



APPLYING THE PRINCIPLES OF INTERPRETIVE FIELD RESEARCH: AS EXAMPLE OF AN IS CASE STUDY ON SHARED SERVICES

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ABSTRACT

All sound research commence with the selection of a research paradigm. The chosen research paradigm is significant in shaping the researcher's perspectives of the world and it is a vital step in any study's research design. There are different paradigms that IS researchers can choose from; amongst which the interpretive paradigm is growing in acceptance.. Though interpretive research has emerged as an important strand in Information Systems (IS), guidelines on how to conduct interpretive research and how to evaluate them have been scarce. Klein and Myers presented seven principles with examples for each from three case examples. While these principles are much valued, there is a lack of support for novice researchers on how to embed these principles in an overall research design, which could help with the aid of a detailed example that has done so. Thus, this paper aims to address this gap, and presents how Klein and Myers's principles were applied within an example study that investigated shared services in the Malaysian Higher Education context. The example study adopted the interpretive paradigm as the most suited approach that fitted their research questions and goals. More details about the selection and adoption of the Klein and Myers's guidelines in the context of the shared services research case study are presented in the paper.

Keywords: interpretive research, research design, case study, qualitative research.

INTRODUCTION

Selecting the right research paradigm for a research is a crucial step in any study's research design. A rational scientific research paradigm includes basic assumptions of the research, the research questions, the research techniques and all relevant basic rules that will guide the thinking and behavior of researchers while conducting research. As stated in Gummeson (2000, p. 18), "It will be used to represent people's value judgments, norms, standards, frames of reference, perspectives, ideologies, myths, theories, and approved procedures that govern their thinking and action". Hirschheim and Klein (1989), state that the paradigms would typically consist of assumptions (1) about how knowledge can be obtained (epistemology), (2) about the views related to physical and social world (ontology), and (3) how to acquire it (methodology). According to Krauss (2005, p. 759), epistemology have close connection between ontology and methodology, "ontology involves the philosophy of reality, epistemology addresses how we come to know that reality, while methodology identifies the particular practices used to attain knowledge of it".

The chosen research paradigm is significant in shaping the researcher's perspectives of the world (Maxwell, 2009). The paradigm is also influenced by the context of the research and also the people around the researcher. The researcher's paradigm can also greatly influence the research design, the chosen research methods, how the data are being collected, analyzed and finally assist them in justifying the outcome of the inquiry, "You need to make explicit which paradigm(s) your work will draw on, since a clear paradigmatic stance helps guide your design decisions and to justify these decisions" (Maxwell, 2009, p. 224).

There are various schools of thoughts on classifying paradigms and these worldviews have continually evolved. Creswell (2007) named post-positivism, constructivism/ interpretivism, advocacy/ participatory and pragmatism for different paradigms in qualitative research. While Lincoln and Guba (2000), initially categorized positivism, post-positivism, critical theory and constructivism as the basic beliefs of alternative inquiry paradigm. This paper focuses on the interpretivist paradigm and addresses how to move from high-level paradigmatic concerns to more concrete guidelines (supported with the illustrative case example) for conducting research.

Though "interpretive research has emerged as an important strand in Information Systems" (Klein & Myers, 1999, p. 67), guidelines on how to conduct interpretive research and how to evaluate them have been scarce. Klein and Myers (1999, p. 70) presented seven principles of interpretive field research in response to this gap, which were provided "in the spirit of being fundamental ideas that may be helpful to authors and reviewers". They state that they were not meant to be mandatory rather a set of guidelines. To date, these principles are held strongly amongst IS researchers to guide and evaluate interpretative research.

While Klein and Myers (1999) described the guidelines well and provided an example for each guideline from a collection of prior work (see their Table 1, p. 72), their paper and those following after that (Díaz Andrade, 2009; Rowlands, 2005; Shemi & Procter, 2013), do not describe how these guidelines can be applied across an entire single study's design. Furthermore, according to Cardoso and Ramos (2012), only few articles explicitly explain the set of principles in their study. This is a gap for



application and adoption of these guidelines, especially for novice interpretative researchers. A single, detailed illustrative example on the adoption of these guidelines could help with the comprehension of these. Hence the purpose of this paper is to address this gap. Applying a study of IS shared services as a case example, it presents how the principles of Klein and Myers (1999) were embedded and applied for exploration, enquiry and analysis throughout the case study.

