die Spitalgastronomie. Transfer, 1. 4.

Hofer, S.; Honegger, F. (2010). Gesundheitstourismus Position und Potential. Transfer, 3. 6.

B. Actions to close academic practice gap

Action so close academic and practice gap, as suggested by Toffel (2016):

Actions	Evidence of author's and her institutions (ZHAW) main actions
Create On-campus Encounters	2 annual conference days for practitioners – where research and development activities are disseminated and discussed: "FM-Day" and "FM-Perspektive" focusing on FM in healthcare
Attend Practitioner Conferences	Biannual conference "Hotellerie im Spital" (hotel services in hospitals", organised by University hospital Bern, Hospital Build Conference in Switzerland and Austria, diverse meetings of industry associations such as FMpro, IFMA
Attend Crossover Workshops	Ongoing as part of joint research-industry projects in the applied research and development area FM in healthcare.
Conduct Field Visits	Regularly as part of both professional trips and private interest. Examples of conducted visits: Clock View Mersey Care; North Middlesex University Hospital, London; University Hospital Hamburg Eppendorf, University Hospital Vienna, University Hospital Copenhagen; Mass General, Boston; The Royal Melbourne Hospital, and almost all Swiss Hospitals as part of research activities for and with practitioners.
Work as a Practitioner	Since 2017 high level management position within a large hospital = directly within research context, see CV in appendix A for that and more practice experience.
Develop a Sounding Board of Practitioners	The institute of facility management at Zurich University of Applied Sciences has a standing advisory board to develop sustainable curricula and applied research and development activities.
Conveying Relevant Insights to Practitioners Co-author with Practitioners	Dissemination of applied research and development projects are co-authored with practitioners. Joint research activities ensure a standing conveying of insights.
Present & Write for practitioners	See list of publications (especially non-peer reviewed) as part of the CV in appendix A

C. Cover Information Thesis

Cover Information for Gatekeeper Fieldwork part 1
English Translation/ Anonymised

LIVERPOOL JOHN MOORES UNIVERSITY

Title of Dissertation: Towards an optimal facility management communication in Swiss hospitals – the development of a communication framework

Goal Fieldwork 1: Establish existing communication activities in hospitals FM departments. That acts as a basis to develop a subsequent quantitative survey across all German-speaking acute hospitals in Switzerland.

Why your hospital: As representative of a multiple sited hospital / one sited hospital

Who within the hospital: Executives within the hospitals FM department

What
Capturing IS-situation «FM communication» in hospital through 3 data collection methods:

	Interviews à max. 30 min.	Document analysis	self-administered observation (Email amount)
Goal	Capture communication structure and experiences	Analysis of meeting content	Overview email amount
Who/what	See overview interview participants below	Minutes from meetings level 1-3	Interview participants
Analysis	Transcription, thematic coding	Thematic coding	Deskriptive statistics
Period	July / August 2017	Minutes from year 2016	1 week in september 2017

Overview interview participants (real names were included in the distributed information)

Level 1	Level - Bereichsleitende	Stufe 3
Name of department head	Name of division head	Sub-division heads
	Name of division head	
	Name of division head	
	Name of division head	
	Name of division head	

The interview guideline will be sent by email in advance.

Confidentiality: Will be guaranteed during and after the preparation of the dissertation. All personal and organisational information is displayed anonymously in the thesis. See also «Gatekeeper Information Sheet» und «Gatekeeper Consent Form» for more details about confidentiality.

Benefit Hospital
Analysis of «FM communication» - Presentation of results and their implications latest after completion of the thesis. Self-reflection of communication activities through participation in data collection.

Applicable Documents
- Poster overview thesis content
- «Gatekeeper Information Sheet» und «Gatekeeper Consent Form»

D. Gatekeeper Information & Consent Form

Gatekeeper Information Sheet

**LIVERPOOL JOHN MOORES UNIVERSITY
GATEKEEPER INFORMATION SHEET**

Title of Project: Towards an optimal facility management communication in Swiss hospitals – the development of a communication framework

Name of Researcher and School/Faculty:
Franziska Honegger, School of Built Environment/Faculty of Technology and Environment

What is the reason for this information sheet?
This information sheet provides you with information about an ongoing research project in order for you to decide whether or not your organisation takes part in it.

What is the purpose of the study?
To develop a framework guiding an optimal communication in Swiss hospitals' FM departments. This incorporates evidence based information on the appropriate use of different communication channels, states responsibilities of different roles and points out relevant content to be processed in order to facilitate an effective and efficient FM.

How do we achieve the purpose?
In order to develop the communication framework we need information about current communication processes in hospitals FM departments. To collect this information we would like to conduct the following methods:
*   Interviews with you, as the head of FM department, with the heads of your organisations sub-FM departments
*   Content analysis of documents (such as minutes from meetings)
*   Self-Observation of E-Mail communication

What are we asking you to do?
To consider your organisation taking part in this study. And if that is the case, to provide contact with employees to be interviewed, provide access to documents relevant for the study's purpose and provide access to the self-observation of E-Mail communication.

How we will use the Information?
Confidentiality of your organisation is being safeguarded during and after the study. Any personal information collected during the study will be anonymous and remain confidential after completion of the study.

If you are willing to assist in the study what happens next?
Sign and return the **Gatekeeper Consent Form** provided and the researcher will get in touch with you to set up the details for data collection.

This study has received ethical approval from LJMU's Research Ethics Committee
REC reference number: 15/BUE/005 *and date of approval:* 22th July 2015

Should you have any comments or questions regarding this research, you may contact the researchers:
Contact Details of Researcher: Franziska Honegger: F.C.Honegger@2014.ljmu.ac.uk
Contact Details of Academic Supervisor: Dr. Matthew Tucker M.P.Tucker@ljmu.ac.uk

If you have any concerns regarding your involvement in this research, please discuss these with the researcher in the first instance. If you wish to make a complaint, please contact researchethics@ljmu.ac.uk and your communication will be re-directed to an independent person as appropriate.

Consent Form Gatekeeper

LIVERPOOL JOHN MOORES UNIVERSITY
GATEKEEPER CONSENT FORM

Title of Project: **Towards an optimal facility management communication in Swiss hospitals – the development of a communication framework**

Name of Researcher and School/Faculty:
Franziska Honegger, School of Built Environment/Faculty of Technology and Environment

Please tick to confirm your understanding of the study and that you are happy for your organisation to take part and your facilities to be used to host parts of the project.

Aim of the study: To develop a framework guiding an optimal communication in Swiss hospitals' FM departments. This incorporates evidence based information on the appropriate use of different communication channels, states responsibilities of different roles and points out relevant content to be processed in order to facilitate an effective and efficient FM.

Gatekeeper agrees to: Provide contact with employees to be interviewed, provide access to documents relevant for the study's purpose.

1. I confirm that I have read and understand the information provided for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.

2. I understand that participation of our organisation and students/members in the research is voluntary and that they are free to withdraw at any time, without giving a reason and that this will not affect legal rights.

3. I understand that any personal information collected during the study will be anonymous and remain confidential.

4. I agree for our organisation to take part in the above study.

5. I agree to conform to legal data protection requirements.

Name of Gatekeeper: Date:

Signature:

Name of Researcher: Date:

Signature:

Note: When completed 1 copy for gatekeeper and 1 copy for researcher

E. Participant Information & Consent Form – Interview

Participant Information Sheet Interview

LIVERPOOL JOHN MOORES UNIVERSITY
PARTICIPANT INFORMATION SHEET
Interview

Title of Project: Towards an optimal facility management communication in Swiss hospitals – the development of a communication framework

Name of Researcher and School/Faculty: Franziska Honegger, School of Built Environment/Faculty of Technology and Environment

You are being invited to take part in a research study. Before you decide, it is important that you understand why the research is being done and what it involves. Please take time to read the following information. Ask us if there is anything that is not clear or if you would like more information. Take some time to decide if you want to take part or not.

1. What is the purpose of the study?
The purpose of this study is to develop a framework guiding an optimal communication in Swiss hospitals' FM departments. This incorporates evidence based information on the appropriate use of different communication channels, states responsibilities of different roles and points out relevant content to be processed in order to facilitate an effective and efficient FM.

2. Do I have to take part?
No. It is up to you to decide whether or not to take part. If you do, you will be given this information sheet and asked to sign a consent form. You are still free to withdraw at any time and without giving a reason. A decision to withdraw will not affect your rights.

3. What will happen to me if I take part?
You will be asked to sign or initial the participant consent form. You will then be asked to participate in an expert interview which should take up to 1 hour and will contain questions about the nature of communication in the hospital you work in, focusing on the FM department.

4. Are there any risks / benefits involved?
There are no risks associated with taking part in this study. However there may be several benefits in taking part, as you are actively involved in the development of a research result "FM communication Framework" that is of benefit to your field.

5. Will my taking part in the study be kept confidential?
All participants will be asked to respect confidentiality. You do not have to provide a name, (you can just initial) on the consent form. Confidentially of data will be ensured after the interview. A number will be applied to the consent form instead of names and therefore, the information you provide cannot be identified with your name. You are requested to provide the researcher with a signed or initialled consent form. This will be kept separately by the researcher from any other information you provide. This data will be stored securely after completion of the study.

This study has received ethical approval from LJMU's Research Ethics Committee
REC reference number: 15/BUE/005 and date of approval: 22th July 2015

Should you have any comments or questions regarding this research, you may contact the researchers:
Contact Details of Researcher Franziska Honegger: F.C.Honegger@2014.ljmu.ac.uk
Contact Details of Academic Supervisor: Dr. Matthew Tucker M.P.Tucker@ljmu.ac.uk

If you have any concerns regarding your involvement in this research, please discuss these with the researcher in the first instance. If you wish to make a complaint, please contact researchethics@ljmu.ac.uk **and your communication will be re-directed to an independent person, as appropriate.**

Consent Form Interview

LIVERPOOL JOHN MOORES UNIVERSITY
CONSENT FORM Interview

Title of Project: **Towards an optimal facility management communication in Swiss hospitals – the development of a communication framework**

Name of Researcher and School/Faculty: Franziska Honegger, School of Built Environment/Faculty of Technology and Environment

1. I confirm that I have read and understand the information provided for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily

2. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving a reason and that this will not affect my legal rights.

3. I understand that any personal information collected during the study will be anonymous and remain confidential

4. I agree to take part in the above study

5. I understand that the interview will be audio recorded and I am happy to proceed

6. I understand that parts of our conversation may be used verbatim in future publications or presentations but that such quotes will be anonymous.

Name of Gatekeeper: Date:

Signature:

Name of Researcher: Date:

Signature:

Note: When completed 1 copy for participant and 1 copy for researcher

F. Interview Guideline

G. German interview guideline, with English translation added in blue.

Interview Guideline

Leitfaden Interview *Interview Guideline*

Titel des Projektes: **"Hin zur optimalen Facility Management Kommunikation in Schweizer Spitälern –**
Die Entwicklung eines Kommunikations Rahmenwerks".
Title of Project: Towards an optimal facility management communication in Swiss hospitals – the development of a communication framework

Datum *Date*:		**Zeit** *Time*:
Interviewperson *Interview Participant*:		**Ort** *Location*:
Ziel: Erfassung Kommunikationsstruktur & damit verbundene Erfahrungen, **Blickwinkel:** *Goal: Capturing communication structure & related experiences, Perspective:*		

Einleitung: «Als Kommunikation wird hierbei die mündliche und schriftliche Kommunikation zwischen Angehörigen einer bestimmten Gruppe (=FM im Spital) verstanden, mit Sinn und Zweck der Planung, Erbringung und Optimierung organisatorischer Abläufe.»

Introduction: «Communication is understood as oral and written communication between members of a specific group (= FM in hospital), with the purpose of planning, providing and optimising organisational processes.»

Teil 1 – Kontext interviewte Person *Part 1 – Context Interview Participant*
Funktion, Anzahl unterstellte Mitarbeitende, davon direkt unterstellte, seit wie vielen Jahren in dieser Position, Ausbildungshintergrund. *Function, number of subordinated staff, thereof directly subordinated, years of experiences in this position, educational background.*

Teil 2 – Erfassung Kommunikationsstruktur - wie sieht diese aus Ihrem Blickwinkel aus?
Part 2- Capturing of communication structure – how does it look like from your perspective?

- **Formelle Kommunikation** (geregelt, geplant, zielgerichtet)
  formal communication (regulated, planned, purposeful)
  - mündlich (Gruppensitzungen, Einzelgespräche, Mitarbeiterversammlung, …) → was, mit wem, Häufigkeit, Dauer, Art der Dokumentation *oral (group meetings, one-on-ones, staff meeting, …) → what, with whom, frequency, duration, way of documentation*
  - schriftlich (Newsletter, Rundschreiben, Mitarbeiterzeitschrift, Intranet, …)→ was, für wen, Häufigkeit *written (newsletter, circulars, employee magazine, intranet, …) → what, for whom, frequency*

- **Informelle Kommunikation** (nicht durch organisatorische Regelungen vorgegeben, unstrukturiert) *Informal communication (not predetermined by organisational regulations, unstructured)*

- Bestehen explizit auf die Kommunikation hinweisende Prozesse (QM, ISO, …), welche Kommunikationsaktivitäten definieren und unterstützen? *Are there any explicit communication processes (QM, ISO, …) that define and support communication activities?*

Teil 3 – Erfahrungen (bezogen auf die geschilderte Kommunikationsstruktur)
Part 3 – Experiences (related to the described communication structure)

- Was ist für Sie «effektive» Kommunikation? *What is «effective communication» for you?*

- Was sind für Sie Herausforderungen in der Kommunikation? *What do you see as communication challenges?*

- Was funktioniert aus Ihrer Sicht besonders gut? *What works well from your perspective?*

- Was könnte besser laufen? *What could work better?*

- Wie sieht aus Ihrer Sicht die Kommunikationsstruktur in 10 Jahren aus? *What do you think the communication structure looks like in 10 years?*

