

INFORMATION SYSTEM OUTSOURCING AND STRATEGIC DECISION MAKING: A META-THEORETIC REVIEW OF THE LITERATURE

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DECLARATION

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Summary

Given the ubiquity of information systems and their importance for the functioning of organisations; understanding information systems and their impact on organisations has become critical for organisational success. The ability to effectively use information systems plays an increasing role in the success of organisations. There are many facets to understanding information systems in organisations, this thesis will assess the relationship between outsourcing an information system, and the strategic processes which lead to and are impacted by the outsourcing decision.

The aim of this thesis is to deepen the understanding of decision making in the Information System Outsourcing literature by reflecting on the state of the literature from a research point of view. This thesis therefore undertakes a meta-theoretic review of the Information System Outsourcing literature, using journal articles, to get a general picture of the literature which will then be assessed in terms of the breadth of decision making perspectives which have been researched and the depth to which each perspective has been explored.

First, the extent to which the development of the field of information system outsourcing resembles the development of the Information System Theory in general will be determined. This will be done by examining the history and development of the Information System Theory field, and examining the consequences of the fields' rapid development for the legitimacy of the field.

Next, criticisms which have been raised against the Information System Outsourcing literature will be identified and discussed, the primary criticism being the charge that the Information System Outsourcing field is broad in scope but shallow in its depth of understanding of decision making in the outsourcing processes. These criticisms, which are shared with the field of Information System Theory, are argued to arise from the history of rapid development of Information System Outsourcing. The potential consequences of these criticisms for Information System Outsourcing practitioners and researchers will also be discussed in order to establish the importance of evaluating the theme of Information System Outsourcing.

Thirdly, a framework with which to test the criticism against the Information System Outsourcing literature will be developed. This framework will combine insights from decision theory with those of organisation theory.

Finally; the framework will be used to analyse the Information System Outsourcing literature in order to verify or disprove the allegation of a broad but shallow understanding of decision making in Information System Outsourcing. This allegation will be addressed primarily through an analysis of the information system outsourcing literature in order to evaluate its depth.

The analysis shows that the literature on Information System Outsourcing, whilst showing positive development, is not yet mature. The danger of the theme of Information System Outsourcing falling into an identity crisis like that faced by its parent field of Information Systems Theory still exists. The analysis also shows the areas in which the literature must develop in order to avoid an identity crisis. On meta-theoretical level, the value of returning to fundamental issues in Information Systems Outsourcing is shown through the use of decision theory and organisation theory.

Opsomming

Gegewe die alomteenwoordigheid van inligtingstelsels en hul belang vir die funksionering van organisasies, het insig in inligtingstelsels en hul impak op organisasies van kritieke belang geword vir organisatoriese sukses. Die vermoë om inligtingstelsels effektief te gebruik, speel derhalwe 'n toenemende rol in die sukses van organisasies. Daar is egter baie dimensies van inligtingstelsels in organisasies. Hierdie tesis assesser die verhouding tussen die uitkontraktering van 'n inligtingstelsel en die strategiese prosesse wat lei tot, en wat beïnvloed word deur, die besluit van die uitkontraktering.

Die doel van hierdie tesis is om insig in die veld van inligtingstelseluitkontraktering te verdiep deur besinning oor die toestand van die veld vanuit 'n navorsing-oogpunt. Hierdie tesis onderneem dus 'n meta-teoretiese oorsig van die veld van Inligtingstelseluitkontraktering deur gebruik te maak van joernaalartikels. Die doel is om daarmee 'n algemene beeld te kry van die literatuur. Die literatuur word dan beoordeel in terme van die omvang van die onderwerpe wat nagevors is en die diepte waarop elke onderwerp ondersoek is.

Eerstens word die mate van ooreenstemming tussen die ontwikkeling van die gebied van die Inligtingstelseluitkontraktering en die van algemene Inligtingsstelsel Teorie bepaal. Dit sal gedoen word deur die geskiedenis en ontwikkeling van die Inligtingsstelsel Teorie veld te ondersoek. Daarmee saam word konsekwensies van die gebied se snelle ontwikkeling vir die legitimiteit van die veld, ondersoek.

Hierna word kritiek wat geopper is op die veld van Inligtingstelseluitkontraktering geïdentifiseer en bespreek. Die belangrikste kritiek is die klag dat die Inligtingstelseluitkontraktering veld wyd in omvang, maar vlak in sy diepte van begrip is. Dit word aangevoer dat hierdie kritiek, wat ook geld vir die veld van Inligtingsstelsel Teorie, die resultaat is van die geskiedenis van die snelle ontwikkeling van die gebied van Inligtingsstelseluitkontraktering. Die moontlike gevolge van hierdie kritiek vir praktisyns en navorsers in Inligtingsstelseluitkontraktering sal ook bespreek word ten einde die belang van die volgehoue evaluasie van die gebied van Inligtingsstelseluitkontraktering te verduidelik.