The paper recaps the seven principles of interpretive field research by Klein and Myers (1999) and then introduces the case study. The next section presents how these were applied with the case study.

OVERVIEW OF INTERPRETIVE FIELD RESEARCH PRINCIPLES

Interpretive researchers attempt to understand the phenomenon of investigation through social constructions and sharing of meaning by the people for example based on the language used, their interaction, communication and overall atmosphere of the studied context (Klein & Myers, 1999; Myers, 1997). Interpretive research helps IS researchers to be able to explore human thought and action within social and organizational contexts as it allows them to have better understanding into information systems phenomena such as the management of information systems (Klein & Myers, 1999). Interpretive paradigm is much influenced by hermeneutic and phenomenological basis as the research and the researcher's learning process continually iterate (Carroll & Swatman, 2000; Klein & Myers, 1999; Lee, 1999). Researchers are guided by the initial interpretation or understanding of the phenomenon and it will continuously be changed through further exploration of the literature and especially through investigation and interaction with the studied context (Klein & Myers, 1999, p. 71). The overall discoveries throughout the process are valuable and could be reflected by the researchers at the end of their journey.

There are seven principles of interpretive field research from the IS literature as presented in Table 1 (extracted from Klein & Myers, 1999, p. 72). The first principle of Klein and Myers (1999) is an overarching principle for the interpretive research and this will be expand to the other six principles. The other six principles are interdependence with each other and these can be applied in IS research when the researcher(s) determine what relevant context(s) should be explored (principle two) depends upon the following: how the researcher "creates data" in interaction with the subjects (principle three); the theory or concepts to which the researcher will be abstracting and generalizing (principle four); the researcher's own intellectual history (principle five); the different versions of "the story" the research unearths (principle six); and the aspects of the "reality presented" that he or she questions critically (principle seven)" (Klein & Myers, 1999, p. 78). In the context of methodology, the seven principles presented in Table-1 demonstrate that the interpretive research does not set out to test hypotheses, does not predefine dependent or

independent variables, but aims to give an understanding of the social context of the phenomenon and the process whereby the phenomenon influences and is influenced by the social context (Walsham, 1995).

Table-1. Seven principles of interpretive field research (extracted from Klein & Myers, 1999, p. 72).

	Principles	Descriptions
1	The Fundamental Principle of the Hermeneutic Circle	This principle of human understanding is fundamental to all the other principles. This principle suggests that all human understanding is achieved by repeating between considering the interdependent meaning of parts and the whole that they form.
2	The principle of Contextualization	This principle requires clear reflections of the social and historical background of the research setting to ensure the intended researcher able to see how the current situation under investigation emerged.
3	The Principle of Interaction Between the Researchers and the Subjects	This principle requires clear reflections on how the data or research materials were constructed through the interaction between researchers and respondents of the study.
4	The Principle of Abstraction and Generalization	This principle requires relating the idiographic details revealed by the data interpretation through the application of principles one and two to theoretical, general concepts that describe the nature of human understanding and social action.
5	The Principle of Dialogical Reasoning	This principle requires understanding to potential contradictions between the theoretical preconceptions guiding the research design and actual findings with subsequent cycles of revision.
6	The Principle of Multiple Interpretations	This principle requires understanding to potential differences in interpretation among the respondents as are typically expressed in multiple narratives or stories of the same sequence of events under study.
7	The Principle of Suspicion	This principle requires understanding to potential "biases" and systematic "distortions" in the narratives collected from the respondents.



An interpretive research is considered as an important approach in conducting research in IS as this approach has been accepted and implemented by previous researchers, “has had a significant impact in IS research community and accounts for an impressive number of citations in, for example, Google Scholar: more than 2600 citations in November 2012” (Cardoso & Ramos, 2012, p. 79). Therefore the interpretative research is an appropriate approach for a study that needs techniques such as textual analysis, case studies, and observation to be examined in detail (Walsham, 2006).