Dissertation Franziska Honegger   Juli/August 2017   Seite 1/1

H. Fit of Participants

Interview Participant #	Executives Attributes	Background	Hierarchy	Name	Position	Position Detail	Staff direct	Staff total	Years in Organisation
IP#1	Cases\Case 1\Level 1 Leader\0_Name	University	Level 1	Anonymised	Head of Departement	Anonymised	8	650	12
IP#2	Cases\Case 1\Level 2 Leader\1_1_Transkript_Name	Apprentieship & Further Education	Level 2	Anonymised	Head of Division	Anonymised	7	190	8
IP#3	Cases\Case 1\Level 2 Leader\2_1_Transkript_Name	Apprentieship & Further Education	Level 2	Anonymised	Head of Division	Anonymised	Unassigned	Unassigned	7
IP#4	Cases\Case 1\Level 2 Leader\3_1_Transkript_Name	Apprentieship & Further Education	Level 2	Anonymised	Head of Division	Anonymised	6	75	4
IP#5	Cases\Case 1\Level 2 Leader\4_1_Transkript_Name	University Applied Sciences	Level 2	Anonymised	Head of Division	Anonymised	4	27	7
IP#6	Cases\Case 1\Level 2 Leader\5_1_Transkript_Name	Apprentieship & Further Education	Level 2	Anonymised	Head of Division	Anonymised	7	54	4
IP#7	Cases\Case 1\Level 3 Leader\1_2_Transkript_Name	Apprentieship & Further Education	Level 3	Anonymised	Head of Subdivision	Anonymised	2	42	27
IP#8	Cases\Case 1\Level 3 Leader\1_3_Transkript_Name	Apprentieship & Further Education	Level 3	Anonymised	Head of Subdivision	Anonymised	4	90	30
IP#9	Cases\Case 1\Level 3 Leader\1_4_Transkript_Name	Apprentieship & Further Education	Level 3	Anonymised	Head of Subdivision	Anonymised	2	25	6
IP#10	Cases\Case 1\Level 3 Leader\1_5_Transkript_Name	Apprentieship & Further Education	Level 3	Anonymised	Head of Subdivision	Anonymised	1	23	10
IP#11	Cases\Case 1\Level 3 Leader\1_6_Transkript_Name	Apprentieship & Further Education	Level 3	Anonymised	Head of Subdivision	Anonymised	60	2	3
IP#12	Cases\Case 1\Level 3 Leader\2_2_Transkript_Name	Apprentieship & Further Education	Level 3	Anonymised	Head of Subdivision	Anonymised	24	24	10
IP#13	Cases\Case 1\Level 3 Leader\2_3_Transkript_Name	Apprentieship & Further Education	Level 3	Anonymised	Head of Subdivision	Anonymised	3	17	1
IP#14	Cases\Case 1\Level 3 Leader\2_4_Transkript_Name	University Applied Sciences	Level 3	Anonymised	Head of Subdivision	Anonymised	4	7	5
IP#15	Cases\Case 1\Level 3 Leader\2_5_Transkript_Name	University Applied Sciences	Level 3	Anonymised	Head of Subdivision	Anonymised	7	7	15
IP#16	Cases\Case 1\Level 3 Leader\2_6_Transkript_Name	University Applied Sciences	Level 3	Anonymised	Head of Subdivision	Anonymised	1	20	1
IP#17	Cases\Case 1\Level 3 Leader\2_7_Transkript_Name	University Applied Sciences	Level 3	Anonymised	Head of Subdivision	Anonymised	1	19	1
IP#18	Cases\Case 1\Level 3 Leader\2_8_Transkript_Name	University Applied Sciences	Level 3	Anonymised	Head of Subdivision	Anonymised	8	200	6
IP#19	Cases\Case 1\Level 3 Leader\3_2_Transkript_Name	Apprentieship & Further Education	Level 3	Anonymised	Head of Subdivision	Anonymised	7	8	33
IP#20	Cases\Case 1\Level 3 Leader\3_3_Transkript_Name	Apprentieship & Further Education	Level 3	Anonymised	Head of Subdivision	Anonymised	5	5	3
IP#21	Cases\Case 1\Level 3 Leader\3_4_Transkript_Name	Apprentieship & Further Education	Level 3	Anonymised	Head of Subdivision	Anonymised	21	3	8
IP#22	Cases\Case 1\Level 3 Leader\3_5_Transkript_Name	University Applied Sciences	Level 3	Anonymised	Head of Subdivision	Anonymised	7	30	6
IP#23	Cases\Case 1\Level 3 Leader\4_2_Transkript_Name	Apprentieship & Further Education	Level 3	Anonymised	Head of Subdivision	Anonymised	9	9	13
IP#24	Cases\Case 1\Level 3 Leader\4_3_Transkript_Name	Apprentieship & Further Education	Level 3	Anonymised	Head of Subdivision	Anonymised	9	9	6
IP#25	Cases\Case 1\Level 3 Leader\5_2_Transkript_Name	Apprentieship & Further Education	Level 3	Anonymised	Head of Subdivision	Anonymised	5	15	2
IP#26	Cases\Case 1\Level 3 Leader\5_3_Transkript_Name	Apprentieship & Further Education	Level 3	Anonymised	Head of Subdivision	Anonymised	4	15	Unassigned
IP#27	Cases\Case 2\Level 1 Leader\0_Transkript_Name	University Applied Sciences	Level 1	Anonymised	Head of Departement	Anonymised	6	160	3
IP#28	Cases\Case 2\Level 2 Leader\1_Transkript_Name	Apprentieship & Further Education	Level 2	Anonymised	Head of Division	Anonymised	5	5	8
IP#29	Cases\Case 2\Level 2 Leader\2_0_Transkript_Name	University Applied Sciences	Level 2	Anonymised	Head of Division	Anonymised	4	55	1
IP#30	Cases\Case 2\Level 2 Leader\3_0_Transkript_Name	Apprentieship & Further Education	Level 2	Anonymised	Head of Division	Anonymised	15	15	14
IP#31	Cases\Case 2\Level 2 Leader\4_0_Transkript_Name	Apprentieship & Further Education	Level 2	Anonymised	Head of Division	Anonymised	3	60	20
IP#32	Cases\Case 2\Level 3 Leader\2_1_Transkript_Name	University Applied Sciences	Level 3	Anonymised	Head of Subdivision	Anonymised	0	0	13
IP#33	Cases\Case 2\Level 3 Leader\2_2_Transkript_Name	Apprentieship & Further Education	Level 3	Anonymised	Head of Subdivision	Anonymised	6	6	6
IP#34	Cases\Case 2\Level 3 Leader\2_3_Transkript_Name	Apprentieship & Further Education	Level 3	Anonymised	Head of Subdivision	Anonymised	27	27	43
IP#35	Cases\Case 2\Level 3 Leader\2_4_Transkript_Name	Apprentieship & Further Education	Level 3	Anonymised	Head of Subdivision	Anonymised	18	18	4
IP#36	Cases\Case 2\Level 3 Leader\3_2_Transkript_Name	Apprentieship & Further Education	Level 3	Anonymised	Head of Subdivision	Anonymised	0	0	7
IP#37	Cases\Case 2\Level 3 Leader\4_1_Transkript_Name	Apprentieship & Further Education	Level 3	Anonymised	Head of Subdivision	Anonymised	30	30	6
IP#38	Cases\Case 2\Level 3 Leader\4_2_Transkript_Name	Apprentieship & Further Education	Level 3	Anonymised	Head of Subdivision	Anonymised	12	12	12
IP#39	Cases\Case 2\Level 3 Leader\4_3_Transkript_Name	Apprentieship & Further Education	Level 3	Anonymised	Head of Subdivision	Anonymised	16	16	Unassigned

I. Sample of Interview Transcript

German excerpt of one transcript (out of NVivo) showing the text on communication challenges. Highlighted are the relevant parts that feed into the developed categories of communication challenges.

<Files\\ \\0 Transkript Name> - § 11 references coded [11.93% Coverage]

References 1-11 - 11.93% Coverage

Sich nicht verheddern im Problem, sondern auch mal sagt: So und wie lösen wir es. Die Herausforderung gerade in den Einzelgesprächen ist auch wirklich der Zeitfaktor, wenn wir 1h Zeit haben auf den Punkt zu bringen, was nun wirklich ausgetauscht werden muss und uns nicht in sonstigen Gesprächen verstricken. Ich finde Diskussion sehr wichtig, aber es ist eine Herausforderung dies sauber strukturiert durchzuführen. Tendenziell ist es so, dass Sitzungszeit überzogen wird und diesen Rahmen klar abzugrenzen ist für mich schon eine Herausforderung. Denn ich denke so nach 14 Tage haben sie auch die Plattform abzuladen, doch da auch den Strich zu ziehen jetzt ist fertig, das ist eine Kunst. Je nach Art der Abteilungsleitenden ist dies einfacher oder schwieriger.

Verstanden werden, wenn man auch mal sagt das geht nicht, akzeptieren, wenn es nun mal nicht geht, das Beste daraus machen, wenn wir nicht alles kriegen was wir uns wünschen. Dass man dabei bei der Sache bleibt und jeder seine Rolle findet uns sich darin bewegt und darin auch produktiv ist, das im Griff zu haben ist herausfordernd. Wenn ich mal sage das geht nicht, wird es vielleicht drei vier Mal nicht gehört, so dass ich sagen muss jetzt habe ich es aber fünf Mal gesagt und nun muss es wirklich ankommen.

Sitzungsstruktur, siehe auch unter Punkt was besser laufen könnte. Gerade auch weil meine Abteilung so heterogen ist und Sitzungsteilnehmer unterschiedlichste Themen reinbringen, was bei einer heterogeneren Sitzungsteilnehmerschaft bspw. Pflegesitzung viel weniger der Fall ist.

English Translation of above

Not to get tangled up in the problem, but also say: So and how do we solve it. The challenge especially in the one-to-one's is really the time factor, if we have 1h time to get to the point, which now really needs to be discussed and not entangle us in other conversations. I find discussion very important, but it is a challenge to do it in a well-structured way. The tendency is that the meeting time is overdrawn and clearly delimiting this framework is a challenge for me, because I think after 14 days the participants need the meeting platform to unload, but to draw the line that this is finished is an art. Depending on the type of department head, this is easier or more difficult.

To be understood, if you sometimes say that is not possible, accept, if it is not possible; make the best of it, if we do not get everything we want. That one stays with it and everyone finds his / her role and moves in it productively, to have it under control is challenging. If I say, it does not work, maybe it will not be heard four times, so I have to say now I've said it five times and now it really has to arrive.

Meeting structure, see also point, which could run better. Especially because my department is so heterogeneous and meeting participants bring in a variety of topics, which is much less the case with a more homogeneous session participants, for example, care meetings.

J. Sample of Coded Transcript

Sample showing "communication challenges", excerpt of NVivo

K. Sample of Analytic Memo

L. Observation schedule e-mail

The English Translation is visible in chapter 3.11.1.1 Data Collection Instrument where the schedule is explained.

Erfassung Mailaufwand

Titel des Projektes: "Hin zur optimalen Facility Management Kommunikation in Schweizer Spitälern – Die Entwicklung eines Kommunikations Rahmenwerks".

Sehr geehrte Damen und Herren
Nach den informativen Interviews mit Ihnen und der Möglichkeit Protokolle zu analysieren, folgt hiermit die Bitte zum dritten Teil meiner Datenerfassung: Der Mailaufwand
Dazu werden alle Interviewpartner gebeten, während einer Woche (Stichprobe) Statistik über die Anzahl erhaltener und versendeter Mails zu führen.

Name:

Erhebungszeitraum (idealerweise letzte September / erste Oktoberwoche)
von Montag: bis Sonntag:

	An - Versand			Von - Erhalt	
Anzahl	Interne Empfänger	Externe Empfänger	Intern und extern	Internem Sender	Externem Sender
Beispiel	*14*	*8*	*3*	*12*	*5*
Montag					
Dienstag					
Mittwoch					
Donnerstag					
Freitag					
Samstag					
Sonntag					

Es wird angenommen, dass alle erhaltenen Mails Aufwand (mind. ein Blick drauf) generieren.
Zählen Sie daher alle gesendeten und erhaltenen Mails, auch Cc's, Terminanfragen und durchgedrungene SPAM Mails.

Ergänzend Angaben zur Nutzung Ihres Mailprogrammes, bitte zutreffendes aktivieren/ankreuzen:

☐ Mailprogramm ist während der Arbeit immer offen

☐ Mailprogramm wird bewusst nur zeitweise eingeschaltet, um Unterbrechungen zu vermeiden

Bitte senden Sie nach Ihrer Erhebung dieses Erfassungsblatt ausgefüllt an:
franziska.honegger@zhaw.ch

Vielen Dank!

M. Cover E-mail questionnaire

German cover e-mail distributing the survey link via gatekeepers, with English translation added in blue.

Von: Honegger Franziska (honf) <honf@zhaw.ch>
Gesendet: Montag, 26. November 2018 14:50
An:
Betreff: Dissertation FM im Gesundheitswesen – Umfrageeinladung
Dissertation FM in Healthcare – Survey Invitation

Sehr geehrte *Frau / Herr Name Gatekeeper Dear "Name of gatekeeper"*

Wir sind uns persönlich an diversen ZHAW Anlässen begegnet. Ich arbeite im Team von Susanne Hofer mit Schwerpunkt FM im Gesundheitswesen und wende mich in eigener Sache an Sie. *We met personally on various ZHAW occasions. I work in the team of Susanne Hofer with a focus on FM in the healthcare and am addressing you on my own behalf.*

Derzeit arbeite ich an meiner Dissertation. Wenn möglich, bitte ich Sie für mich als «Türöffnerin» zu fungieren und untenstehende Einladung zur Teilnahme an meiner Umfrage Mitarbeitenden *organisational specific name of FM department* mit Emailzugang weiterzuleiten und natürlich auch, dass Sie selbst daran teilnehmen.
I am working on my dissertation. I ask you to act as my «gatekeeper» by forwarding below survey invitation to staff of your – organisational specific name of FM department – with email access, and of course that you take part in yourself.

Freundliche Grüsse & Herzlichen Dank *With kind regards and thank you*
Franziska Honegger
Wissenschaftliche Mitarbeiterin *Senior research associate*

ZHAW Zürcher Hochschule für Angewandte Wissenschaften
Departement Life Sciences und Facility Management
IFM Institut für Facility Management
Seestrasse 55 / Grüental / RA, Postfach, 8820 Wädenswil

Telefon (direkt) +41 58 934 58 65
E-Mail: franziska.honegger@zhaw.ch
www.zhaw.ch/ifm

Guten Tag
Sie erhalten diese Bitte zur Teilnahme an einer Umfrage, weil Sie in einer zum Facility Management (FM) gehörenden Position eines Deutschschweizer Akutspitals arbeiten. *You have received the link to this survey because you work in a Facility Management (FM) position in an acute care hospital in German-speaking Switzerland.*

Um was geht es? *What is it about?*
Diese Umfrage ist Teil meiner Dissertation mit dem Titel: *"Hin zur optimalen Facility Management Kommunikation in Schweizer Spitälern – Die Entwicklung eines Kommunikations Rahmenwerks"*. Entstehen soll ein Leitfaden, welcher Führungskräfte und Mitarbeitende unterstützt, die Kommunikation in FM Abteilungen von Schweizer Spitälern möglichst effektiv und effizient zu gestalten. *This survey is part of my PhD thesis entitled "Towards Optimal Facility Management Communication in Swiss Hospitals - The Development of a Communication Framework". The aim is to develop guidelines that support executives and employees to make communication in FM departments of Swiss hospitals as effective and efficient as possible.*

Struktur der Umfrage *Structure of the survey*
Der Fragebogen hat zum Ziel *Angaben zu Ihrer Kommunikationsstruktur & damit verbundenen Erfahrungen* abzuholen. *The questionnaire aims to collect information about your communication structure and related experiences.*
Er ist in 4 Teile gegliedert: *It is divided into 4 parts:*

---

1. *Einstieg - Nutzung von Kommunikationsmittel* Start – Use of communication means
2. *Fokus Sitzungen* Focus on meetings
3. *Fokus Emailverkehr* Focus on email
4. *Abschluss - Zukunft der Kommunikation* End - Future of communication

Die Beantwortung dauert rund 10 Minuten. *The survey takes about 10 minutes to complete*

Ihre Teilnahme an der Umfrage ist freiwillig und Sie können den Fragebogen ohne Angabe von Gründen jederzeit abbrechen. *Your participation in the survey is voluntary and you can cancel the questionnaire at any time without giving any reason.*

Vertraulichkeit *Confidentiality*

Die Befragung ist anonym und die gegebenen Informationen werden nicht mit Ihrer Person in Verbindung gebracht. Die erhobenen Daten werden für Publikationen verwendet und werden auch nach Abschluss der Dissertation vertraulich gelagert. *The survey is anonymous and the information given is not associated with your person. The data collected will be used for publications and stored confidentially even after completion of the dissertation.*

Hier gelangen Sie zur Umfrage: *Here you find the survey:*
https://survey.webcenter.ch/limesurvey/index.php?r=survey/index&sid=481898&lang=de (offen bis 10.12.18)

Ich danke Ihnen für Ihre Unterstützung! *Thank you for your support!*

Freundliche Grüsse *With kind regards*
Franziska Honegger
PhD Student School of Built Environment / Faculty of Technology
Liverpool John Moores University, England

Bei Fragen erreichen Sie mich unter der Adresse der Zürcher Hochschule für angewandte Wissenschaften, wo ich am Institut für Facility Management als wissenschaftliche Mitarbeiterin arbeite:
franziska.honegger@zhaw.ch
If you have any questions, please contact me at the Zurich University of Applied Sciences, where I work as a research assistant at the Institute for Facility Management:

N. Questionnaire quantitative survey

Following pages show the German questionnaire used for the quantitative survey with an English translation in text boxes.