Derdens word 'n raamwerk ontwikkel waarmee die kritiek teen die Inligtingsstelseluitkontraktering veld getoets kan word. Hierdie raamwerk kombineer insigte uit besluitnemingsteorie met dié van organisasieteorie.

Ten slotte sal die raamwerk gebruik word om die Inligtingsstelseluitkontraktering literatuur te ontleed ten einde die bewering van die breë maar vlak karakter daarvan te verifieer of te weerlê. Hierdie bewering sal hoofsaaklik deur middel van 'n analise van die Inligtingsstelseluitkontraktering literatuur aangespreek word ten einde die diepte daarvan te evalueer.

Die ontleding van die Inligtingsstelseluitkontraktering veld toon positiewe ontwikkeling, ofskoon nie volwassenheid nie. Die gevaar dat die veld in 'n identiteitskrisis val, soos dié van die breër veld van Informasiesistemeorie, bestaan steeds. Die analise toon ook die gebiede aan waarin die veld moet ontwikkel ten einde 'n identiteitskrisis te vermy. Op meta-teoretiese vlak word die waarde van 'n terugkeer na fundamentele kwessies in Inligtingsstelseluitkontraktering getoon deur die gebruik van die besluitnemingsteorie en organisasieteorie.

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1. Introduction to Information System Outsourcing

1.1 Introduction, research question and approach

1.1.1 Research problem

Information Systems play a crucial role in the world we live in, in the business world especially (Castells, 2000). The communication, transfer, storage and use of information have become core organisational activities. The rapid pace in the development of information technology, and especially information communication technology, has allowed for the information critical to organisations, to be moved at increasing speed and with increasing ease (Friedman, 2006). One consequence of this marriage of organisational information use and information communication technology is the practice of outsourcing information systems. The Information Systems which are used to communicate, transfer, store and use information include the “software, hardware, people, and rules that make a collection of software products...” (Sawyer, 2001: 97). Given the pervasiveness of information systems and their importance for the functioning of organisations; it is essential that the phenomenon of information system outsourcing be understood.

Information System Theory in general is a large and diverse field, with many different subfields and discourses. There is a great deal of research which could yet be done on the organisational impact of information systems, and there is a large and growing literature concerned with this. This thesis will, however, focus narrowly on information system outsourcing in the context of strategic decision making in large organisations. This implies that the frame from which information system outsourcing will be studied will be strategic decision making. The other option would of course be to study information systems outsourcing from a technical perspective and define the steps in the process, the criteria for the different aspects of successful outsourcing and more.

However, the aim of the research is not to find the best configuration for outsourcing an information system, or providing normative recommendations regarding when or what should be outsourced. The study will be limited to assessing the relationship between the outsourcing of an information system, and the strategic processes which lead to and are impacted by the outsourcing.

Within the theme of information system outsourcing in the context of strategic decision making, the scope for study is large. There are numerous potential empirical studies covering the wide range of topics within information system outsourcing, some examples being the decision to outsource, the factors influencing vendor selection, and the impacts of the move to outsourcing. Each of these potential studies would further deepen the understanding of the Information System Outsourcing literature. Significant work has already been done in researching Information System Outsourcing and as will be demonstrated in chapter two, this research has been conducted on a variety of topics within Information System Outsourcing and from different research traditions employing various research methods.¹ It is out of this plethora of research that the motive for this study arose. A possible problem for the study of Information System Outsourcing which is raised by the importance of understanding Information System Outsourcing and the diverse body of research is this; do we have a clear vision of the state of the research? To refine this further in keeping with the focus of this thesis on decision making processes in the Information System Outsourcing process; do we have a clear understanding of the state of research relating to the decision making component of outsourcing Information System? The motivation for the research conducted in this thesis is a desire to gain a better view of how decision making has been researched and understood in the Information System Outsourcing literature. Decision making is central to successfully outsourcing Information Systems, and Information Systems are central to the success of large organisations. If we do not know what we know about decision making in Information System Outsourcing research, we will not know how to learn and better the practice of outsourcing Information Systems. This thesis attempts to address the practical issues of decision making in Information System Outsourcing by reflecting on what we know about it via an evaluation of current research on Information System Outsourcing.

¹ Despite the significant amount of work that has been done in researching Information System Outsourcing, there has been virtually no such research within the South African context. This is a potential avenue for IS researchers in South Africa, to understand the process of Information System Outsourcing in South Africa.

1.1.2 Research Question

How are we to address the problem raised in the previous section? How can we be sure if this is a valid concern for the study of Information System Outsourcing? One way would be to formulate specific, precise questions relating to this problem and then seek to answer the questions. To refine the research problem into a clear, precise question we could ask; can the research on decision making in Information System Outsourcing be characterised as being widely varied but superficial in terms of the depth? This is the question which the rest of the thesis will seek to answer.

1.1.3 Method

The research methods which could be used to answer the research question stated above range from methods such as action research, to detailed case studies and comparative studies using surveys in different countries to list a few examples. Research of a more theoretical nature is also possible within the theme of information system outsourcing with the intention of expanding the existing body of literature on information system outsourcing. An example of this could be the development of a model explaining the information system outsourcing process.