INTRODUCING THE CASE STUDY

The example case study used in this paper investigates; ICT related shared services in the Higher Education Sector, looking at foundations, benefits, issues and success factors and specifically investigates the potential for ICT related shared services in the Higher Education (HE) sector, using the Malaysian HE sector as the study context. A literal replication approach (Yin, 2009) was employed, where similar organizational settings are selected. The case studies were conducted in public universities in Malaysia. Malaysian universities have been experiencing many of the same environmental drivers as universities elsewhere, encouraging a shared services approach (e.g., increased competition, reduced funding, pressures for operational efficiency improvements). The HE sector in Malaysia has been actively considering shared services as part of a nationwide strategic imperative for some time. The study team had good access to public universities in Malaysia that were interested in participating. Three public universities in Malaysia were included in the study. Miskon (2013) has the full details of the study; and Miskon et al. (2009), Miskon et al. (2010), Bandara et al. (2011), Miskon et al. (2011a), Miskon et al. (2011b), Miskon et al. (2012), Miskon et al. (2013), and Fielt et al. (2014) presents partial outcomes from the different sub/phases in more detail.

The study was motivated by the proliferation of shared services in practice, yet, the dearth of empirically based research on the topic. Addressing the lack of research on shared services in general, and more specifically within the IS domain and HE Sector, was the driving motivation for this study. The study commenced with a set of primary goal: P -RQ1: What are the benefits of ICT shared services in the Higher Education context?; P-RQ2: What are the success factors for ICT shared services, in particular in the Higher Education context?; P-RQ3: What are issues that can hinder ICT shared services, in particular in the Higher Education context? In the process of trying to respond to these, a new set of secondary goals and related research questions emerged: S -RQ1: What is shared services, in the context of Information Systems?; S - RQ2: What is the status of shared services research in the context of Information Systems?; S – RQ3: What are the different types of shared services, in particular in the Higher Education context?

The study followed an interpretive paradigm and applied archival analysis and case studies as the primary research approaches. This primary, interpretive approach was used due to the nature of the research questions and observations made from prior shared services studies (which also had primarily employed interpretive approaches). The nature of the driving primary research questions [P-Q1- P-Q3] in this study, sought a better understanding of the shared services phenomena; it was guided by initial interpretation and continuously changed through further exploration of the literature and especially through investigation and interaction with the studied context (Klein & Myers, 1999). Interpretive research enables to better focus on the complexity of emerging phenomena, from the understanding and conceptualization (Kaplan & Duchon, 1988). Shared services is a ‘young’ field of research, and a yet emerging phenomenon in IS, warranting the investigation of rich contextual data. This study applied an interpretive paradigm in the effort to derive a rich and meaningful understanding of the nature of ICT shared services in HE sector in Malaysia and to answer the research questions as described above.

While the study initially started with the primary goal of investigating the Malaysian HE sector via multiple cases, as the study commenced, a number of gaps and confusions were observed in the field, which needed to be ironed out in order to proceed with the primary phase of the study. Thus, more exploratory work was conducted at the front end of the study, essentially ‘evolving’ the research design as the study progressed. The overall study consisted of four main phases which are; 1) Definition phase, 2) Exploratory phase, 3) Multiple case study phase (the main part that addressed the initial study goals), and 4) Interpretation and outlook phase.

The purpose of the definition phase was to generate a firm understanding of the study domain. The exploratory phase had two main tasks: 1) conduct archival analysis of shared services literature in the IS domain, and 2) conduct content and archival analysis of shared services in the HE sector. As indicated earlier, this phase was added to the study design after some initial work from the prior phase. The multiple case studies phase had been the primary phase of the research from the outset to (interpretatively) investigate shared services in the context of the HE sector. Finally, the interpretation and outlook phase predominantly focused on the overall documentation of the thesis. Appendix A presents the main study phases and the main tasks conducted within each phase together with an indexed catalogue of all the related inputs and outputs for each task in the research design (see Miskon, 2013, Chapter 3 for further details). The interpretative field work we refer to in this paper, as an example, pertains mainly to Phase 3 (see Figure-1) - the multiple case study phase of the study introduced here.