FM im Gesundheitswesen: Fokus Kommunikation -

Translation of cover letter introduction see appendix M

Guten Tag

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Um was geht es?
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1. *Einstieg - Nutzung von Kommunikationsmitteln*
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3. *Fokus Emailverkehr*
4. *Abschluss - Zukunft der Kommunikation*
Die Beantwortung dauert rund 10 Minuten.
Ihre Teilnahme an der Umfrage ist freiwillig und Sie können den Fragebogen ohne Angabe von Gründen jederzeit abbrechen.

Vertraulichkeit
Die Befragung ist anonym und die gegebenen Informationen werden nicht mit Ihrer Person in Verbindung gebracht.
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Franziska Honegger
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Liverpool John Moores University, England

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Mit Klicken auf „weiter", geben Sie an, dass Sie die Fragen in dieser Umfrage beantworten möchten.

By clicking "Next", you indicate that you are happy to answer the questions in this survey.

Weiter

0%

Ihre Kommunikationsstruktur - Einstieg

Your communication structure - start

Hier interessieren einige grundlegende Angaben zu Ihrer Kommunikationsstruktur.

Here some basic information on how you communicate is of interest.

1
Sind Ihnen Personen direkt unterstellt (Führungsverantwortung)?

Are you in a management position with directly subordinate staff?

○ Ja
○ Nein

2 Welche Kommunikationsmittel nutzen Sie für **geschäftliche** Zwecke?

Which communication means do you use for **business** purposes?

☐ Klassisches Festnetztelefon
☐ IP-Telefon (Internettelefonie)
☐ Mobiltelefon
☐ Post (Briefversand)
☐ E-mail
☐ Instant-Messaging Dienste (wie Skype) auf Computer /Laptop /Tablet
☐ Instant-Messaging Dienste (wie WhatsApp) auf geschäftlichem Mobiltelefon
☐ Instant-Messaging Dienste (wie WhatsApp) auf privatem Mobiltelefon
☐ Weiteres

- Classic landline
- IP telephone
- Mobile phone
- Post
- Email
- Instant-Messaging services (such as Skype) on computer / notebook / tablet
- Instant-Messaging services (such as WhatsApp) on business mobile phone
- Instant-Messaging services (such as WhatsApp) on private mobile phone
- Other:

3 Gibt es in Ihrer Organisation Dokumente (QM, ISO, ...), welche Ihre Kommunikationsaktivitäten klar definieren und unterstützen?

Are there any documents (QM, ISO, ...) in your organisation clearly defining and supporting communication activities? *

○ Ja
○ Nein
○ Ich weiss es nicht

4

Mittels Kommunikation werden Informationen weitergegeben. Das kann ein herausfordernd sein.
Hier ist eine Liste mit typischen Herausforderungen bei der Informationsvermittlung im FM Bereich von Spitälern.
Welche Punkte finden auch Sie herausfordernd?

The communication of information is not always straightforward. Here is a list of typical communication issues occurring within hospital FM. Which of these do you find challenging?

- ☐ Zeitliche Verfügbarkeit der Informationen (bspw. Kurzfristigke
- ☐ Komplexität der Informationsinhalte
- ☐ Grosse Menge an Informationen / Informationsflut
- ☐ Filtern / runterbrechen - empfängergerechte Aufbereitung der
- ☐ "Verstanden werden" im Sinne von Sicherstellen, dass Informat
- ☐ Deutschkenntnisse von fremdsprachigen Mitarbeitenden
- ☐ Emotionen, welche die Sachebene überlagern
- ☐ Unterschiedliche Kenntnisse und Vorlieben der Mitarbeitende
- ☐ Schaffung von Klarheit, Regeln, Strukturen zur Informationsve
- ☐ Einfluss von unterschiedlichen Führungsstilen auf die Art der K
- ☐ Weiteres

- • Temporal availability of the information (e.g. arriving too late, with too little notice)
- • Complexity of information content
- • Large amount of information / information overload
- • Filtering / break down - information processed according to recipient's needs
- • "To be understood" in the sense of ensuring that information arrive correctly
- • German language skills of employees speaking a foreign-language
- • Emotions interfering with the factual content
- • Different knowledge and preferences of employees regarding means of communication
- • Creating clarity, rules and structures for information transfer
- • Influence of different leadership styles on how information is disseminated
- • Other:

5

Digitalisierung ist ein Trend, der auch im FM Bereich von Spitälern voranschreitet.
Die Kommunikation wird digitaler, Informationen werden digital verarbeitet. Das papierlose Büro schreitet voran.
Wie **digital** arbeiten Sie?

Digitalisation is a trend that is also progressing in the FM area of hospitals. Communication is becoming more digital, information is being processed digitally. The paperless office is taking shape. How digitally do you work?

- ○ nahezu 0% digital
- ○ 25% digital
- ○ 50% digital
- ○ 75% digital
- ○ nahezu 100% digital
- ● keine Antwort

Zurück   Weiter

25%

Ihre Kommunikationsstruktur - Sitzungen

Your Communication Structure - Meetings
Meetings are an important communication tool.
Your input will allow conclusions to be drawn about
the working time spent in this respect and your
satisfaction with this means of communication.

Sitzungen sind ein wichtiges Kommunikationgefäss.
Ihre Angaben lassen Schlüsse auf die dafür aufgewendete Arbeitszeit und Zufriedenheit mit diesem Kommunikationsgefäss zu.

* 6
Wieviele regelmässig stattfindende Sitzungen (mit mehr als 2 Personen, wie Abteilungs-/Teamsitzung) leiten Sie?

How many regular meetings (with more than 2 participants, such as department/
division/ team meetings) do you lead?

○ 0
● 1
○ 2
○ 3
○ 4
○ 5
○ Mehr als 5

If more than 5, please provide details for the 5 most relevant ones.

❷ Geben Sie bei mehr als 5 Sitzungen Details für die 5 relevantesten an.

7
Bitte geben Sie für die von Ihnen geleiteten, regelmässig stattfindenden Sitzungen die passenden Optionen an:
Sitzung 1

Please indicate the appropriate options for the regularly scheduled meetings that
you lead:

☐ Teilnehmer/innen sind aus verschiedenen FM Bereichen/Abteilungen
☐ Teilnehmer/innen sind aus demselben FM Bereich/Abteilung
☐ Frequenz: täglich
☐ Frequenz: wöchentlich
☐ Frequenz: vierzehntäglich
☐ Frequenz: monatlich
☐ Frequenz: grösser als monatlich
☐ Dauer: weniger als 30 Minuten
☐ Dauer: 60 Minuten
☐ Dauer: 90 Minuten
☐ Dauer: 120 Minuten
☐ Dauer: mehr als 120 Minuten
☐ Protokoll: Ja
☐ Protokoll: Nein
☐ Name der Sitzung

- Participants are from different FM divisions
- Participants are from the same FM division
- Frequency: daily
- Frequency: weekly
- Frequency: every fortnight
- Frequency: monthly
- Frequency: more than monthly
- Duration: less than 30 minutes
- Duration: 60 minutes
- Duration: 90 minutes
- Duration: 120 minutes
- Duration: more than 120 minutes
- Taking of minutes: Yes
- Taking of minutes: No
- Name of the Meeting:

Same question for 4 more meeting options 8-11

✱ 12 An wievielen regelmässig stattfindenden Sitzungen (mit mehr als 2 Personen, wie Abteilungs-/Teamsitzung) nehmen Sie als Teilnehmer/in teil?

- ○ 0
- ● 1
- ○ 2
- ○ 3
- ○ 4
- ○ 5
- ○ mehr als 5

How many regular meetings (with more than 2 participants, such as department / division/ team meetings) do you take part in as a participant?

If more than 5, please provide details for the 5 most relevant ones.

❷ Geben Sie bei mehr als 5 Sitzungen Details für die 5 relevantesten an.

13 Bitte geben Sie für die von Ihnen als Teilnehmer/in besuchten, regelmässig stattfindenden Sitzungen die passenden Optionen an:

Sitzung 1

Please indicate the appropriate options for the regularly scheduled meetings that you participate in:

- ☐ Teilnehmer/innen sind aus verschiedenen FM Bereichen/Abteilungen
- ☐ Teilnehmer/innen sind aus demselben FM Bereich/Abteilung
- ☐ Frequenz: täglich
- ☐ Frequenz: wöchentlich
- ☐ Frequenz: vierzehntäglich
- ☐ Frequenz: monatlich
- ☐ Frequenz: grösser als monatlich
- ☐ Dauer: weniger als 30 Minuten
- ☐ Dauer: 60 Minuten
- ☐ Dauer: 90 Minuten
- ☐ Dauer: 120 Minuten
- ☐ Dauer: mehr als 120 Minuten
- ☐ Protokoll: Ja
- ☐ Protokoll: Nein
- ☐ Name der Sitzung [   ]

- • Participants are from different FM divisions
- • Participants are from the same FM division
- • Frequency: daily
- • Frequency: weekly
- • Frequency: every fortnight
- • Frequency: monthly
- • Frequency: more than monthly
- • Duration: less than 30 minutes
- • Duration: 60 minutes
- • Duration: 90 minutes
- • Duration: 120 minutes
- • Duration: more than 120 minutes
- • Taking of minutes: Yes
- • Taking of minutes: No
- • Name of the Meeting:

Same question for 4 more meeting options 14-17

18 Denken Sie bei der folgenden Frage an die typischen Sitzungen, wo Sie **Teilnehmer/in** sind.

Think of a typical meeting you **participate in.**

	viel zu kurz	zu kurz	gerade richtig	zu lang	viel zu lang	keine Antwort
Die Dauer von Sitzungen empfinde ich meistens als	○	○	○	○	○	●

I usually experience the duration of meetings as
much too short, too short, just right, too long, much too long

19
Denken Sie bei den folgenden Fragen an die typischen Sitzungen, wo Sie **Teilnehmer/in** sind.

Sitzungsvorbereitung: Bei den Sitzungen…

Think of a typical meeting you **participating in.**
Meeting preparation: At the meetings…

	Never true	Seldom true	Sometimes true	often true	almost always true	
	1 - trifft gar nicht zu	zu	zu	4 - trifft eher zu	5 - trifft voll zu	keine Antwort
… ist die Vorbereitung durch die Sitzungsleitung meist angemessen	○	○	○	○	○	●
… bin ich vorbereitet (Traktanden eingespiesen und Vorbereitungsunterlagen gelesen)					○	●
…stehen die wirklich wichtigen Themen auf der Traktandenliste					○	●
… ist deutlich warum die Themen der Traktanden wichtig sind					○	●

… the preparation by the chairperson is usually appropriate
… I am prepared (submitted topics for the agenda and have read documents provided)
… the really important topics are on the agenda
… it is clear why the topics of the agenda are important

20
Denken Sie bei den folgenden Fragen an die typischen Sitzungen, wo Sie **Teilnehmer/in** sind.

Sitzungsablauf: Bei den Sitzungen…

Think of a typical meeting you are **participating**
Meeting procedure: At the meetings…

	Never true	Seldom true	Sometimes true	often true	almost always true	
	1 - trifft gar nicht zu	2 - trifft eher nicht zu	3 - trifft mittelmässig zu	4 - trifft eher zu	5 - trifft voll zu	keine Antwort
… können eigene Meinungen eingebracht werden, ohne dass dazu negative Folgen zu erwarten sind	○	○	○	○	○	●
…sind das Zuhören und das Eingehen auf Meinungen anderer gelebte Praxis	○	○	○	○	○	●
… wird auf einer breiten Vertrauensbasis diskutiert						●
… findet ein offener, lösungsorienteirter Umgang mit Konfliken statt						●
… wird die Zeit meistens eingehalten						●
… gibt es klar definierte Verhaltensnormen (Spielregeln)						●
… diese Verhaltensnormen (Spielregeln) werden eingehalten)	○	○	○	○	○	●

… own opinions can be brought in without negative consequences.
… listening and responding to the opinions of other is standard practice.
… matters are discussed on a broad basis of trust.
…an open, solution-orientated approach to conflicts takes place.
…meeting time is mostly adhered to.
… there are clearly defined behavioural norms (meeting rules).
… these norms (meeting rules) are respected.

21
Denken Sie bei den folgenden Fragen an die typischen Sitzungen, wo Sie **Teilnehmer/in** sind.

Sitzungsinhalte: In den Sitzungen werden Entscheidungen und Problemlösungen...

Think of a typical meeting you **participating in**
Meeting content: At the meetings decisions and problem solutions are...

	Never true	Seldom true	Sometimes true	often true	almost always true
... ausreichend intensiv diskutiert	○	○	○	○	○	●
... mit ihren möglichen Konsequenzen zu Ende gedacht, mögliche Bedenken werden berücksichtigt	○	○	○	○	○	●
... in Abstimmung mit übergeordneten Zielen (z.B Unternehmensstrategie, Abteilungszielen) getroffen						●
... auf der Basis ausreichender Informationen (Stichwort Prozesstransparenz) getroffen						●
... auf der Basis ausreichender Informationen (Stichworte Kostentransparenz) getroffen						●
... in klare Aufgaben überführt	○	○	○	○	○	●

... discussed with sufficient thoroughness
... well thought through, including their possible consequences; possible concerns are taken into account
... aligned with overarching goals (e.g. corporate strategy, department/ division goals)
... taken on the basis of sufficient information (keyword: process transparency)
... reached on the basis of sufficient information (keywords cost transparency)
... translated into clear tasks

✳ 22 In Ihrer Führungsfunktion führen Sie sicherlich auch Einzelgespräche mit direkt unterstellten Mitarbeitenden (ohne Beurteilungsgespräche).
Bitte markieren Sie dazu die zutreffenden Optionen.

In your leadership role, you most probably also have one-on-ones with directly subordinated staff (excluding appraisal interviews).

☐ Frequenz: wöchentlich
☐ Frequenz: vierzehntäglich
☐ Frequenz: nicht geplant / nach Bedarf
☐ Dauer: weniger als 60 Minuten
☐ Dauer: 60 Minuten
☐ Dauer: mehr als 60 Minuten
☐ Protokoll: formelles Protokoll
☐ Protokoll: in Form von Notizen
☐ Mit wievielen Mitarbeitenden führen Sie solche Gespräche?

Frequency: weekly
Frequency: every fortnight
Frequency: when applicable
Duration: less than 60 minutes
Duration: 60 minutes
Duration: more than 60 minutes
Taking of minutes: formal ones
Taking of minutes: in the form of notes
With how many employees do you do have one-on-ones?

✳ 23 Sie führen warscheinlich auch regelmässige Einzelgespräche mit Ihrer vorgesetzten Person (ohne Beurteilungsgespräch).
Bitte markieren Sie dazu die zutreffenden Optionen.