This thesis will not be an empirical study of information system outsourcing in organisations, nor will be it the theoretical development of new concepts and models. What the thesis does aim to do is deepen the understanding of decision making in information system outsourcing by reflecting on the state of the research from a Design Science research paradigm. Design Science research “seeks to create innovations that define the ideas, practices, technical capabilities, and products through which the analysis, design, implementation, management, and use of information systems can be effectively and efficiently accomplished” (Denning and Tschritzis used in Herver, March, Ram & Park, 2004: 76). These innovations take the form of artefacts such as constructs, models, methods, and instantiations (Herver *et al*, 2004: 78). This thesis undertakes a meta-theoretic review of the study of Information System Outsourcing by building an artefact, a framework in this case, which can be used to obtain a better understanding of the character of Information System Outsourcing as a theme in the greater Information System Theory field.

However, the level of understanding in the study of information system outsourcing is not something which is directly measurable and a proxy is required that provides some insight. Of course, it would also be most useful to study this aspect of outsourcing empirically in different industries or across industries, within a specific country or across different countries and in many other such configurations. Another style of research would be to follow the decision-making process of specific empirical cases of information system outsourcing closely. Obvious issues of cost, time spent, access to strategic information and the limitations of a Masters thesis project constrained the project reported on here. The proxy that was chosen as a means to get into the theme was the academic literature which developed on the study of Information System Outsourcing. Using journal articles selected from Information System journals, a general picture of the literature will be drawn and assessed in terms of its breadth and depth. Careful, deliberate and reasoned selection of literature thus became important. However, the most important issue was the determination of a framework for the analysis of the literature.

In the following pages the information system outsourcing literature will be evaluated in order to better understand the state of the theme of information system outsourcing, answering four questions. First, the extent to which the development of the study of information system outsourcing resembles the development of the broader information system theory field will be determined. This will be done by examining the history and development of the Information System Theory literature and the consequences for the legitimacy of the research that which arise from the nature of the development of Information System Outsourcing.

Second, and leading on from the first question; criticisms which have been raised against the study of Information System Outsourcing will be identified and discussed, the primary criticism being the charge that the Information System Outsourcing research is broad in scope but shallow in its depth of understanding, and more specifically in terms of decision making. These criticisms which are shared with the field of Information System Theory are argued to arise from the history of rapid development in the study of Information System Outsourcing. The potential consequences of these criticisms for Information System Outsourcing practitioners and researcher will also be discussed in order to establish the importance of continuously evaluating our understanding of Information System Outsourcing.

Thirdly, a framework with which to test the criticism against the Information System Outsourcing research will be developed. This framework will combine insights from decision theory with those of organisation theory. This framework will be developed by bringing together kernel theories to form an artefact which will be applied to a selection of the Information System Outsourcing literature (Henver *et al*, 2004:76).

Fourth, and finally; the framework (or artefact) will be used to analyse the Information System Outsourcing literature in order to verify or disprove the allegation of being broad but shallow. This allegation will be addressed primarily through a two-stage analysis of the information system outsourcing literature in order firstly; to answer the question of the breadth of research in Information System Outsourcing, and secondly; to evaluate its depth. In order to understand the breadth of the Information System Outsourcing research, a literature review of the reference disciplines adopted by Information System Outsourcing researchers will be conducted based on the categorisation of the Information System Outsourcing literature developed by Jens Dibbern, Tim Goles, Rudy Hirschheim, and Bandula Jayatilaka (2004)².

The aim of this literature review will be evaluate the number of reference disciplines which have been adopted in order to better understand the breadth of the research. To answer the question of the depth of the research a review of the information system outsourcing literature will be conducted. A content analysis will be carried out on a selection of articles relating to Information System Outsourcing. The aim of the analysis is to gain an understanding of trends in the Information System Outsourcing literature regarding the focus of research as well as the level at which the research was conducted between the period between 1990 and 2012.

Content analysis, as a form of bibliometric research, is used to understand the uses to which previous research has been put. An example of how content analysis could be used is found in Spiegel-Rösing's evaluation of the *Science Studies* journal (1977). One of the areas which Spiegel-Rösing evaluated was the "objects and methods of analysis" (1997: 98) in order to "obtain a preliminary overview of the major topical and methodological orientation of the four volumes of *Science Studies*, [Spiegel-Rösing] used a rough content classification of the

² Dibbern *et al*'s overview of the information system outsourcing literature has been essential to this thesis. Their overview of the literature provides both a means of ordering the reference disciplines as well as providing the basis for conceptualising information system outsourcing as a strategic decision.

articles” (1977: 98). Similarly, content analysis will be used to evaluate the Information System Outsourcing literature to determine the topical orientation of the literature in order to discern not only what has been studied, but also to see the extent to which it has been studied.