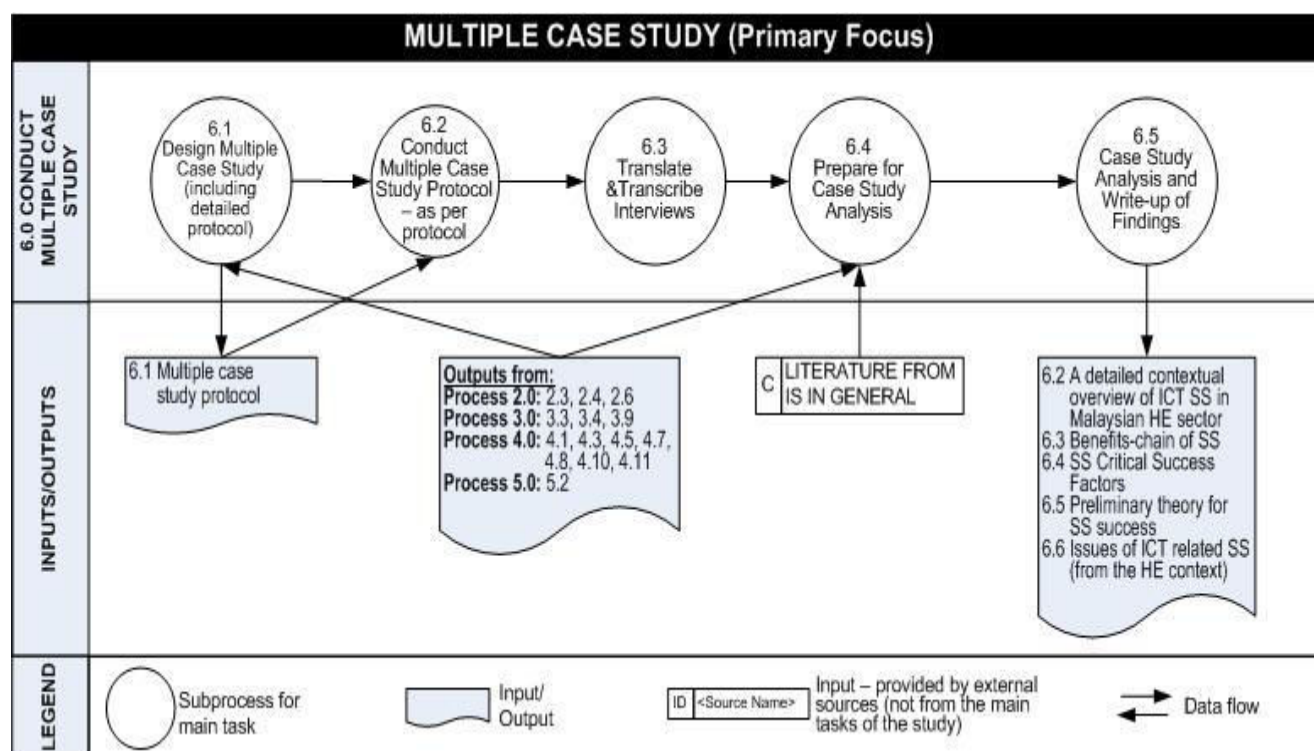


Figure-1. Further details of the multiple case study phase – the interpretative field work (extracted from Miskon, 2013, p. 50).

ILLUSTRATIVE EXAMPLE OF APPLYING THE PRINCIPLES WITHIN THE CASE STUDY

The following sub-sections will discuss how the case example applied Klein and Myer's (1999) principles for interpretive field research (as introduced above).

Applying the fundamental principle of the hermeneutic circle (Principle 1)

The fundamental principle of the hermeneutic circle is "to understand a complex whole from preconceptions about the meanings of its parts and their interrelationship" (Klein & Myers, 1999, p. 71). Furthermore, "hermeneutics can therefore serve as a strategy to address a broad range of research questions" (von Zweck et al., 2008, p. 116). This study has applied the fundamental principle of the hermeneutic circle in addressing the primary and secondary research questions of this study. Furthermore the hermeneutic circle helps to broaden the understanding of shared services.