You will probably also have one-on-ones with your line manager (excluding appraisal interviews)

☐ Frequenz: wöchentlich
☐ Frequenz: vierzehntäglich
☐ Frequenz: nicht geplant / nach Bedarf
☐ Dauer: weniger al 60 Minuten
☐ Dauer 60 Minuten
☐ Dauer: mehr als 60 Minuten
☐ Protokoll: formelles Protokoll
☐ Protokoll: in Form von Notizen

Frequency: weekly
Frequency: every fortnight
Frequency: when applicable
Duration: less than 60 minutes
Duration: 60 minutes
Duration: more than 60 minutes
Taking of minutes: formal ones
Taking of minutes: in the form of notes

24 Wie sind die von Ihnen geleiteten Sitzungen strukturiert?

How are the meetings you lead structured?

○ Klassische Sitzungsstruktur mit Abarbeitung von Traktanden

○ Ich nutze neuere Ansätze (bspw. Silent Start, Spazieren, Stand-up Meetings, Buzzer) - Bitte nennen Sie im Kommentarfeld Ihren Ansatz

● keine Antwort

Bitte geben Sie hier Ihren Kommentar ein:

Classic meeting structure based on an agenda

I use newer modes (such as silent start, walking meetings, stand-up meetings, buzzer)

Please comment your choice:

25 Werten Sie die Effizienz der von Ihnen geleiteten Sitzungen (mit Blick auf Sitzungsvorbereitung, -ablauf, -inhalte, Zufriedenheit von Ihnen und den Teilnehmenden) regelmässig bewusst aus und verändern wenn nötig etwas?

Do you regularly and consciously evaluate meetings you lead regarding their efficiency (considering meeting preparation, structure, content as well as your participants' satisfaction) and change things if necessary?

○ Ja, das mache ich regelmässig ganz bewusst

○ Nein, das mache ich nicht bewusst

● keine Antwort

Bitte geben Sie hier Ihren Kommentar ein:

Yes, I do that regularly and consciously
No, I do not consciously do that
Please comment your choice:

Zurück   Weiter

50%

Ihre Kommunikationsstruktur - Emailverkehr

Your Communication Structure – Email traffic.

Emails sind Segen und Fluch zugleich. Diese Angaben lassen Schlüsse zur Belastung und Verbesserungspotiential vom Emailverkehr zu.

Emails are a both a blessing and a curse.
This information allows conclusions to be drawn about the burden and improvement potential of the email traffic.

✱ 26 Gibt es in Ihrer Organisation klare Regelungen zur Handhabung vom Emailverkehr (bspw. innert welcher Frist geantwortet werden soll oder wie "Cc" gehandhabt wird?

Are there clear rules in your organisation for the handling of the email traffic (e.g within which deadline a reply should be given or how "CC" is handled?

○ Ja

○ Nein

○ Ich weiss es nicht

Yes, no, I do not know

27 Angaben zur Ihrer täglichen Emailmenge: Information on your daily email volume:

	1-5	6-10	11-15	16-20	20-30	Mehr als 30	keine Antwort
Wie viele Emails versenden Sie durchschnittlich an einem Arbeitstag?	○	○	○	○	○	○	●
Wie viele Emails erhalten Sie durchschnittlich an einem Arbeitstag?	○						

How many emails do you **send** on average in one working day?

How many emails do you **receive** on average in one working day?

28
Wie beurteilen Sie folgende Aussagen zum Emailverkehr?   Please rate following statements

Strongly disagree   disagree   undecided   agree   Strongly agree

	stimme überhaupt nicht zu	stimme nicht zu	unentschieden	stimme zu	stimme völlig zu	keine Antwort
Die Emailflut nimmt zu	○	○	○	○	○	●
Ich habe mein Emailpostfach im Griff	○	○	○	○	○	●
Ich habe das Email Programm immer offen						●
Wenn ein Email kommt, schaue ich gleich was es ist						●
Der Umgang mit Emails sollte bei uns wiedereinmal thematisiert werden						●

Email traffic is increasing
I have my email mailbox under control
I always have the email programme open
When an email comes, I check it right away
The handling of emails should be addressed again at our organisation

Zurück   Weiter

25%

Kommunikationsstruktur - Abschluss | Your Communication Structure – End

Zum Abschluss interessiert hier Ihre Meinung zur Entwicklung der Kommunikation.

Auch bitte ich Sie um einige Angaben zu Ihrer Person.
Diese Angaben werden benötigt um die Antworten auf Unterschiede zu prüfen und für statistische
Angaben. Ihre Anonymität ist jederzeit gewährleistet.

Finally, your opinion on the development of communication is of interest. I also ask you to provide some information about yourself. This information is needed to check the answers for differences and for statistical purposes. Confidentiality and your anonymity is guaranteed at all times.

29 Wie sieht aus Ihrer Sicht die Kommunikation in FM Bereichen von Spitälern in 10 Jahren aus?
Schreiben Sie einige Stichworte dazu ins Kommentarfeld.

From your point of view, what will communication in FM areas of hospitals look like in 10 years? Please write some keywords in the comment field.

30 Ihr Geschlecht:

Your gender

female

male

○ weiblich
○ männlich

31 Wie alt sind Sie?

In which age bracket are you?

○ bis 25 Jahre
○ 26 bis 35 Jahre
○ 36 bis 45 Jahre
○ 46 bis 55 Jahre
○ über 55 Jahre

32 Was ist Ihre höchste abgeschlossene Ausbildung?

What is your highest completed education?

Apprenticeship

Higher Education

University, University of Applied Sciences

Other

○ Berufslehre
○ Höhere Fach- oder Berufsausbildung (z.B. eidg. Diplom)
○ Universität, Hochschule, Fachhochschule, Höhere Fachschule
○ Sonstiges:

* 33
Wo arbeiten Sie?

Diese Angabe wird für Aussagen zur Grundgesamtheit der Umfrageteilnehmer benötigt.
Es lassen sich dadurch keine Rückschlüsse auf Ihre Person machen.

Bitte auswählen..   ▾

Where do you work?
This information is required for statements on the population of respondents. It does not allow any conclusions to be made about your person.

* 34 Wie lange arbeiten Sie bereits beim derzeitigen Arbeitgeber (Spital)?

○ weniger als 1 Jahr
○ 1 bis 3 Jahre
○ 4 bis 6 Jahre
○ 7 bis 10 Jahre
○ mehr als 10 Jahre

For how long have you been working for your current employer?

Less than 1 year, …, more than 10 years

36 Wie viele Personen sind Ihnen direkt unterstellt?

Nr. 35 How many staff in total are you responsible for?

Nr. 36: How many staff are you directly responsible for?

Which FM disciplines are you responsible for?

* 37
Welche Facility Management Bereiche sind Ihnen unterstellt?

Aufgrund unterschiedlicher Aufbauorganisationen und Begrifflichkeiten in den Spitälern, wurden diese in Kategorien zusammengefasst.
Wählen Sie die Kategorie/n, worin Sie über Führungsverantwortung verfügen, auch wenn diese nicht alle darin genannten Bereiche umfasst.
Bspw. als Leitung Elektrotechnik wählen Sie die Kategorie Technik.

☐ Technik (Medizintechnik, Elektrotechnik, Gebäudetechnik, Schreinerei, Sanitär, Gärtnerei,..
☐ Gastronomie (Küche, Restaurant / Cafeteria, Service auf Stationen, Catering, …)
☐ Reinigung
☐ Beschaffung / Einkauf
☐ Logistik (Lager, Transport, …)
☐ Sicherheitsdienst
☐ Weitere, nicht genannte, Bereiche:

Due to different organizational structures and terminology in the hospitals, these are grouped into categories.
Please select the category (s) for which you have managerial responsibility, even if it does not cover every discipline.
For example, as head of electrical engineering, select the category «engineering».

38
In welchem FM Bereich arbeiten Sie?

In which FM discipline do you work?

Aufgrund unterschiedlicher Aufbauorganisationen und Begrifflichkeiten in den Spitälern, wurden die
Wählen Sie die Kategorie worin Sie arbeiten.

☐ Technik (Medizintechnik, Elektrotechnik, Gebäudetechnik, Schreinerei, Sanitär, Gärtnerei, ...)

☐ Gastronomie (Küche, Restaurant / Cafeteria, Service auf Stationen, Catering, ...)

☐ Reinigung

☐ Beschaffung / Einkauf

☐ Logistik (Lager, Transport, ...)

☐ Sicherheitsdienst

☐ Weitere, nicht genannte, Bereiche: [_____]

Engineering (Medical Engineering, Electrical
Engineering, Building Technology, Carpentry,
Sanitary, Gardening, ...)

Catering (Kitchen, Restaurant / Cafeteria,
Ward Services, ...)

Housekeeping (Cleaning)

Procurement

Logistics (Warehouse, Transport, ...)

Security Services

Other, not mentioned disciplines:

39
Ziel dieser Dissertation ist ein Leitfaden, der Führungskräfte und Mitarbeitende unterstützt, die Kommunikation in FM Abteilungen von Schweizer Spitälern möglichst
effektiv und effizient zu gestalten.
Welche Inhalte sollten aus Ihrer Sicht in so einem Leitfaden enthalten sein?
Notieren Sie einige Stichworte im Kommentarfeld.

Aim of this dissertation is a guideline supporting FM executives and
employees to make communication in FM departments of Swiss hospitals
as effective and efficient as possible.

Which content do you think needs to be in such a guideline?
Please provide some keywords:

40
Wenn Sie Informationen zu Publikationen der fertigen Arbeit erhalten möchten, geben Sie hier bitte Ihre **Emailadresse** ein.
Diese Information wird separat von den vorhergehenden Antworten gespeichert, so dass keine Rückschlüsse zu Ihrer Person möglich sind.

If you would like to receive information regarding publication of the
completed dissertation, please enter your **email address** here. This
information will be stored separately from the answers above, so that no
conclusions about your person are possible.

Zurück

send

Absenden

Thank you for your valuable contribution to
my dissertation
Results are expected to be published in
2019.
You can now close your browser.

Vielen Dank für Ihre wertvollen Beitrag an meine Dissertation!
Die Resultate werden voraussichtlich 2019 publiziert.

Sie können Ihren Browser nun schliessen.

O. Detailed Sample Explanation Survey

Detailed specifications on which professions are, accumulated in staff categories used to derivate the survey population, see chapter 3.11.2.2 Sampling, (BAG, 2017)

Staff category	Included functions / professions (main ones)
29 Hausdienstpersonal	Abwaschküchenpersonal, Bademeister, Chauffeur, Coiffeur, Diätküchenpersonal, Einkauf, Hausdienstpersonal, Hauswirtschaftliche Betriebsleiterin, Kellnerin, Koch, Küchenpersonal, Lingerie-Personal, Magazin-Personal, Näherei-Personal, Pâtisserie-Personal, Reinigungspersonal, Therapiebadpersonal, Tierpflegepersonal, Transportdienstperson
30 Technische Dienste	Abwart, Automechanikerin, Betriebsingenieurin, Betriebstechniker, Elektriker, Elektroniker, Gärtner, Handwerker, Hauswartspersonal, Installateur, Lüftungstechniker, Logistiker, Maler, Maurer, Mechaniker, Sanitär-Installations-Personal, Schlosser, Schreiner, Sicherheitsbeauftragter, Wärmetechniker, Werkstättenleiter
31 Administrativpersonal	Bibliothekpersonal, EDV-Personal, Informatikdienste, Leitung Hotellerie, Organisationsabteilung, Parkwächterin / Parkwächter, Patientenaufnahme, Patientenadministration, Pfortenpersonal, Pharma-Assistentin / Pharma-Assistenten, Postpersonal, Qualitätsmanagement, Sekretariate (Chefarzt,medizinisch, therapeutisch etc.), Therapiekoordinierungspersonal, Telefonistin / Telefonist, Verwaltungspersonal

P. Proof of Statistical Procedures

SPSS Output stating that that there is no significant correlation between the respondents' age bracket and their estimated degree on digitalisation.

SPSS Output stating that that there is no significant correlation between the number of e-mails sent / received and the managerial responsibility.

Correlations

			How many staff in total are you responsible for?	How many emails do you send on average in one working day?
Kendall's tau_b	How many staff in total are you responsible for?	Correlation Coefficient	1.000	.129
		Sig. (2-tailed)	.	.074
		N	114	113
	How many emails do you send on average in one working day?	Correlation Coefficient	.129	1.000
		Sig. (2-tailed)	.074	.
		N	113	136
Spearman's rho	How many staff in total are you responsible for?	Correlation Coefficient	1.000	.171
		Sig. (2-tailed)	.	.070
		N	114	113
	How many emails do you send on average in one working day?	Correlation Coefficient	.171	1.000
		Sig. (2-tailed)	.070	.
		N	113	136

Correlations

			How many staff in total are you responsible for?	How many emails do you receive on average in one working day?
Kendall's tau_b	How many staff in total are you responsible for?	Correlation Coefficient	1.000	.081
		Sig. (2-tailed)	.	.263
		N	114	112
	How many emails do you receive on average in one working day?	Correlation Coefficient	.081	1.000
		Sig. (2-tailed)	.263	.
		N	112	135
Spearman's rho	How many staff in total are you responsible for?	Correlation Coefficient	1.000	.105
		Sig. (2-tailed)	.	.271
		N	114	112
	How many emails do you receive on average in one working day?	Correlation Coefficient	.105	1.000
		Sig. (2-tailed)	.271	.
		N	112	135

Leitfaden für optimale Facility Management Kommunikation im Spital 1/2

Q. Initial Framework – German

Hintergrund & Zweck

Passend definierte Kommunikationsaktivitäten sind eine wichtige Voraussetzung, damit eine Organisation funktioniert. Das gilt auch für den Bereich vom Facility Management (FM) in Spitälern.

Dieser Leitfaden unterstützt **FM Führungskräfte in Spitälern**, die Kommunikationsaktivitäten in ihrem Verantwortungsbereich zu überprüfen und gegebenenfalls anzupassen.

Dazu zeigt der Leitfaden **10 Schlüsselelemente**, welche für eine optimale FM Kommunikation in Spitälern organisationsspezifisch abzustimmen sind. Er enthält zudem konkrete Fragen für FM Führungskräfte, um den Status dieser Schlüsselelemente in den Kommunikationsaktivitäten ihrer jeweiligen Verantwortungsbereiche zu überprüfen.

Der Leitfaden ist das **Resultat einer Forschungsarbeit**, welche Elemente der Managementlehre, mit Fokus auf Organisationskommunikation, mit den Eigenschaften vom FM in Spital kombiniert. Die Schlüsselelemente wurden aus Daten der Praxis hergeleitet und repräsentieren Schwerpunkte der Kommunikation, welche Führungskräfte innerhalb des FM Bereichs in Spitälern beschäftigen. Trotzdem erhebt der Leitfaden keinen Anspruch auf Vollständigkeit. Auch deshalb nicht, weil das FM in Schweizer Spitälern sehr vielfältig strukturiert ist.

FM Kommunikation im Spital - ein Überblick

Die Abbildung rechts bietet einen Überblick, welche Elemente, die Kommunikation innerhalb vom FM im Spital beeinflussen. Sie zeigt:

- die zentralen **Herausforderungen** für das Gesundheitswesen, die Spitäler und deren FM; besonders sind die angespannte finanzielle Lage fördert Entwicklungen die FM-Leistungen zu optimieren.

- dass **Entwicklung und Optimierung** durch abgestimmte FM-Kommunikationsaktivitäten ermöglicht wird, welche wiederum von der **Diversität des FM's** geprägt sind, wo Personen aus verschiedenen Berufsfeldern zusammenarbeiten.