The remainder of this chapter will serve as an introduction to Information System Outsourcing. Starting with an examination of the history of its parent field of information system theory, followed by an examination of information system outsourcing research itself the first research question regarding the similarity between them will be addressed as well as the second question regarding the criticisms against information system outsourcing research.

The second chapter will comprise a review of the reference disciplines as identified by Dibbern *et al.* and will shed more light on the breadth of information system outsourcing research. Breadth is always meant to indicate the range of topics covered by research on Information System Outsourcing.

The third chapter will introduce the notion of loose coupling and how it will serve as a lens for the evaluation of the depth of Information System Outsourcing will be discussed. Loose coupling is a term that comes from decision making theory and has to be contextualised in that space.

The fourth chapter will see the framework developed using loose coupling. The Information System Outsourcing literature, comprising of a representative sample of journal articles from one primary and two supporting information system journals, will be evaluated using the framework in order to determine the depth with which research in decision making in Information System Outsourcing has been conducted.

In the final chapter the conclusions drawn from the four research questions will be discussed and their implications for researchers of Information System Outsourcing will be evaluated. In addition, areas for potential research will be identified and briefly discussed.

1.2 IST

1.2.1 History of Information System Theory

The Information Systems field arose at the intersection between Information Technology and organisations. This intersection has coloured the nature of the field from the start of the Information Systems field. The information technology (referring primarily to computers) side of the intersection has added a rapid rate of development in its relatively short lifetime, while the organisation side of the intersection has provided the context within which the technology was to be applied, a context which contains many voices calling for varying and often competing answers from the Information Systems field. This intersection has proved to be a messy place however and there has been a great deal of anxiety about the legitimacy of the Information Systems field (King & Lyytinen, 2004).

In their book, *Information, Systems, and Information Systems*, Peter Checkland and Sue Holwell provide an explanation of the Information Technology and Information Systems fields' state of confusion. They cite a number of factors including the relative youth of the field and the astonishing rate of development of technology, the comparatively slow development of theory when compared to the pace of the technological development, and the multidimensional nature of the changes which have arisen with the emergence of the field as reasons for the anxiety (Checkland & Holwell, 2005: 8-9). The first two points are related. The youth of the field is explained by the youth of the technology; before there were computers there were no pervasive information systems. The first computers began to emerge in the late 1940's (Checkland & Holwell, 2005: 8) and it was only after this that it was recognised that a body of knowledge was needed in order to explain what the impact of this new technology would be for people and organisations. Unfortunately, the speed at which this body of knowledge was to develop would prove to be far slower than that of the technological developments, resulting in a lag between practice and research. Checkland and Holwell claim that this should not be surprising given that it requires both "real world experience and much dialogue between interested people" (2005: 9). It makes sense then, that the rapid pace of technological change would outpace the ability of those interested in developing and extending the body of knowledge; the technological changes occur faster than people can think about them, quite literally in this case.

The third point which Checkland & Holwell make comments on the nature of the changes brought on by the development of Information Systems and Information Technology. These changes occurred in more than one setting, it cannot be said that the rise of the computer has been a merely technical event, nor has it been purely a cultural phenomenon. The changes which have occurred can be viewed from numerous perspectives, economic, technological, and political; but the Information Systems field found itself unable to provide any insights from these perspectives. The result was that the Information Systems field was forced to make use of a wide variety of reference theories in order to answer the questions which arose because of the plurality of the context. The result then was that a rapidly developing field emerged, raising a plethora of questions which researchers found impossible to answer at an adequate pace. The picture that Checkland and Holwell paint of the early years of the Information System field is like one of someone given four tasks to do at once, each task changing every few minutes and results being expected by five different people.

If this is the picture of the birth of the Information System field, what does the field look like today? Has the field and those involved in it managed to catch up with the progress made by technology and successfully integrate the diverse body of knowledge which was pulled together in an attempt to explain this progress and its impacts?

1.2.2 Current state of IST

The Information Systems field is a field which has come under significant scrutiny in recent times with serious questions being raised regarding its status as a field of research. It is a well-known debate in the academia and has yet to be resolved.

Adam and Fitzgerald addressed this debate in a paper titled “The status of the information systems field: historical perspective and practical orientation” (Adam & Fitzgerald, 2000). The challenges against the Information Systems field are neatly summarized as being; a lack of first principles, the lack of a clear research agenda, the vast breadth of the area, the lack of a cumulative research tradition, reference indiscipline, and a trend toward divergent research (Adam & Fitzgerald, 2000: 2). Similarly, in a paper submitted in the 18th European Conference on Information Systems, Moody, Iacob and Amrit state that; “[t]here is a widely-

held perception that the theoretical foundations of the IS field are inadequate” (Moody, Iacob & Amrit, 2010: 2).