The research design of this study followed the hermeneutic spiral method suggested by Paterson and Higgs (2005) and von Zweck et al. (2008). The hermeneutic circle, whereby we attempt to understand the whole study (the primary objectives) by understanding its parts (the secondary objectives), and grasping the meaning of the parts deriving the whole (Paterson & Higgs, 2005). "In practice this involves repeatedly and cyclically moving between the parts or aspects of the phenomenon and the whole, with the objective of gaining a growing understanding of the phenomenon" (Paterson & Higgs, 2005, p. 345). Consideration of the output from several

sources (i.e. main tasks) and comprehending the fit of this information within the whole picture of shared services in IS domain and HE sectors was used to gain a growing understanding of the benefits, success factors, and issues that related with ICT shared services in the Malaysian HE sector. This is consistent with von Zweck et al.'s (2008) circle of understanding; new information was integrated with previous outputs and served as input for the main tasks as the study progressed to an enlightened view of shared services in this study.

Figure-2 illustrates the hermeneutic circle in this study further (adapted from Paterson & Higgs, 2005). This study recognize that the understanding of shared services is understood as a whole because it's parts (i.e. shared services in the IS domain and shared services in the HE sector) are integrated in the whole (ICT shared services in Malaysian HE sector) and define it by using the concepts of the hermeneutic circle. At the same time, we recognize how the whole contextualize each of the parts, seeking to shed light on the phenomenon within its context. The process involves an examination of the parts, defining each component before it is reintegrated into the whole (Paterson & Higgs, 2005).

Applying the principle of contextualization (Principle 2)

The principle of contextualization "is an inevitable difference in understanding between the interpreter and the author of a text that is created by the historical distance between them. ... one of the key tasks



becomes one of seeking meaning in context.” (Klein & Myers, 1999, p. 73).

This study has applied the principle of contextualization by generating a firm understanding of the study domain (i.e. in the ‘Define context phase’; Phase 1 of Appendix A); through a detailed literature review, a pilot case study, and overall study goals derived from historical motivations from the study context. This enabled the researchers to better understand the phenomena of interest. Furthermore, this also pointed to the need to embark on an exploratory phase (Phase 2, see Appendix A), which also can be seen as ‘parts’ of the hermeneutic circle as depicted in Figure-2. An overview of the current status of shared services in the HE sector and further details about the Malaysian HE sector and its interest for shared services (see Miskon, 2013) was presented as a means of contextualizing the study. Furthermore, the principal researcher also having much experience in the Malaysian HE sector aided with further context orientation. Overall, the principle of contextualization had helped the researchers to decide on what relevant context(s) should be explored (Klein & Myers, 1999).

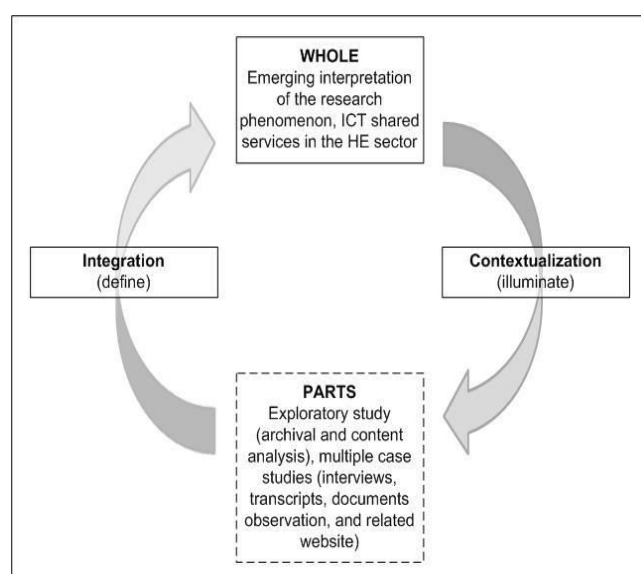


Figure-2. Use of hermeneutic circle in this study (extracted from Miskon, 2013, p. 56).