- dass **Strategie, Struktur, Kultur**, sowie die spezifische Ausgestaltung von **FM-Prozessen** zusammen mit vorhandenen **Ressourcen**, die FM Kommunikation und damit das FM als solches beeinflussen.

- Elemente, welche die Kommunikation strukturieren: **formelle** und **informelle**, **vertikale** und **laterale** Kommunikation, wichtige **Kommunikationskanäle**, und das **subjektive Erfahrungen und Überzeugungen** die Kommunikation beeinflussen.

- dass **Herausforderungen** Kommunikationsaktivitäten entweder hindern, wenn sie schlecht gehandhabt werden oder fördern, wenn sie proaktiv gehandhabt werden.
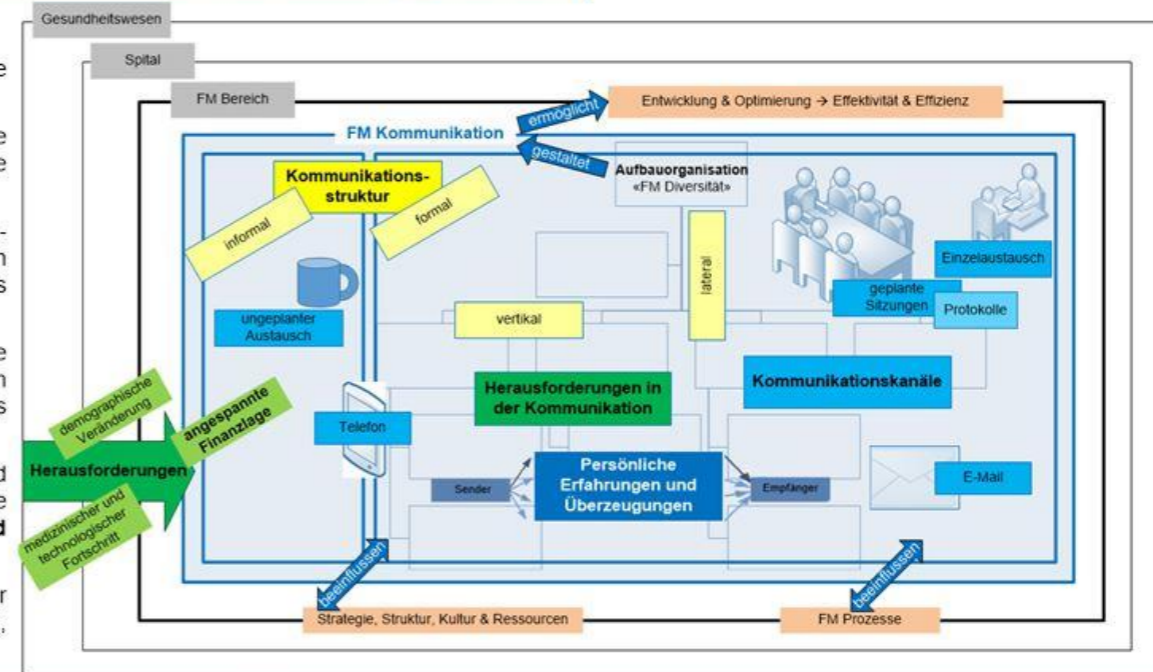
FM Diversität

(i) Das FM umfasst verschiedene Berufsfelder, wie Gastronomie, Hauswirtschaft, Infrastruktur/Technik, Beschaffung und Logistik und beschäftigt Mitarbeitende mit vielseitigen beruflichen Hintergründen und unterschiedlichen Ansichten und Bedarf an Kommunikationsaktivitäten.

(!) Die FM Diversität ist erfasst und wird als Vorteil für die Zusammenarbeit gesehen.

✓ Unterschiedliche Bedürfnisse an Kommunikation innerhalb des FM Bereiches sind identifiziert und in der formalen Kommunikationsstruktur berücksichtigt
✓ Die FM Diversität wird auf allen organisatorischen Ebenen aktiv thematisiert

(?) • Sind die Ihnen unterschiedlichen Kommunikationsbedürfnisse bekannt und haben Sie diese in der formalen Kommunikationsstruktur berücksichtigt?
• Wird die FM Diversität aktiv thematisiert und als Vorteil genutzt?

Informelle Kommunikation

(i) Bezieht sich auf nicht durch organisatorische Regelungen vorgegebene, unstrukturierte Kommunikation zwischen FM Mitarbeitenden.

(!) Bewusste Nutzung der informellen Kommunikationsmöglichkeiten, mit Berücksichtigung von 5 fürs FM besonders relevanten Aspekten:

✓ Wie Mitarbeitende die Aktivitäten der informellen Kommunikation wahrnehmen ist bekannt und wird bewusst adressiert
✓ Die Wichtigkeit bei der informellen Kommunikation die hierarchische Linie einzuhalten ist thematisiert und wird entsprechend eingehalten
✓ Die Relevanz der Pause und die Nutzung der Pausenzeit wird berücksichtigt
✓ Die Politik der offenen Türe ist definiert und wird entsprechend gelebt
✓ Der standortspezifische Einfluss auf informelle Kommunikationsaktivitäten (z.B. bei Spitälern mit mehreren Standorten) wird bewusst berücksichtigt

(?) • Wie charakterisieren Sie die informelle Kommunikation in Ihrem Verantwortungsbereich, wird diese positiv wahrgenommen?
• Wie wird mit den Aspekten der Einhaltung der Linie, Nutzung der Pausenzeit und Politik der offenen Tür umgegangen?
• Haben Sie mögliche Standortspezifikationen berücksichtigt?

Struktur des Leitfadens

[□] Schlüsselelemente für eine optimale FM Kommunikation

(i) Informationen zum Schlüsselelement: **Worum es geht**

(!) Ziel und Aspekte vom Element: **Worauf zu achten ist**

(?) Fragen zur Selbstüberprüfung: Unterstützen **FM Führungskräfte** bei der Überprüfung ihrer Kommunikationsaktivitäten

Kommunikationskanäle

(i) Das FM verwendet eine Vielzahl an unterschiedlichen Kommunikationskanälen (Sitzungen, E-Mail, Telefon, usw.).

(!) Eine bewusste und richtige Nutzung der verfügbaren Kanäle.

✓ Es gibt eine klare Übersicht der fürs FM verfügbaren Kanäle, einschliesslich deren Vor- und Nachteile
✓ Die Kanäle werden bewusst und gezielt genutzt, Erwartungen daran sind abgeglichen, um Fehlinterpretationen zu vermeiden
✓ Die Fähigkeiten der Mitarbeitenden stimmen mit den Anforderungen der verfügbaren Kanälen überein
✓ Verfügbaren Kommunikationsmöglichkeiten ausserhalb des FM Bereiches werden zielgerichtet genutzt, um das FM sichtbarer zu machen (Bsp. Spitalmagazin)

(?) • Welche Kommunikationskanäle stehen in Ihrem Verantwortungsbereich zur Verfügung?
• Wissen die Mitarbeitenden wie man diese Kanäle nutzt?
• Nutzen Sie die verfügbaren Möglichkeiten, um die Sichtbarkeit vom FM im Spital positiv zu fördern?

Effektive Kommunikation

(i) Bezogen auf die Definition von Effektivität als das Richtige zu tun, bedeutet effektive Kommunikation, dass geeignete Kommunikationskanäle auf die richtige Art und Weise genutzt werden. Eine Reihe von FM Führungskräften wurde gefragt: Was macht Kommunikation effektiv? Das Ergebnis sind Eigenschaften, die sich darauf beziehen, wie eine Nachricht gesendet und empfangen wird. Diese lassen sich in drei Bereichen zusammenfassen, wie die Aspekte zeigen.

(!) Kommunikationsaktivitäten sind auf die wahrgenommenen Eigenschaften einer effektiven Kommunikation überprüft.

✓ Der sachliche Inhalt einer Nachricht wird empfängerspezifisch, zeitnah, fokussiert und präzise kommuniziert
✓ Der Beziehungsindikator einer Nachricht kennzeichnet sich durch Respekt
✓ Der/die Sender/in offenbart sich als geradlinige und einfühlsame Führungskraft

(?) • Wie charakterisierten Sie Ihre sachliche Kommunikation?
• Wie werden Sie von Nachrichtenempfängern wahrgenommen?
• Was offenbaren Sie durch Ihre Kommunikationsweise von sich selbst?

Herausforderungen in der Kommunikation

(i) Kommunikation beinhaltet viele Herausforderungen. Bezogen auf das FM in Spitälern wurden 6 zentrale Herausforderungen identifiziert.

(!) Kommunikationsaktivitäten werden auf häufig auftretende Herausforderungen hin überprüft und bei Bedarf werden Massnahmen zu deren Minderung getroffen.

✓ **Menge und Komplexität** des Informationsinhalts und Informationsüberflutung
✓ Empfängergerechtes **herunterbrechen / filtern** von Informationen
✓ Das Fehlen und die Schaffung von **Kommunikationsregeln und -strukturen**
✓ **Sprache und Kultur** bezogen auf Emotionen, welche die Sachebene von Informationen stören und oft mangelnde Deutschkenntnisse von Mitarbeitenden
✓ Mangelhafte **Nutzung der Kommunikationskanäle**
✓ Informationen werden nicht so **verstanden**, wie vom Sendenden beabsichtigt

(?) • Prüfen Sie die Kommunikationsaktivitäten in Ihrem Verantwortungsbereich hinsichtlich dieser häufig vorkommenden Herausforderungen?

Leitfaden für optimale Facility Management Kommunikation im Spital 2/2
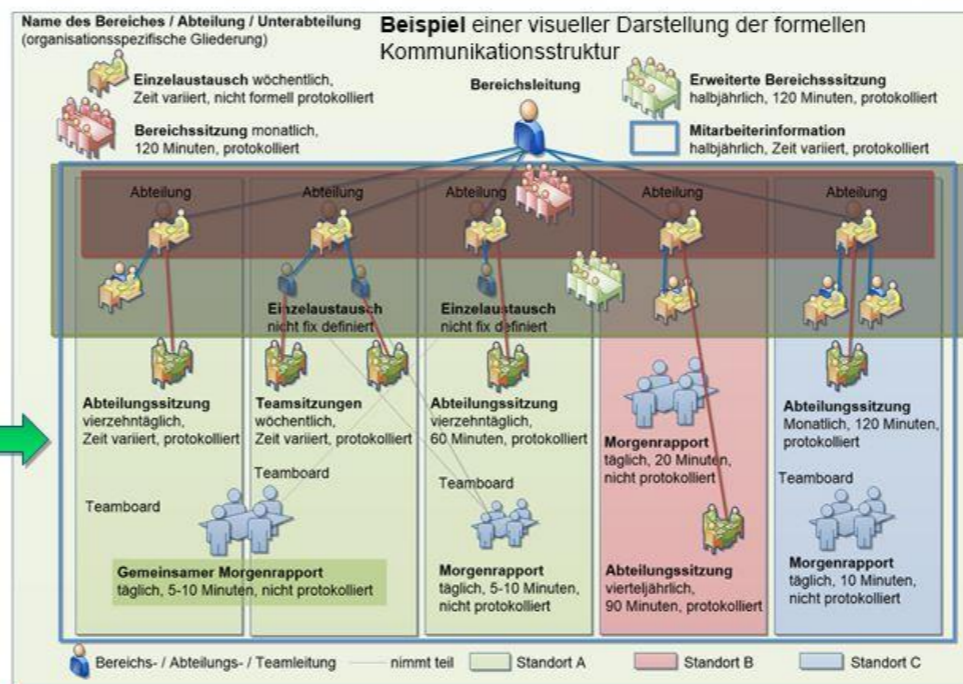
Geplante Sitzungen

(i) Sitzungen beanspruchen einen grossen Anteil der Ressourcen von FM Führungskräften. Damit diese zielgerichtete verwendet werden, gilt es Sitzungsstrukturen bewusst zu definieren und aufeinander abzustimmen. Peter Drucker, einer der bekanntesten Vertreter der Managementlehre, definiert Sitzungen als dann notwendig, wenn Personen mit unterschiedlichen Aufgaben zusammenarbeiten müssen, um eine gemeinsame Aufgabe zu erledigen. Weil das Wissen und die Erfahrung, die in einer bestimmten Situation benötigt werden, nicht nur in einem Kopf vorhanden sind, sondern aus dem Wissen und der Erfahrung mehrerer Personen zusammengesetzt werden muss. Die FM Diversität bietet dafür die beste Voraussetzung.

(!) Eine abgestimmte Struktur von geplanten Sitzungen, welche auf die Anforderungen der organisationsspezifischen FM Struktur abgestimmt ist und sowohl von der Sitzungsleitung wie von Teilnehmenden positiv beurteilt wird.

✓ Eine visuelle Darstellung der aktuellen Kommunikationsstruktur dient als Basis für mögliche Verbesserungen. Die Visualisierung unterstützt zu prüfen, ob Struktur und Rhythmus der Sitzungen aufeinander abgestimmt sind. Sie zeigt:
  o die Sitzungshierarchie, was auf welcher Ebene stattfindet
  o die Sitzungsfrequenzen und damit ob die Informationskaskade von oben nach unten zeitlich funktioniert oder ob es dabei Verzögerungen gibt
  o den lateralen und vertikalen Informationsfluss
  o abteilungs- / teamübergreifende Kommunikationsaktivitäten
✓ Die Entscheidung wo Sitzungen stattfinden ist bewusst gefällt, besonders beim FM von Spitälern mit mehreren Standorten
✓ Der Entscheid zum Stil der Sitzung ist bewusst gefällt, indem über verwendete Stile (bspw. klassische Struktur mit Traktanden) nachgedacht wird und neuere Stile erprobt werden (bspw. Stehsitzung), die möglicherweise besser passen
✓ Vorbereitung: Es ist definiert, was sowohl für Sitzungsleitende wie für Teilnehmende eine gute Sitzungsvorbereitung ausmacht. Dies mittels:
  o Erfassung und Berücksichtigung der Erwartungen von Teilnehmenden an die Rolle der Sitzungsleitung
  o klaren Vorgaben wie sich die Teilnehmenden vorbereiten müssen
  o transparenter Herleitung der Traktanden, so dass klar ist warum diese wichtig sind und wie sie mit den FM Aktivitäten zusammenhängen
✓ Ablauf: Die Erwartungen an den Sitzungsablauf, einschliesslich der Rolle der Teilnehmer, sind geklärt. So werden negative Einstellungen aufgrund unterschiedlicher Erwartungshaltungen vermieden, welche den angestrebten Sitzungszweck beeinträchtigen. Dies geschieht durch:
  o Reflexion ob Sitzungszeit zu lang / zu kurz ist und ob Zeit eingehalten wird
  o Sitzungsrichtlinien, in denen die Erwartungen an das Verhalten der Teilnehmenden gemeinsam definiert sind. Die Einhaltung dieser Richtlinien wird regelmässig überprüft
✓ Inhalt: Meinungen und Erwartungen zum Sitzungsinhalt sind geklärt in Übereinstimmung gebracht. Diskussionen und Entscheidungen basieren grundsätzlich auf Kosten- und Prozesstransparenz. Wenn das nicht möglich ist, werden diese Grundlagen hergeleitet
✓ Evaluation: Die Sitzungen werden regelmässig sowohl aus Sicht der Leitung wie der Teilnehmenden evaluiert

(?) • Wie sieht Ihre formale Kommunikationsstruktur aus?
  • Entscheiden Sie bewusst über den Sitzungsort?
  • Passt der Stil Ihrer Sitzungen zu deren Zweck?
  • Haben Sie definiert, was eine gute Sitzungsvorbereitung ausmacht?
  • Werden die Erwartungen an den Ablauf Ihrer Sitzungen erfüllt?
  • Stimmen Meinungen und Erwartungen zum Sitzungsinhalt überein?
  • Beruhen Diskussionen und Entscheidungen in Ihren Sitzungen überwiegend auf Kosten- und Prozesstransparenz?
  • Evaluieren Sie Ihre Sitzungen regelmässig?