Whilst these issues are of major concern to the research field, there is another dimension in which the Information Systems field is facing difficulties as a result of the six issues highlighted by Adam and Fitzgerald; that of the ability of Information Systems research to assist with the practical realm of information system practitioners. The challenge which faces Information Systems Theory as a field in this sense is that it will not be able to provide the insights which practitioners look to academics to provide in order to assist in the practice of using information systems in organisations. The two challenges are linked; if there is no maturity and progress in Information Systems research, then practitioners will increasingly find that there is less to be learned from the research and will decrease the attention which is paid to research. The other dynamic at work is that, if practitioners begin to lose interest and it is believed that Information Systems research serves no meaningful purpose, the resources which are dedicated to Information Systems research could be redirected to areas which promise more practical return on the investments.

It would seem then that if Adam and Fitzgerald are correct; there is a real danger facing the Information Systems field. Despite acknowledging the issues which face the Information Systems field, Adam and Fitzgerald reject the claims that the Information Systems field is in a crisis of legitimacy and identity as a field of research. They do not reject or ignore the challenges which have been proposed based on evidence from numerous researchers, rather; they hold the position that the relative youth of the field ought to be kept in mind when evaluating the criticisms and that the real question is not about whether or not these challenges exist, but rather about whether the Information Systems field will be able to overcome them (Adam & Fitzgerald, 2000). The argument which they put forward in favour of the Information Systems field is a comparison to Sociology which faced similar criticisms and overcame them in due course, explaining the similarities between the two disciplines in their struggle to obtain legitimacy.

Adam and Fitzgerald are not the only Information Systems researchers to have taken the stance that Information Systems Theory should not be considered a field lacking legitimacy. Baskerville and Myers assert that Information Systems Theory, rather than being a research discipline which lacks legitimacy, is in fact ready to become what has been termed a

reference discipline. They argue that “IS has developed its own subject matter, a distinctive research perspective, and an excellent scholarly communication system” (Baskerville & Myers, 2002: 5). Baskerville and Myers claim that the Information Systems field has developed its own research tradition for the reasons stated above, and that because of this, Information Systems Theory can stop relying heavily on other reference disciplines, such as economics and computer science, to inform its research and could indeed act as a reference discipline to these other disciplines in its own right (Baskerville & Myers, 2002). Benbasat and Weber, in a research commentary on the Information Systems research, describe a number of events which shaped the focus of the field from what should be studied, to how it should be studied (Benbasat & Weber, 1996). This insight could explain why, as pointed out in the Benbasat and Zmud (2003) paper below, there has been significant improvement in the establishment of a research tradition in the Information Systems field.

Benbasat and Zmud consider what they refer to as an identity crisis faced by the Information Systems field, in an article written at about the same time as the Baskerville and Myers article, but reach a somewhat different conclusion. Following Aldrich, Benbasat and Zmud identify two problems which confront the members of the field; “...they must discover or create effective routines and competencies with regard to this environment, and they must establish ties with elements of the environment that might not understand or acknowledge their existence” (Aldrich quoted in Benbasat & Zmud, 2003: 185).

The first challenge is categorised as a learning issue and the second as a legitimacy issue (Benbasat & Zmud, 2003). The first issue is the issue which Baskerville and Myers address, the manner in which research is carried out, and Benbasat and Zmud are in agreement that this is an area which has seen considerable improvement. The second issue is where a divergence emerges with Benbasat and Zmud also considering, in addition to the nature of the research, the manner in which the research is perceived by others. Agarwal & Lucas (2005) agree with Benbasat and Zmud’s assertion that the Information Systems field needs to work toward establishing an identity. They point out the difficulty that the academic discipline has experienced in terms of “establishing itself in business schools and other departments such as information science and computer science programs” (Agarwal & Lucas, 2005: 382).

There are important implications for both the academic and practical elements of the Information Systems field if this is indeed that case. The perception of the field by those

external to Information Systems research is thus a critical factor, impacting on the success of the field. It is clear that the challenges which have been discussed are real and are not the imagination of a few sceptical researchers, but what still needs to be established is the consequences of failing to overcome the challenges. Kock, Gray, Hoving, Klein, Myers and Rockart recognise this challenge, identifying the consequences of a lack of relevance to practitioners where some have claimed that; “this lack of relevance will soon lead to a negative impact on the entire field” (2002: 331).

Should the field prove unable to establish its identity and produce quality research, the consequences would extend to impact upon the practice information system use in organisations. From a very practical perspective, the contribution of research in terms of insights gathered from different contexts by researchers would be lost to practitioners who would be left with only their own field of experience in the practical field of Information Systems. There is a mechanism that connects the status of the Information Systems field to the research within the field and the ability of the Information Systems research to provide valuable insights for practitioners.