Applying the principle of interaction between the researcher and subjects (Principle 3)

The principle of interaction between the researcher and subjects is more focused on describing the ways in which data collection and interpretation affected each other (Klein & Myers, 1999). The case example of shared services has applied this principle by providing extensive detail on the research design and how the data was handled and interpreted. At a high level, the data collection and interpretation efforts across the study and how they all bonded together were presented in the dedicated articulation of the overall Research Design (see Chapter 3 of Miskon, 2013, and Appendix A for an overview). The collected data and analysis was also shared

with the case participants in different progressive forms (i.e. Interview transcripts, within case analysis reports, across case analysis reports) to gain further confirmation.

The approaches for data collection and analysis for each of the individual components of the study (denoted as ‘main tasks’ in the Appendix A) were also carefully designed, executed and articulated- with a special emphasis on critical reflection (see chapters 4 to 10 of Miskon, 2013). For example,, the preliminary findings from the pilot cases study showed several gaps that needed to be considered before proceeding to the multiple case study phase. All these gaps pointed towards the need to pause and better explore the domain prior to further continuing the study, which lead to expand the overall study design (see Chapter 3 of Miskon, 2013, and Appendix A for an overview) with an exploratory phase (using secondary data) to analyze in more detail; shared services in the IS context (see Chapter 5 of Miskon, 2013) and shared services in the Higher Education sector (see Chapter 6 of Miskon, 2013). Furthermore, NVivo (a qualitative data analysis tool) was applied to support the analysis of the case study data and structured literature reviews. Field-notes, annotations and memos were maintained throughout the NVivo database as a means to capture the ‘thought processes’ during the data analysis; to capture and evaluate the interactions between the researcher and the data (as and when they occurred).

Applying the principle of abstraction and generalization (Principle 4)

This requires interpretative researchers to relate the data interpretation through the application of theories (Klein & Myers, 1999). This means that their data are explained by the application of general concepts or theories that describe the nature of human understanding and social action.

In line with the interpretive tradition, Walsham (1995) identifies four types of generalization in interpretive studies: the development of concepts, the generation of theory, the drawing of specific implications and the contribution of rich insights. The primary outcomes of the multiple case studies phase (see Phase 3 of Appendix A, and chapters 8 to 10 of Miskon, 2013) were early efforts of building theories. They identified shared services benefits and their relationships, issues in ICT shared services (Miskon, 2013), and critical success factors and failure factors (Miskon, et al., 2012). Rich insights were gathered from a deep understanding of the case contexts (i.e. shared services in HE sector) and specific implications that may be ‘valuable in the future in other organizations or contexts’ was also drawn from the study (see section 11.3 of Miskon, 2013).

Applying the principle of dialogical reasoning (Principle 5)

The principle of dialogical reasoning requires “researcher to confront his or her preconceptions (prejudices) which guided the original research design (i.e.



the original lenses) with the data that emerge through the research process" (Hirschheim & Klein, 1989, p. 82).

This study has applied this principle, by requiring the researchers to confront their preconceptions with data that emerge from research. This principle also suggests that the research findings might not support the initial theoretical preconceptions of the study and that the researcher must be aware of the need to revise these as necessary. The selection of an interpretive perspective has certain implications for the research approach. The inductive approach, which moves from observation towards theory, better suit the emergent nature of ICT shared services and ties in well with the fundamentally hermeneutic nature of this interpretive study as described above. There are three key points at which the research design was altered or certain approaches in the study had to be re-considered as a result of applying this principle.

First, the initial research question provided in this study was succinct and relevant to the research and study context as demonstrated by the initial study motivations. The results of the literature review and pilot case study conducted pointed to the need to re-define the research questions and research context, which helped to focus the study and allowed the researcher to constantly confront any preconceptions.