Beispiel einer visueller Darstellung der formellen Kommunikationsstruktur

Name des Bereiches / Abteilung / Unterabteilung (organisationsspezifische Gliederung)

Einzelaustausch wöchentlich, Zeit variiert, nicht formell protokolliert
Bereichssitzung monatlich, 120 Minuten, protokolliert
Bereichsleitung
Erweiterte Bereichssitzung halbjährlich, 120 Minuten, protokolliert
Mitarbeiterinformation halbjährlich, Zeit variiert, protokolliert

Abteilung / Abteilung / Abteilung / Abteilung / Abteilung

Einzelaustausch nicht fix definiert / Einzelaustausch nicht fix definiert

Abteilungssitzung vierzehntäglich, Zeit variiert, protokolliert / Teamboard
Teamsitzungen wöchentlich, Zeit variiert, protokolliert / Teamboard
Abteilungssitzung vierzehntäglich, 60 Minuten, protokolliert / Teamboard
Morgenrapport täglich, 20 Minuten, nicht protokolliert / Teamboard
Abteilungssitzung Monatlich, 120 Minuten, protokolliert

Gemeinsamer Morgenrapport täglich, 5-10 Minuten, nicht protokolliert
Morgenrapport täglich, 5-10 Minuten, nicht protokolliert
Abteilungssitzung vierteljährlich, 90 Minuten, protokolliert
Morgenrapport täglich, 10 Minuten, nicht protokolliert

Bereichs- / Abteilungs- / Teamleitung — nimmt teil — Standort A / Standort B / Standort C

Einzelaustausch

(i) Diese finden meist bilateral zwischen Vorgesetzten und direkt unterstellten Mitarbeitenden statt und fokussieren auf deren Themen. Typischerweise dauern sie weniger als 60 Minuten und werden nicht offiziell protokolliert. Eine regelmässige Frequenz wird empfohlen.

(!) Effektive und effiziente Nutzung von Einzelaustauschen mit Schwerpunkt auf bilaterale Themen.

✓ Rhythmus und Struktur der Einzelaustausche sind in der formellen Kommunikationsstruktur passend verankert
✓ Eine regelmässige Frequenz wird von beiden Teilnehmenden eingehalten
✓ Erwartungen zu Struktur, Vorbereitung, Notizen und Verantwortlichkeiten sind beidseits klar definiert
✓ Der Gesprächsinhalt ist geprägt von Themen, welche den gemeinsamen Verantwortungsbereich weiterbringen

(?) • Passt die Frequenz Ihrer Einzelgespräche in die Gesamtstruktur der formellen Kommunikation?
  • Sind die Erwartungen der Teilnehmenden an den Einzelaustausch klar definiert?
  • Von welchen Themen ist der Gesprächsinhalt geprägt?

E-Mail Kommunikation

(i) Die Verwendung dieses Kommunikationskanals nimmt zu, wodurch auch die E-Mail Überlastung zunimmt.

(!) Eine bewusste Nutzung von E-Mail Kommunikation.

✓ Meinungen zur E-Mail Nutzung innerhalb des FM Bereiches sind erfasst, eine potentielle Überlastung ist erkannt
✓ Die Ursachen einer Überlastung sind ermittelt und werden entsprechend adressiert
✓ Eine bestehende Richtlinie zur E-Mail Handhabung ist überprüft; oder es wird eine Richtlinie entwickelt, welche Mitarbeitende bei der Bewältigung der E-Mail Kommunikation unterstützt

(?) • Besteht in Ihrem Verantwortungsbereich eine E-Mail Überlastung?
  • Sind die Ursachen für die Überlastung bekannt?
  • Verfügen Sie über eine E-Mail Richtlinie?

Typische Symptome von E-Mail Überlastung mit Lösungsansätzen

• **Das Cc-Syndrom** – bewusstes reduzieren von Cc's durch bewusste und passende Nutzung der «Cc» und «Allen Antworten» Felder
• **Überproduktivität** – Reduktion der Anzahl E-Mails durch vermehrte Nutzung alternativer Kommunikationskanäle
• **Konstante Unterbrechung** durch eintreffende E-Mails – Reduzierung der täglichen Abrufhäufigkeit , Deaktivierung der E-Mail Benachrichtigung bei Aufgaben. welche besondere Konzentration erfordern
• **Mehrere Betreffs** führen zu Schwierigkeiten beim Ablegen des E-Mails und bei mehreren Adressanten sind oft nicht alle Inhalte für alle relevant – Reduktion auf einen Betreff pro E-Mail
• **Unpassender Betreff** – bewusste Definition vom Betreff, so dass dieser sowohl Inhalt als auch Wichtigkeit der Nachricht anzeigt
• **Übermässiger Gebrauch vom «!»** - vorherige Kontaktaufnahme mit Empfängern schafft gegenseitiges Verständnis zur Wichtigkeit des folgenden E-Mails
• **Mangelnde Kenntnisse** von unterstützenden Funktionen des E-Mailprogramms – Sicherstellung, dass die Mitarbeitenden die Funktionen diese Kommunikationstools beherrschen
• **Reaktionsdruck** – das hinzufügen von «Antwort bis Datum» bringt sowohl E-Mail Sender wie Empfänger Entlastung

Geplante Sitzungen – Erkenntnisse einer Protokollanalyse

(i) Gemäss der oben links festgehaltenen Sitzungsdefinition sollte die FM Diversität FM Sitzungen stärken. Eine Analyse von Protokollen aus Bereichs-, Abteilungs- und Teamsitzungen zeigte jedoch, dass hauptsächlich ein passiver Austausch von Informationen stattfindet, welche für die Teilnehmenden meist nicht direkt notwendig sind, um Prozesse in ihren Verantwortungsbereichen aufrechtzuerhalten (=erhaltende Elemente). Es waren nur wenige Hinweise sowohl auf Diskussionen und Schlussfolgerungen innerhalb der Sitzung (=konstitutive Elemente), als auch auf Informationen aus dem FM Umfeld ersichtlich, welche die Teilnehmenden für ihre Tätigkeiten wissen müssen, aber nicht selbständig erhalten (=adaptive Elemente). Das steht im Widerspruch zur Literatur, dass Sitzungen in erster Linie eine Plattform für produktive Zusammenarbeit über verschiedene Disziplinen hinweg sein sollten.

(!) Effektive und effiziente Nutzung von Sitzungsressourcen.

✓ Sitzungsprotokolle – somit Sitzungen – werden systematisch überprüft, damit klar ist wozu Sitzungszeit verwendet wird (erhaltende, konstitutive, adaptive Elemente)
✓ Basierend auf der Analyse wird bewusst entschieden, ob die Sitzungsinhalte zu den eingesetzten Ressourcen passen

(?) • Für welche Inhalte nutzen Sie die Zeit von Sitzungen in Ihrem Verantwortungsbereich?
  • Passen die Traktanden zu den eingesetzten Sitzungsressourcen?
  • Sind die Erwartungen der Teilnehmenden an den Sitzungszweck und ihrem erwartetem Beitrag klar?

Zukunft der FM Kommunikation

(i) Die zunehmende Digitalisierung erfasst auch den FM Bereich.

(!) Der Trend wird mit Blick auf sich verändernde Anforderungen an Technik und Mitarbeiter-fähigkeiten mitverfolgt.

✓ Es gibt eine FM spezifische Strategie zum Umgang mit der zunehmenden Digitalisierung

(?) • Haben Sie eine Strategie, die sich mit den Aspekten der Digitalisierung befasst und auf die Merkmale Ihres Verantwortungsbereiches abgestimmt ist?

Autorin: Franziska C. Honegger – Der Leitfaden ist die Essenz einer Dissertation, eingereicht im September 2019 an der Liverpool John Moores University

R. Summary of Meeting Details Focus Group

German Version (distributed to participants)

Zeit: 17:00-18.30
Ort: Zürich
Datum: 19. August 2019

Zeit	Agenda	Inhalt
15 Min	Einführung	Info zum Ablauf der Fokusgruppe Info wie der Leitfaden entstanden ist
15 Min	Selbststudium	Zeit um Leitfaden anzuschauen Vorbereitung auf Diskussion
60 Min	Diskussion – Leitfragen: • Ist die Darstellung verständlich? • Sind die Inhalte verständlich? • Sind die Inhalte nützlich?	Austausch von Meinungen – dabei gibt es kein richtig oder falsch

English translation

Time: 17:00-18.30
Location: Zurich
Date: 19. August 2019

Time	Agenda	Content
15 Min	Introduction	Information how focus group takes place Information on how framework was developed
15 Min	Self-study time	Time to look at the initial framework Preparation for discussion
60 Min	Discussion – guiding questions: • Is the design understandable? • Is the content understandable? • Is the content useful?	Exchange of opinions – there is no right or wrong

S.   Participant Information & Consent Form – Focus Group

Participant Information Sheet Focus Group

LIVERPOOL JOHN MOORES UNIVERSITY
PARTICIPANT INFORMATION SHEET
Focus Group

Title of Project: Towards an optimal facility management communication in Swiss hospitals – the development of a communication framework

Name of Researcher and School/Faculty: Franziska Honegger, School of Built Environment/Faculty of Technology and Environment

You are being invited to take part in a research study. Before you decide, it is important that you understand why the research is being done and what it involves. Please take time to read the following information. Ask us if there is anything that is not clear or if you would like more information. Take some time to decide if you want to take part or not.

6.   What is the purpose of the study?
The purpose of this study is to develop a framework guiding an optimal communication in Swiss hospitals' FM departments. This incorporates evidence based information on the appropriate use of different communication channels, states responsibilities of different roles and points out relevant content to be processed in order to facilitate an effective and efficient FM.

7.   Do I have to take part?
No. It is up to you to decide whether or not to take part. If you do, you will be given this information sheet and asked to sign a consent form. You are still free to withdraw at any time and without giving a reason. A decision to withdraw will not affect your rights.

8.   What will happen to me if I take part?
You will be asked to sign or initial the participant consent form. You will then be asked to participate in focus group interview which should take up to 1.5 hours and will contain questions to validate the initial communication framework.

9.   Are there any risks / benefits involved?
There are no risks associated with taking part in this study. However there may be several benefits in taking part, as you are actively involved in the development of a research result "FM communication Framework" that is of benefit to your field.

10. Will my taking part in the study be kept confidential?
All participants will be asked to respect confidentiality. You do not have to provide a name, (you can just initial) on the consent form. Confidentially of data will be ensured after the focus group. A number will be applied to the consent form instead of names and therefore, the information you provide cannot be identified with your name. You are requested to provide the researcher with a signed or initialled consent form. This will be kept separately by the researcher from any other information you provide. This data will be stored securely after completion of the study.

This study has received ethical approval from LJMU's Research Ethics Committee
REC reference number: 15/BUE/005 and date of approval: 22th July 2015

Should you have any comments or questions regarding this research, you may contact the researchers:
Contact Details of Researcher Franziska Honegger: F.C.Honegger@2014.ljmu.ac.uk
Contact Details of Academic Supervisor: Dr. Matthew Tucker M.P.Tucker@ljmu.ac.uk

If you have any concerns regarding your involvement in this research, please discuss these with the researcher in the first instance. If you wish to make a complaint, please contact researchethics@ljmu.ac.uk and your communication will be re-directed to an independent person, as appropriate.

Consent Form Focus Group

LIVERPOOL JOHN MOORES UNIVERSITY
CONSENT FORM Focus Group

Title of Project: Towards an optimal facility management communication in Swiss hospitals – the development of a communication framework

Name of Researcher and School/Faculty: Franziska Honegger, School of Built Environment/Faculty of Technology and Environment

1. I confirm that I have read and understand the information provided for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.

2. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving a reason and that this will not affect my legal rights.

3. I understand that any personal information collected during the study will be anonymous and remain confidential.

4. I agree to take part in the above study.

5. I understand that the focus group interview will be audio recorded and I am happy to proceed.

6. I understand that parts of our conversation may be used verbatim in future publications or presentations but that such quotes will be anonymous.

Name of Participant: Date:

Signature:

Name of Researcher: Date:

Signature:

Note: When completed 1 copy for participant and 1 copy for researcher

T. Slides Used in Focus Group

U. Sample of Transcript Focus Group Interview

Visualised is an excerpt of the focus group transcript indicated by **[…]**

Guideline Focus Group

LIVERPOOL JOHN MOORES UNIVERSITY

Transcript Focus Group

Date: 19/08/2019, time: 5.00-6.30 pm	Moderator: Franziska C. Honegger (FH)
Participants: 3 FM-Executives	Ort: Zurich
Aim: Validation initial FM Communication Framework	

Leitfragen

1   Ist die Darstellung verständlich? → Struktur des Leitfadens?

FH: Ja gut konntet ihr es soweit ansehen, fangen wir an mit Frage Nr. 1 wie findet ihr Darstellung des Leitfadens ist es für euch verständlich.

PGP#1 Ähm also ich habe mir zuerst überlegt für was der Leitfaden ist, wenn du mir das in die Hand gibst und sagst mache aufgrund von dem Papier etwas im FM in Kommunikation, dann hätte ich glaube Mühe und zwar fehlt mir die Struktur vom Ablauf. Das Ganze ist extrem komplex. Die Zeichnung hat mich massiv fasziniert **[…]**

PGP#2 ja, also mir ging es ähnlich also ich dachte auch da fängt es wahrscheinlich an und bin dann mal so rüber und aha dann in die Mitte und dachte da vielleicht da so, also ich denke definitiv, Zahlen würden wahrscheinlich helfen einem zu leiten, welche Reihenfolge anzudenken ist es anzuschauen, es erinnert mich so an einen Spickzettel für Prüfungen, wo viel auf zwei Seiten gepackt werden muss **[…]**

PGP#3 Genau, also ich schliesse mich an, das ist mir auch so gegangen, ich habe zuerst da angefangen, wo man anfängt und dann habe ich gemerkt aha das ist der Hintergrund, gut das ist eigentlich nicht das wichtigste, warum ist das so prominent an erster Stelle? Ich habe noch etwas Anderes überlegt und das ist glaube ich eine Frage die man sich stellen müsste, du hast dich bewusst entschieden alles wenn möglich auf ein A3 zu tun, warum das? **[…]**

V. Final FM Communication Framework – German

Hin zu einer Optimalen Facility Management Kommunikation im Spital
Ein Leitfaden für FM Führungskräfte

Um das geht es

Damit eine Organisation funktioniert, braucht es **passend definierte Kommunikationsaktivitäten**. Das gilt auch für den Bereich vom Facility Management (FM) in Spitälern.

Sie finden hier einen Leitfaden mit **10** **Schlüsselelementen**, welche hinsichtlich einer optimalen FM Kommunikation auf Ihren Verantwortungsbereich passend abzustimmen sind. **27 Fragen** unterstützen Sie zur Selbstüberprüfung dieser Elemente. Der **Leitfaden** beinhaltet kein detailliertes Rezept für Ihre optimale FM Kommunikation – er **schärft Ihr Bewusstsein**, wo Sie in Ihrem spezifischen Verantwortungsbereich allenfalls Optimierungen vornehmen sollten.