The Theory-Practice Learning Cycle:

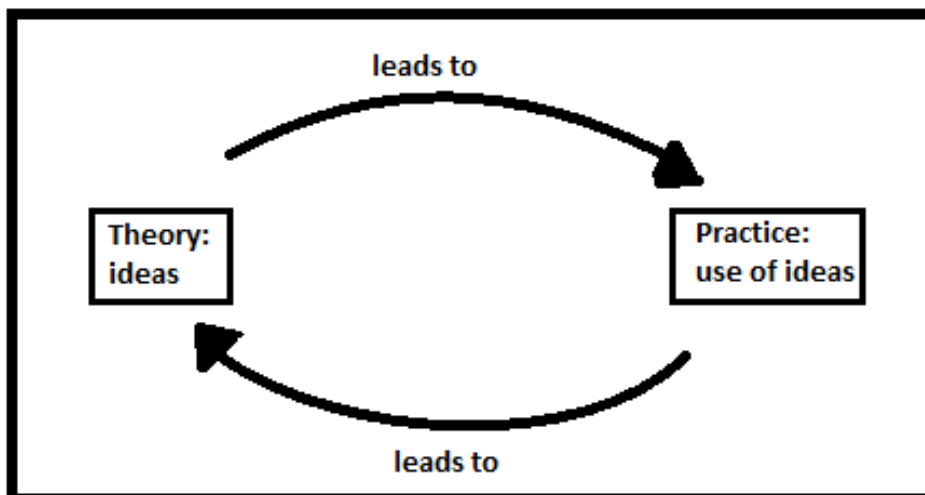


Figure 1.1 (Checkland & Holwell, 2005: 11)

Figure 1.1 demonstrates the relationship between theory and practice in research. Figure 1.1 is taken from Checkland and Holwell's book, *Information, Systems and Information Systems* (Checkland & Holwell, 2005: 11). According to Checkland and Holwell, it does not make sense to think separately about the world and having experiences in it, the experiences we have are interpreted and shaped by our ideas which are in turn shaped by our experiences, with neither being prime (2005: 11). The danger for Information Systems research lies in the effect of a poor image for the researchers in the field. Jeffrey Pfeffer has pointed out that, a poorly perceived academic discipline will experience difficulties with funding for research, getting research published and the political influence of the field (Pfeffer in Benbasat & Weber: 1996).

The implication of this is a reduced amount of research with which to use in practice, in terms of figure 1.1, this would be a reduction of the amount of ideas which can be brought to use. Returning again to a practical perspective, this would manifest itself in the reduction of ideas which practitioners would be able to use in organisations, leaving only the ideas generated internally to inform their actions. This reduction in the population of ideas with which to put inform practice would leave individual practitioners somewhat isolated, each separately solving shared problems with new ideas, greatly slowing innovation and limiting learning within the Information Systems field.

1.3 Information System Outsourcing

In the previous section, the challenges which face the Information Systems field at large were laid out, albeit briefly, in order to establish the context in which to address a key problem; the challenges to the legitimacy of the Information Systems field. The challenges facing the Information Systems field are, as has been shown above, well documented and have generated a great deal of debate, and this thesis will not be adding to this debate directly. The context in which the debate will be engaged with will not be that of the Information Systems research field, but rather one theme within the field of Information Systems; Information System Outsourcing. Information System Outsourcing is a rapidly expanding phenomenon in organisations, with a growing body of literature. The important question which arises around the emergence and growth of this literature is whether or not it shares the same

characteristics, and thus the same challenges, as its parent literature of Information Systems research in general.

1.3.1 Information System Outsourcing Research

Outsourcing entails “contracting the provision of certain services to the third-party specialist service provider rather than seeking to deliver the service from within one’s own organisation” (Clegg, Kornberger & Pitsis, 2008: 34). Outsourcing has become a popular management practice, and has been described as “one of contemporary management’s more promising new tools” (Bryce & Useem quoted in Crainer & Dearlove, 2001: 415). There are a few major factors which have led to an increase in the phenomenon of outsourcing in general. Starting from a broad overarching perspective, the shifts in the nature of the global political economy into an international knowledge economy has created the context in which the idea of large multinationals outsourcing things across the globe becomes feasible. When the notion of focussing the efforts of an organisation exclusively on a set of core competencies and outsourcing everything else is combined with these technological changes which make outsourcing easier, the rapid growth of Information System Outsourcing can be explained.

This thesis will not focus on all the different dimensions of outsourcing in general nor on the different forms of outsourcing agreements beyond recognising these different forms. Some different forms of outsourcing include both domestic and international outsourcing as well as offshoring³ (Hätönen & Eriksson, 2009). In addition to the different forms of outsourcing, there are a range of structural alternatives for the relationships which characterise an outsourcing (Arnold, 2000). Figure 1.2 shows the range of structural alternatives for outsourcing. The relationship between the outsourcing company and the vendor is influenced by the governance structure of the organisations, where greater hierarchical coordination leads to ‘in-sourcing’ and coordination regulated entirely by the market leads to ad-hoc ‘spot transactions’ between organisations. It is worth noting that these observations about

³ “International outsourcing can also be referred to as offshore outsourcing, and it involves the transfer of both the ownership and the location of the operations. The term offshoring, even though often used synonymously with offshore outsourcing, actually refers to the strategy of transferring activities across national borders. This may be done through outsourcing (using external resources) or through foreign direct investment (using internal resources)” (Hätönen & Eriksson, 2009).

outsourcing are true also for information system outsourcing. However, as this thesis is primarily a meta-theoretical study, the details of outsourcing will not be explored further than is required to understand information system outsourcing in the context of strategic decision making in organisations.