Second, this study's primary focus was to understand the potential for shared services in the Malaysian HE sector, in particular ICT related shared services; by deriving theoretically based conceptualizations of the potential benefits of shared services, and success factors and issues of pursuing shared services. The study embarked on these goals with a literature review and pilot case study (conducted in an Australian University) as a means to further define the context of the study. This definition phase illustrated a range of unaddressed issues; including a lack of common understanding of what shared services are, how they are formed, what objectives they full fill, who is involved etc. The study thus embarked on an exploratory phase that aimed to address this gap and again allowed the researcher to constantly confront any preconceptions.

Third, inductive and deductive approaches were considered initially as a potential strategy because of its strengths in relating to Klein and Myers' Principles 5. This approach is effective in countering the question of researcher bias by specifying that a researcher has to set aside theoretical beliefs at the first place and let the theory emerge from the data (Fernández, 2005). Hence, in the core phase of this study (the multiple case study phase) the data was first analyzed inductively to derive preliminary themes from within the case data alone, and the findings were then subject to frameworks based on literature and earlier phases of the study - hence a deductive influence, to further fine tune and justify the themes identified. Furthermore, this study carried out a detailed exploratory study prior to the multiple case studies phase to prevent bias and improve reliability of interpretations. Hence, the

principle of dialogical reasoning has been applied to make the research as transparent as possible to the reader.

Applying the principle of Multiple Interpretations (Principle 6)

Data from multiple sources were sourced for in each case study; this included data from different stakeholders (through interviews) and different support documentation. The data and interpretations derived by each source were stored and analyzed separately (all within the NVivo database), often with the use of in-vivo coding (Chenail, 2012). This is where the original meaning of the data were maintained throughout, even in the data analysis process. Furthermore, analysis results were compared to see if the interpretations changed in any way between individual sources or cases (see chapters 8 to 10 of Miskon, 2013). A second coder (more experienced with qualitative research but less familiar with the case context), coded a sample of the interviews in addition to the full coding that the principal coder (more familiar with the study context but less experienced with qualitative research at time of study) conducted. This was to confirm coding and interpretations of the main coder and these were checked through corroboration sessions. The shared services case study example did apply this principal by been extra sensitive to differences in interpretations, though none seemed to be found to be reported.

Applying the principle of Suspicion (Principle 7)

A critical perspective was taken at all times during the data collection and analysis. This included not taking the informant's view at face value, and always triangulating and supporting the insights collected with further probed insights from the same respondent, a comparison of the input to other respondents, and an application of the knowledge of the contextual background. Furthermore, all data coding and analysis activities took place in phases, where each phase had an evaluative (quality control) loop embedded, where a second coder checked and confirmed the findings of the first coder through extensive corroboration sessions.

CONCLUSIONS

This paper depicted the interpretative nature of the selected case example of an IS shared services study, describing how the seven principles of interpretative field work as recommended by Klein and Myers (1999) was applied. There are weaknesses and potential limitations of a purely interpretive approach (Orlikowski & Baroudi, 1991, p. 18), and researchers can address such with a sound end-to-end research design, in particular like that of the sample case described here, where other approaches have been applied in different phases (to the interpretative field work). For example, this case study used content analysis for systematically coding and analyzing qualitative data in an archival analysis approach as part of the overall exploratory phase of the study (see Figure-3).