Ziel: Bewusstsein schärfen – als Basis für Optimierungen

Die 27 Fragen der 10 Schlüsselelemente auf einen Blick

1 FM Diversität
- Sind Ihnen die unterschiedlichen Kommunikationsbedürfnisse bekannt und sind diese in der Kommunikationsstruktur berücksichtigt?
- Wird die FM Diversität aktiv thematisiert und als Vorteil genutzt?

2 Informelle Kommunikation
- Wie charakterisieren Sie die informelle Kommunikation in Ihrem Verantwortungsbereich, wird diese positiv wahrgenommen?
- Wie wird mit den Aspekten Einhaltung der Linie, Nutzung der Pausenzeit und Politik der offenen Tür umgegangen?
- Haben Sie mögliche Standortspezifikationen berücksichtigt?

3 Kommunikationskanäle - Generell
- Welche Kommunikationskanäle stehen in Ihrem Verantwortungsbereich zur Verfügung?
- Wissen die Mitarbeitenden wie man diese nutzt?
- Nutzen Sie die verfügbaren Möglichkeiten, um die Sichtbarkeit vom FM im Spital positiv zu fördern?

4 Kommunikationskanal - Sitzungen
- Wie sieht Ihre formale Kommunikationsstruktur aus?
- Entscheiden Sie bewusst über den Sitzungsort?
- Passt der Stil Ihrer Sitzungen zu deren Zweck?
- Haben Sie definiert, was eine gute Sitzungsvorbereitung ausmacht?
- Werden die Erwartungen an den Ablauf Ihrer Sitzungen erfüllt?
- Stimmen Meinungen und Erwartungen zum Sitzungsinhalt überein?
- Beruhen Diskussionen und Entscheidungen in Ihren Sitzungen überwiegend auf Kosten- und Prozesstransparenz?
- Evaluieren Sie Ihre Sitzungen regelmässig?

5 Kommunikationskanal - Protokolle
- Für welche Inhalte nutzen Sie die Zeit von Sitzungen in Ihrem Verantwortungsbereich?
- Passen die Traktanden zu den eingesetzten Sitzungsressourcen?
- Sind die Erwartungen der Teilnehmenden an den Sitzungszweck und ihrem erwartetem Beitrag klar?

6 Kommunikationskanal - Einzelaustausch
- Passt die Frequenz Ihrer Einzelgespräche in die Gesamtstruktur der formellen Kommunikation?
- Sind die Erwartungen der Teilnehmenden an den Einzelaustausch klar definiert?
- Von welchen Themen ist der Gesprächsinhalt geprägt?

7 Kommunikationskanal - E-Mail
- Besteht in Ihrem Verantwortungsbereich eine E-Mail Überlastung?
- Sind die Ursachen für die Überlastung bekannt?
- Verfügen Sie über eine E-Mail Richtlinie?

8 Herausforderungen in der Kommunikation
- Prüfen Sie die Kommunikationsaktivitäten in Ihrem Verantwortungsbereich hinsichtlich dem Umgang mit typischen Herausforderungen?

9 Effektive Kommunikation
- Wie charakterisieren Sie Ihre sachliche Kommunikation?
- Wie werden Sie von Nachrichtenempfängern wahrgenommen?
- Was offenbaren Sie durch Ihre Kommunikationsweise von sich selbst?

10 Zukunft der FM Kommunikation
- Haben Sie eine Strategie, die sich mit den Aspekten der Digitalisierung befasst und auf die Merkmale Ihres Verantwortungsbereiches abgestimmt ist?

(i) **Woher kommen diese Fragen?**
Schauen Sie sich die weiterführenden Infos an ➡ 1/7

Autorin: Franziska C. Honegger – Der Leitfaden ist die Essenz einer Dissertation, eingereicht im September 2019 an der Liverpool John Moores University

Hin zu einer Optimalen Facility Management Kommunikation im Spital

FM Kommunikation im Spital - ein Überblick

Der Leitfaden befasst sich mit **Schlüsselelementen in der FM Kommunikation**. Kommunikation ist komplex und wird von verschiedensten Aspekten beeinflusst. Folgende Abbildung gibt Ihnen einen Überblick dazu. Das soll Sie unterstützen, die Zusammenhänge in Ihrem eigenen Verantwortungsbereich zu reflektieren und einzuordnen. Was Ihnen wiederum als **Basis für potentielle Optimierungen** dient.
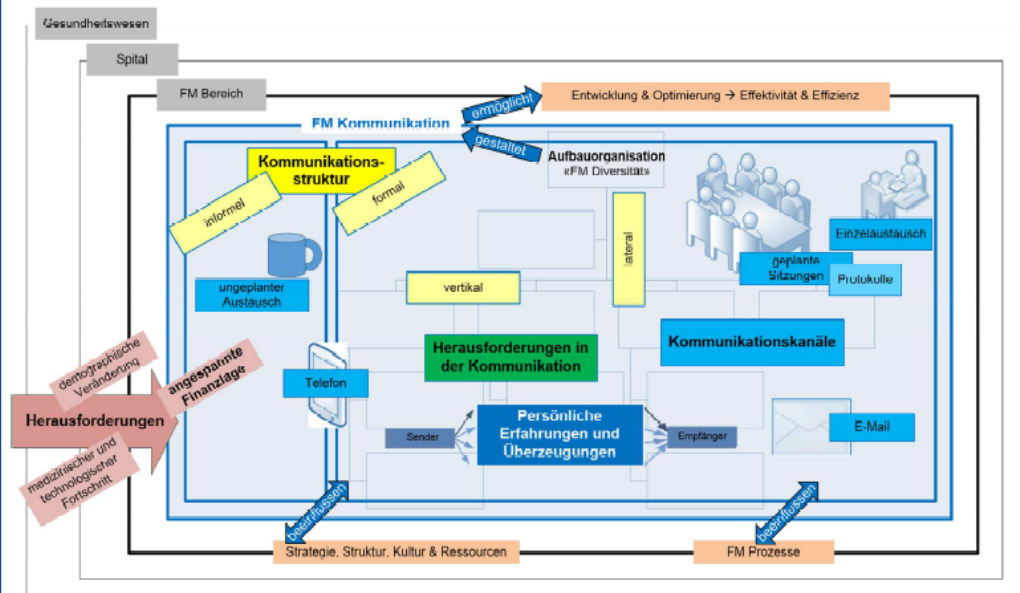
Die Abbildung zeigt:

- die zentralen **Herausforderungen** für das Gesundheitswesen, die Spitäler und deren FM; besonders die angespannte finanzielle Lage fördert Entwicklungen die FM Leistungen zu optimieren.

- dass **Entwicklung und Optimierung** durch abgestimmte FM Kommunikationsaktivitäten ermöglicht wird, welche wiederum von der **Diversität des FM's** geprägt sind, da im FM typischerweise Personen aus verschiedenen Berufsfeldern zusammenarbeiten.

- dass **Strategie, Struktur, Kultur**, sowie die spezifische Ausgestaltung von **FM Prozessen** zusammen mit vorhandenen **Ressourcen**, die FM Kommunikation und damit das FM als solches beeinflussen.

- Elemente, welche die Kommunikation strukturieren: **formelle** und **informelle**, **vertikale** und **laterale** Kommunikation, wichtige **Kommunikationskanäle**, und dass **subjektive Erfahrungen und Überzeugungen** die Kommunikation beeinflussen.

- dass **Herausforderungen** Kommunikationsaktivitäten entweder hindern, wenn sie schlecht gehandhabt werden oder fördern, wenn sie proaktiv genutzt werden.

Struktur des Leitfadens

- Schlüsselelemente für eine optimale FM Kommunikation blau: konkrete Aktivitäten; grün: überlagernde Themen
- (i) Informationen zum Schlüsselelement: **Worum es geht**
- (!) Ziel und Aspekte vom Element: **Worauf zu achten ist**
- (?) Fragen zur Selbstüberprüfung: Unterstützen **FM Führungskräfte** bei der Überprüfung ihrer Kommunikationsaktivitäten

Schlüsselelemente – woher?

Die Schlüsselelemente wurden **aus Daten der Praxis hergeleitet**. Sie repräsentieren Schwerpunkte der Kommunikation, welche Führungskräfte innerhalb des FM Bereichs in Spitälern beschäftigen.

Die Nummerierung der Elemente dient der Organisation des Leitfadens und sagt nichts über die Wichtigkeit der Elemente aus. Diese ist organisationsspezifisch und kann daher unterschiedlich sein.

2/7

Autorin: Franziska C. Honegger – Der Leitfaden ist die Essenz einer Dissertation, eingereicht im September 2019 an der Liverpool John Moores University

Hin zu einer Optimalen Facility Management Kommunikation im Spital

1

FM Diversität

(i) Das FM umfasst verschiedene Berufsfelder, wie Gastronomie, Hauswirtschaft, Infrastruktur/Technik, Beschaffung und Logistik und beschäftigt Mitarbeitende mit vielseitigen beruflichen Hintergründen (=→ grosses gemeinsames Wissen!) und unterschiedlichen Ansichten und Bedarf an Kommunikationsaktivitäten.

Nutzen Sie das Potential der FM Diversität!

(!) Die FM Diversität ist erfasst und wird als Vorteil für die Zusammenarbeit gesehen.

✓ **Unterschiedliche Bedürfnisse** an Kommunikation innerhalb des FM Bereiches sind **identifiziert** und in der formalen Kommunikationsstruktur berücksichtigt
✓ Die FM Diversität wird auf allen organisatorischen Ebenen **aktiv thematisiert**

(?) • Sind Ihnen die unterschiedlichen Kommunikationsbedürfnisse bekannt und haben Sie diese in der formalen Kommunikationsstruktur berücksichtigt?
• Wird die FM Diversität aktiv thematisiert und als Vorteil genutzt?

2

Informelle Kommunikation

(i) Unstrukturierte, informelle Kommunikation zwischen FM Mitarbeitenden passiert laufend und hat einen grossen Einfluss auf das Funktionieren der Organisation.

(!) Bewusste Nutzung der informellen Kommunikationsmöglichkeiten, mit Berücksichtigung von 5 fürs FM besonders relevanten Aspekten:

✓ **Wie** Mitarbeitende die Aktivitäten der informellen Kommunikation **wahrnehmen** ist bekannt und wird bewusst adressiert
✓ Die Wichtigkeit bei der informellen Kommunikation die **hierarchische Linie** einzuhalten ist thematisiert und wird entsprechend eingehalten
✓ Die **Relevanz der Pause** und die Nutzung der Pausenzeit wird berücksichtigt
✓ Die Politik der **offenen Türe** ist definiert und wird entsprechend gelebt
✓ Der **standortspezifische Einfluss** auf informelle Kommunikationsaktivitäten (z.B. bei Spitälern mit mehreren Standorten) wird bewusst berücksichtigt

Unterschätzen Sie die Relevanz der informellen Kommunikation nicht!

(?) • Wie charakterisieren Sie die informelle Kommunikation in Ihrem Verantwortungsbereich, wird diese positiv wahrgenommen?
• Wie wird mit den Aspekten Einhaltung der Linie, Nutzung der Pausenzeit und Politik der offenen Tür umgegangen?
• Haben Sie mögliche Standortspezifikationen berücksichtigt?

3

Kommunikationskanäle - Generell

(i) Das FM verwendet eine Vielzahl an unterschiedlichen Kommunikationskanälen = Wege wie Informationen übermittelt werden (Sitzungen, E-Mail, Telefon, usw.).

Verwenden Sie Ihre verfügbaren Kommunikations- kanäle passend?

(!) Eine bewusste und richtige Nutzung der verfügbaren Kanäle.

✓ Es gibt eine **klare Übersicht** der fürs FM verfügbaren Kanäle, einschliesslich deren Vor- und Nachteile
✓ Die Kanäle werden bewusst und gezielt genutzt, **Erwartungen** daran sind **abgeglichen**, um Fehlinterpretationen zu vermeiden
✓ Die **Fähigkeiten der Mitarbeitenden** stimmen mit den Anforderungen der verfügbaren Kanäle überein
✓ Verfügbare Kommunikationsmöglichkeiten ausserhalb des FM Bereiches werden zielgerichtet genutzt, um das **FM sichtbarer** zu machen (Bsp. Spitalmagazin)

(?) • Welche Kommunikationskanäle stehen in Ihrem Verantwortungsbereich zur Verfügung?
• Wissen die Mitarbeitenden wie man diese Kanäle nutzt?
• Nutzen Sie die verfügbaren Möglichkeiten, um die Sichtbarkeit vom FM im Spital positiv zu fördern?

3/7 ➡

Hin zu einer Optimalen Facility Management Kommunikation im Spital

4

Kommunikationskanal – Sitzungen (mit mehr als zwei Personen)

ⓘ Sitzungen beanspruchen einen grossen Anteil der Ressourcen von FM Führungskräften. Damit diese zielgerichtet verwendet werden, gilt es Sitzungsstrukturen bewusst zu definieren und aufeinander abzustimmen.
Peter Drucker, einer der bekanntesten Vertreter der Managementlehre, definiert Sitzungen als dann notwendig, wenn Personen mit unterschiedlichen Aufgaben zusammenarbeiten müssen, um eine gemeinsame Aufgabe zu erledigen. Dies weil das Wissen und die Erfahrung, die in einer bestimmten Situation benötigt werden, nicht nur in einem Kopf vorhanden ist, sondern aus dem Wissen und der Erfahrung mehrerer Personen zusammengesetzt werden muss. Die typische FM Diversität bietet dafür die beste Voraussetzung.

Verschwenden Sie keine Sitzungszeit!

⚠ Eine klare Struktur von geplanten Sitzungen, welche auf die Anforderungen der organisationsspezifischen FM Struktur abgestimmt ist und sowohl von der Sitzungsleitung wie von Teilnehmenden positiv beurteilt wird.