What is Information System Outsourcing? In this section, a brief definition of outsourcing has been provided, but what happens in the outsourcing of an Information System, what it meant by that? It is time to clearly define what it is that gets outsourced when outsourcing an Information System. Avison and Fitzgerald define an Information System as “a system that assembles, stores, processes, and delivers information relevant to an organisation (or to society), in such a way that the information is accessible and useful to those who wish to use it, including managers, staff, clients, and citizens. An information system is a human activity (social) system that may or may not involve the use of computer systems” (Avison & Fitzgerald, 2008: 27). This is a very complete definition of an Information System, including both the human and computer components of an Information System. When outsourcing an Information System, it is possible that both the human and computer elements of the Information System could be outsourced. Typically however, the computer system is what gets referred to when Information System Outsourcing is discussed. Outsourcing the computer system element of an Information System could entail purchasing an off-the-shelf software package, effectively outsourcing the development of the software. Alternatively, the software could still be built, but by an external software development organisation. This is primarily what is referred to when the term ‘Information System Outsourcing’ is used, but in this thesis, the human element of an Information System is included in the process of Information System Outsourcing. The relationships which form part of the Information System in an organisation can also be outsourced, an example could be when the maintenance of the computer system is outsourced, where there is important interaction between those who maintain the system and the users. Another example of this could arise if the development of the Information System is outsourced, including the analysis and design of the system; the external analysts would still need to communicate with the users within the organisation which is outsourcing the Information System.

Information System Outsourcing covers a wide range of activities, from the development of the computer system, the pre-development analysis, the installation, the maintenance, and the relationships and people who form part of the system. Combining the definition of outsourcing and Information Systems, Information System Outsourcing could be defined as

contracting the provision of all or part of the human activity system (human and computer systems) which assembles, stores, processes and delivers information in an organisation to a third party specialist organisation or organisations.

Structural Alternatives of Outsourcing

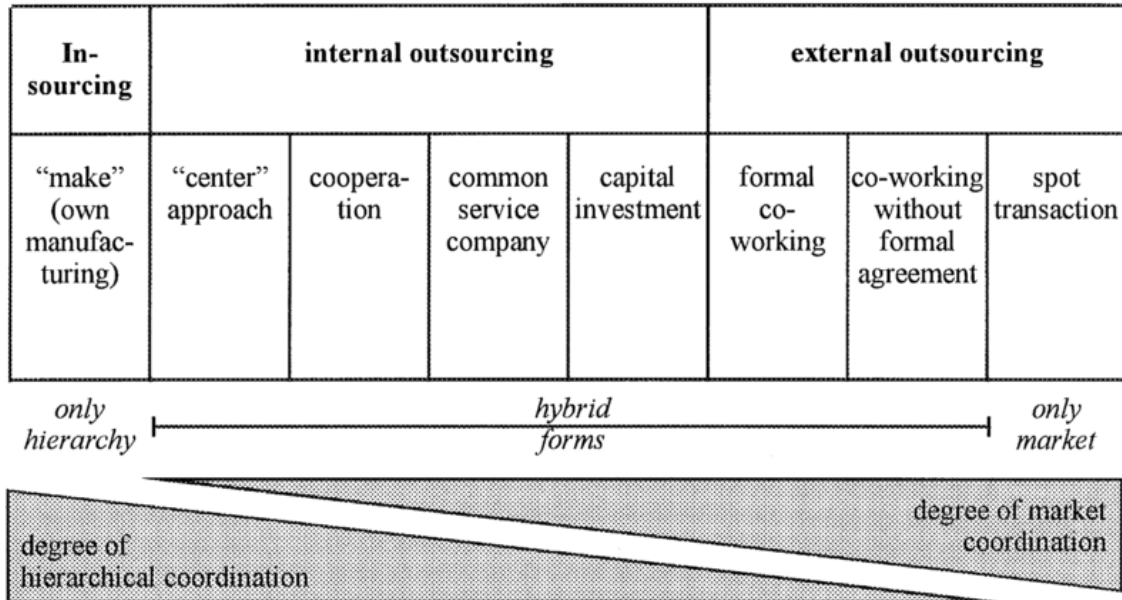


Figure 1.2 (Arnold, 2000: 25)

In his highly acclaimed, popular book “The World is Flat,” Thomas Friedman explains the leap in globalisation which has meant that; “the global competitive playing field [is] being levelled” (Friedman, 2006: 8). In an extremely simplified and brief overview of the progress of globalisation, Friedman identifies three phases which he terms Globalisation 1.0, 2.0, and 3.0 respectively (Friedman 2006). The first era of globalisation, Globalisation 1.0, lasted from 1492 to 1800 and was characterised by nations leading the way in global integration through imperialism and brute force of industry and military power (Friedman, 2006). The second era, globalisation 2.0, lasted from 1800 to 2000 and the agents of global integration shifted from nations, to multinational companies making use of rapidly developing technology (Friedman, 2006). The last, and current, era of globalisation started at the beginning of the 21st century and has been characterised by the increased power of

individuals to collaborate and compete and integrate across the planet through information technology (Friedman, 2006).