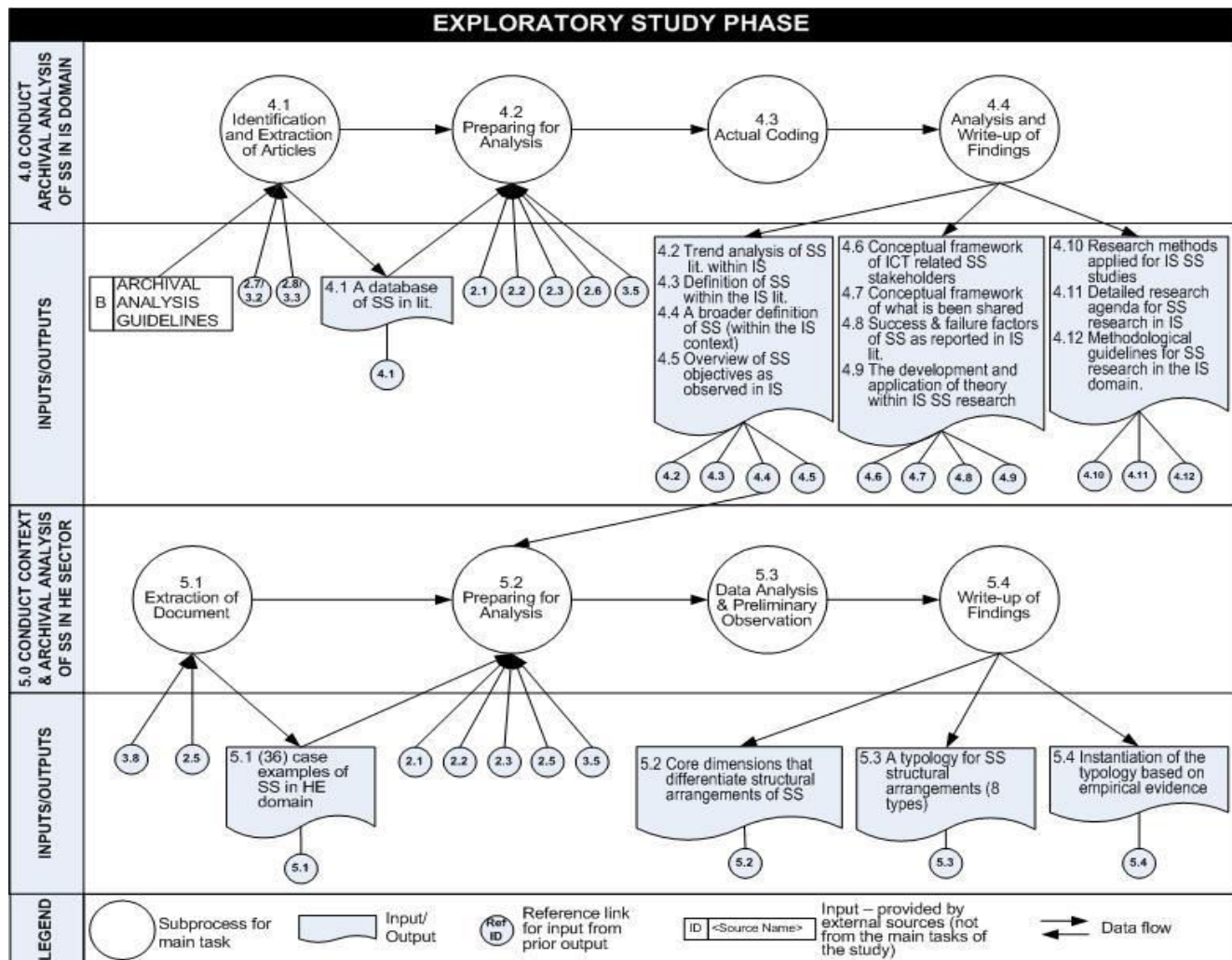


Figure-3. A detailed view of Phase 2 - Exploratory Study (extracted from Miskon, 2013, p. 49).

Content analysis applied in this study in alignment with a positivist paradigm, where data was synthesized based on counts; how often and by how many the same construct/ concept were mentioned; "Whether the research task is exploratory or confirmatory, content analysis is usually quantitative analysis" (Bernard & Ryan, 2010, p. 287). The archival analysis results were used as input to the more interpretive case study work and was also used for triangulation purposes to further justify the observations found in the case studies.

The interpretive paradigm adopted in this research and the nature of the research questions in this study were considered as the most suitable approach to apply in order to understand a shared services phenomenon in great depth. This approach is effective in countering the question of researcher bias by specifying that a researcher has to set aside theoretical beliefs at the first place (see Define Context and Exploratory Study phase in Appendix A) and let the theory emerge from the data. The archival analysis and case studies presented in this paper were considered the most suitable approach to employ because it provided a systematic way to collect data and analyze the findings. Moreover, the inductive and

deductive approaches were considered initially as a potential strategy in the archival analysis and case studies because of its strengths in relating to Klein and Myers' principles 5.

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