✓ Eine **visuelle Darstellung** der aktuellen Kommunikationsstruktur dient als Basis für mögliche Verbesserungen. Ein Beispiel finden Sie auf Seite 5 dieses Leitfadens
Die **Visualisierung unterstützt** zu prüfen, ob Struktur und Rhythmus der Sitzungen aufeinander abgestimmt sind. Sie zeigt:
  o die Sitzungshierarchie, was auf welcher Ebene stattfindet
  o die Sitzungsfrequenzen und damit ob die Informationskaskade von oben nach unten zeitlich funktioniert oder ob es dabei Verzögerungen gibt
  o den lateralen und vertikalen Informationsfluss
  o abteilungs- / teamübergreifende Kommunikationsaktivitäten
✓ Die Entscheidung wo Sitzungen stattfinden, der **Sitzungsort**, ist bewusst gefällt, besonders beim FM von Spitälern mit mehreren Standorten
✓ Der Entscheid zum **Stil der Sitzung** ist bewusst gefällt, indem über verwendete Stile (bspw. klassische Struktur mit Traktanden) nachgedacht wird und neuere Stile erprobt werden (bspw. Stehsitzung), die möglicherweise besser passen
✓ **Vorbereitung:** Es ist definiert, was sowohl für Sitzungsleitende wie für Teilnehmende eine gute Sitzungsvorbereitung ausmacht. Dies mittels:
  o Erfassung und Berücksichtigung der Erwartungen von Teilnehmenden an die Rolle der Sitzungsleitung
  o klaren Vorgaben wie sich die Teilnehmenden vorbereiten müssen
  o transparenter Herleitung der Traktanden, so dass klar ist warum diese wichtig sind und wie sie mit den FM Aktivitäten zusammenhängen
✓ **Ablauf:** Die Erwartungen an den Sitzungsablauf, einschliesslich der Rolle der Teilnehmer, sind geklärt. So werden negative Einstellungen aufgrund unterschiedlicher Erwartungshaltungen vermieden, welche den angestrebten Sitzungszweck beeinträchtigen können. Dies geschieht durch:
  o Reflexion ob Sitzungszeit zu lang / zu kurz ist und ob Zeit eingehalten wird
  o Sitzungsrichtlinien, in denen die Erwartungen an das Verhalten der Teilnehmenden gemeinsam definiert sind. Die Einhaltung dieser Richtlinien wird regelmässig überprüft
✓ **Inhalt:** Meinungen und Erwartungen zum Sitzungsinhalt sind geklärt und in Übereinstimmung gebracht. Diskussionen und Entscheidungen basieren grundsätzlich auf Kosten- und Prozesstransparenz. Wenn das nicht möglich ist, werden diese Grundlagen hergeleitet
✓ **Evaluation:** Die Sitzungen werden regelmässig sowohl aus Sicht der Leitung wie der Teilnehmenden evaluiert

❓ • Wie sieht Ihre formale Kommunikationsstruktur aus?
  • Entscheiden Sie bewusst über den Sitzungsort?
  • Passt der Stil Ihrer Sitzungen zu deren Zweck?
  • Haben Sie definiert, was eine gute Sitzungsvorbereitung ausmacht?
  • Werden die Erwartungen an den Ablauf Ihrer Sitzungen erfüllt?
  • Stimmen Meinungen und Erwartungen zum Sitzungsinhalt überein?
  • Beruhen Diskussionen und Entscheidungen in Ihren Sitzungen überwiegend auf Kosten- und Prozesstransparenz?
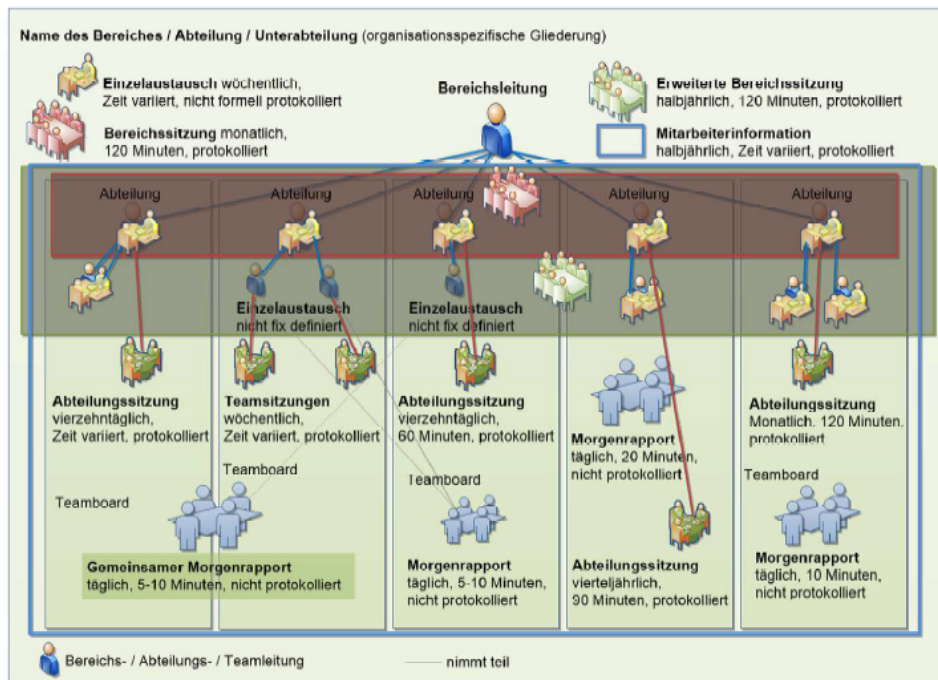 • Evaluieren Sie Ihre Sitzungen regelmässig?

4/7 ➡

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Hin zu einer Optimalen Facility Management Kommunikation im Spital

Beispiel einer visuellen Darstellung der formellen Kommunikationsstruktur

Name des Bereiches / Abteilung / Unterabteilung (organisationsspezifische Gliederung)

Einzelaustausch wöchentlich, Zeit variiert, nicht formell protokolliert

Bereichssitzung monatlich, 120 Minuten, protokolliert

Bereichsleitung

Erweiterte Bereichssitzung halbjährlich, 120 Minuten, protokolliert

Mitarbeiterinformation halbjährlich, Zeit variiert, protokolliert

Abteilung | Abteilung | Abteilung | Abteilung | Abteilung

Einzelaustausch nicht fix definiert

Einzelaustausch nicht fix definiert

Abteilungssitzung vierzehntäglich, Zeit variiert, protokolliert

Teamsitzungen wöchentlich, Zeit variiert, protokolliert

Teamboard

Abteilungssitzung vierzehntäglich, 60 Minuten, protokolliert

Teamboard

Morgenrapport täglich, 20 Minuten, nicht protokolliert

Abteilungssitzung Monatlich. 120 Minuten, protokolliert

Teamboard

Teamboard

Gemeinsamer Morgenrapport täglich, 5-10 Minuten, nicht protokolliert

Morgenrapport täglich, 5-10 Minuten, nicht protokolliert

Abteilungssitzung vierteljährlich, 90 Minuten, protokolliert

Morgenrapport täglich, 10 Minuten, nicht protokolliert

Bereichs- / Abteilungs- / Teamleitung — nimmt teil

Wie sieht Ihre Kommunikationsstruktur aus?

5

Was sagen Ihre Protokolle über Ihre Sitzungen?

Kommunikationskanal - Protokolle

ⓘ Gemäss der vorhergehend festgehaltenen Sitzungsdefinition sollte die FM Diversität FM Sitzungen stärken. Eine Analyse von Protokollen aus Bereichs-, Abteilungs- und Teamsitzungen zeigte jedoch, dass hauptsächlich ein passiver Austausch von Informationen stattfindet, welche für die Teilnehmenden meist nicht direkt notwendig sind, um Prozesse in ihren Verantwortungsbereichen aufrechtzuerhalten (=erhaltende Elemente). Es waren nur wenige Hinweise auf Diskussionen und Schlussfolgerungen innerhalb der Sitzung (=konstitutive Elemente), und auf Informationen aus dem FM Umfeld ersichtlich, welche die Teilnehmenden für ihre Tätigkeiten wissen müssen, aber nicht selbständig erhalten (=adaptive Elemente). Das steht im Widerspruch zur Literatur, dass Sitzungen in erster Linie eine Plattform für produktive Zusammenarbeit über verschiedene Disziplinen hinweg sein sollten.

⚠ Effektive und effiziente Nutzung von Sitzungsressourcen.

✓ **Sitzungsprotokolle** – somit Sitzungen – werden **systematisch überprüft**, damit klar ist wozu Sitzungszeit verwendet wird (erhaltende, konstitutive, adaptive Elemente)

✓ Basierend auf der Analyse wird **bewusst entschieden**, ob die **Sitzungsinhalte** zu den eingesetzten **Ressourcen passen**

❓
- Für welche Inhalte nutzen Sie die Zeit von Sitzungen in Ihrem Verantwortungsbereich?
- Passen die Traktanden zu den eingesetzten Sitzungsressourcen?
- Sind die Erwartungen der Teilnehmenden an den Sitzungszweck und ihrem erwartetem Beitrag klar?

5/7 ➡

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Hin zu einer Optimalen Facility Management Kommunikation im Spital

6

Kommunikationskanal - Einzelaustausch

(i) Diese finden meist bilateral zwischen Vorgesetzten und direkt unterstellten Mitarbeitenden statt und fokussieren auf deren Themen. Typischerweise dauern sie weniger als 60 Minuten und werden nicht offiziell protokolliert. Eine regelmässige Frequenz dieser Einzelgespräche wird empfohlen.

Fokussieren Sie sich auf bilaterale Themen!

(!) Effektive und effiziente Nutzung von Einzelaustauschen mit Schwerpunkt auf bilaterale Themen.
- ✓ **Rhythmus und Struktur** der Einzelaustausche sind in der formellen Kommunikationsstruktur **passend verankert**
- ✓ **Eine regelmässige Frequenz** wird von beiden Teilnehmenden eingehalten
- ✓ **Erwartungen** zu Struktur, Vorbereitung, Notizen und Verantwortlichkeiten sind beidseits klar **definiert**
- ✓ Der Gesprächsinhalt ist geprägt von Themen, welche den **gemeinsamen Verantwortungsbereich** weiterbringen

(?) • Passt die Frequenz Ihrer Einzelgespräche in die Gesamtstruktur der formellen Kommunikation?
- • Sind die Erwartungen der Teilnehmenden an den Einzelaustausch klar definiert?
- • Von welchen Themen ist der Gesprächsinhalt geprägt?

7

Kommunikationskanal - E-Mail

(i) Die Verwendung dieses Kommunikationskanals nimmt zu, wodurch auch die E-Mail Überlastung zunimmt.

(!) Eine bewusste Nutzung von E-Mail Kommunikation.
- ✓ Meinungen zur E-Mail Nutzung innerhalb des FM Bereiches sind erfasst, eine potentielle **Überlastung** ist **erkannt**
- ✓ Die **Ursachen** einer Überlastung sind ermittelt und werden entsprechend adressiert
- ✓ Eine bestehende **Richtlinie zur E-Mail Handhabung** ist überprüft; oder es wird eine Richtlinie entwickelt, welche Mitarbeitende bei der Bewältigung der E-Mail Kommunikation unterstützt

Definieren Sie den Umgang mit E-Mails!

(?) • Besteht in Ihrem Verantwortungsbereich eine E-Mail Überlastung?
- • Sind die Ursachen für die Überlastung bekannt?
- • Verfügen Sie über eine E-Mail Richtlinie?

Typische Symptome von E-Mail Überlastung mit Lösungsansätzen
- • **Das Cc-Syndrom** – reduzieren von Cc's durch bewusste und passende Nutzung der «Cc» und «Allen Antworten» Felder
- • **Überproduktivität** – Reduktion der Anzahl E-Mails durch vermehrte Nutzung alternativer Kommunikationskanäle
- • **Konstante Unterbrechung** durch eintreffende E-Mails – Reduzierung der täglichen Abrufhäufigkeit, Deaktivierung der E-Mail Benachrichtigung bei Aufgaben, welche besondere Konzentration erfordern
- • **Mehrere Betreffs** führen zu Schwierigkeiten beim Ablegen des E-Mails und bei mehreren Adressanten sind oft nicht alle Inhalte für alle relevant – Reduktion auf einen Betreff pro E-Mail
- • **Unpassender Betreff** – bewusste Definition vom Betreff, so dass dieser sowohl Inhalt als auch Wichtigkeit der Nachricht anzeigt
- • **Übermässiger Gebrauch vom «!»** - vorherige Kontaktaufnahme mit Empfängern schafft gegenseitiges Verständnis zur Wichtigkeit des folgenden E-Mails
- • **Mangelnde Kenntnisse** von unterstützenden Funktionen des E-Mailprogramms - Sicherstellung, dass die Mitarbeitenden die Funktionen dieses Kommunikationsmittels beherrschen
- • **Reaktionsdruck** – das hinzufügen von «Antwort bis Datum» bringt sowohl E-Mail Sender wie Empfänger Entlastung

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Hin zu einer Optimalen Facility Management Kommunikation im Spital

Herausforderungen in der Kommunikation

(8)

(i) Kommunikation beinhaltet viele Herausforderungen. Bezogen auf das FM in Spitälern wurden 6 zentrale Herausforderungen identifiziert.

(!) Kommunikationsaktivitäten werden auf häufig auftretende Herausforderungen hin überprüft und bei Bedarf werden Massnahmen zu deren Minderung getroffen.
- ✓ **Menge und Komplexität** des Informationsinhalts und Informationsüberflutung
- ✓ Empfängergerechtes **herunterbrechen / filtern** von Informationen
- ✓ Das Fehlen und die Schaffung von **Kommunikationsregeln und -strukturen**
- ✓ **Sprache und Kultur** bezogen auf Emotionen, welche die Sachebene von Informationen stören und unterschiedliche Deutschkenntnisse von Mitarbeitenden
- ✓ **Mangelhafte Nutzung** der verfügbaren Kommunikationskanäle
- ✓ Informationen werden nicht so **verstanden**, wie von dem/der Sender/in beabsichtigt

(?) • Prüfen Sie die Kommunikationsaktivitäten in Ihrem Verantwortungsbereich hinsichtlich dieser häufig vorkommenden Herausforderungen?

Thematisieren Sie den Umgang mit diesen typischen Herausforderungen aktiv!

Effektive Kommunikation

(9)

Wie effektiv kommunizieren Sie?

(i) Bezogen auf die Definition von Effektivität als das Richtige zu tun, bedeutet effektive Kommunikation, dass geeignete Kommunikationskanäle auf die richtige Art und Weise genutzt werden. Eine Reihe von FM Führungskräften wurde gefragt: Was macht Kommunikation effektiv? Das Ergebnis sind Eigenschaften, die sich darauf beziehen, wie eine Nachricht gesendet und empfangen wird. Diese lassen sich in drei Bereiche zusammenfassen, welche die nachfolgenden Aspekte aufzeigen.

(!) Kommunikationsaktivitäten sind auf die wahrgenommenen Eigenschaften einer effektiven Kommunikation überprüft.
- ✓ Der **sachliche Inhalt** einer Nachricht wird **empfängerspezifisch**, **zeitnah**, **fokussiert** und **präzise** kommuniziert
- ✓ Die Nachricht wird **respektvoll** übermittelt
- ✓ Der/die Sender/in offenbart sich als **geradlinige** und **einfühlsame** Führungskraft

(?) • Wie charakterisierten Sie Ihre sachliche Kommunikation?
• Wie werden Sie von Nachrichtenempfängern wahrgenommen?
• Was offenbaren Sie durch Ihre Kommunikationsweise von sich selbst?

Zukunft der FM Kommunikation

(10)

(i) Die zunehmende Digitalisierung erfasst auch den FM Bereich.

(!) Der Trend wird mit Blick auf sich verändernde Anforderungen an Technik und Mitarbeiterfähigkeiten mitverfolgt.
- ✓ Es gibt eine **FM spezifische Strategie** zum Umgang mit der zunehmenden Digitalisierung

(?) • Haben Sie eine Strategie, die sich mit den Aspekten der Digitalisierung befasst und auf die Merkmale Ihres Verantwortungsbereiches abgestimmt ist?

Wie fit sind Sie hinsichtlich der zunehmenden Digitalisierung?

Wurde Ihr Bewusstsein auf die Kommunikationsaktivitäten in Ihrem Verantwortungsbereich geschärft?

Haben Sie Optimierungspotential entdeckt? Gehen Sie dieses an – es lohnt sich!

Fachliteratur und Internet bietet Ihnen viele Informationen, damit Sie Ihr Potential organisationsspezifisch entwickeln und einführen können.

Ich wünsche Ihnen gutes Gelingen!

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Autorin: Franziska C. Honegger – Der Leitfaden ist die Essenz einer Dissertation, eingereicht im September 2019 an der Liverpool John Moores University

W. Framework Usability – LinkedIn Post

Accessible via: https://www.linkedin.com/posts/franziska-c-honegger-669b6682_facility-management-communication-in-hospitals-activity-6629770501147369472-BfqQ