These different eras of globalisation are rough approximations and greatly simplify the incredible amount of development which occurred in each phase, but they do help to identify an interesting and important trend; that of the dissemination of the power to act in globalised manner from larger organised bodies such as countries, to smaller organisations and eventually to individuals. While the different eras signify the filtering down of this global capability, it does not imply that the actors from the previous eras cease to play a role in later eras. This means that, while we are in the third era of globalisation, where individuals have been able to take part in the global economy as competitive actors, the multinational companies which arose in the previous era are still powerful actors in the globalised economy.

Manuel Castells, in his book, “The Rise of the Network Society,” unpacks in more detail the process which occurred which allowed for the increasing ease with which increasingly smaller groups of actors have been able to compete on the global level. This process, or transformation as Castells terms it, “refers to the technologies of information processing and communication” (Castells, 2000: 30). The fast paced development of these information processing and communication technologies has seen them become the drivers of the globalisation which Friedman describes in his three eras of globalisation.

What the work Friedman and Castells has helped to point out is the background against which the rapid growth of information system outsourcing has taken place. Information systems include within them the technologies of information processing and communication described by Castells and so the fast pace at which these technologies have developed has had a significant impact on the use of information systems in organisations on a global level in organisations. The increased technological capability available to organisations at reduced costs has made it easier to outsource information systems. The increasing ease with which it has become possible to use information systems across geographically dispersed locations on a global scale, whilst an important element, is not an exhaustive explanation for the growth of Information System Outsourcing; understanding the business rationale for doing so is essential to explaining the phenomenon in addition to the technical element.

Having unpacked the factors which have enabled Information System Outsourcing from a technical point of view, the next step in understanding the growth of Information System Outsourcing is to understand the reasons for outsourcing information systems in organisations in order to understand why so many large and successful organisations have done so. The Core Competencies perspective provides a frame with which to understand the decision about whether to outsource and information system or to keep it within the organisation. The core competencies perspectives states that, “only goods and services which are considered to be core competencies should be produced internally” where a core competency is a good or service which is strategically important to an organisation (Arnold, 2000: 25). The strategic importance arises from three characteristics of core competencies; perceived relevance by customers, sustainable inimitability, and applicability for multiple uses (Kruger and Homp in Arnold, 2000: 25). If a product or service does not meet these three criteria, it is suitable for outsourcing. Do information systems meet these criteria? Answering this question should shed light on the business rationale for the outsourcing of information systems.

An argument has been developed which claims that Information Systems, and this includes Information Technology, has become a commodity and is no longer a resource which provides competitive advantage. This view is advanced by Nicholas Carr in an article entitled “IT Doesn’t Matter” where he compares Information Technology to electricity. Both started out as resources which provided significant competitive advantage to organisations which could acquire them, acting as a major differentiator. However, eventually the resource became available to all organisations and so the differentiating factor of the resource diminished and finally vanished altogether, leaving the organisations in the position where they could not afford to go without the resource but where the resource did not provide any competitive advantage (Carr, 2003: 42-43).

The argument made by Carr is specifically for Information Technology, however the argument can be carried over to include Information Systems in general⁴, especially with the rise of enterprise systems becomes making Information Systems more and more standardised across large organisations. This commoditisation of information systems means that information systems fail to meet one of the criteria for a core competency, the sustainable

⁴ The increasing popularity of off-the-shelf software packages points towards to increasing commoditisation of Information Systems.

inimitability, and arguably a second, the perceived value of the system by customers. The first point is made clearly by Carr. Information technology makes up the majority of information systems is no longer something which is unique to a select few organisations and a consequence of the technology having become pervasive. The second point is less obvious. It could be argued that customers, due to the pervasiveness of the information system technology, will no longer be impressed by an organisation's possession of that technology and will not ascribe a great deal of value to the information system.

The combination of the increased appeal of outsourcing information systems from a strategic perspective (Lacity & Willcocks, 1998) and the increased ease of doing so from an operational perspective (Friedman, 2006) has led to a fast growing trend where many large organisations have decided to outsource their information systems.

This trend has generated a great deal of interest from Information Systems researchers seeking to understand the causes, and impact of this new phenomenon in organisations. A body of research thus emerged around the practice of information system outsourcing in a relatively short period of time. Despite the youth of the Information System Outsourcing literature⁵, the questions about what it is that leads organisations to outsource their information systems, as well as the impact of the decision on the performance of the organisation, are still receiving a great deal of attention from researchers. This implies that there is still much to be understood about the Information System Outsourcing process and its consequences.

The argument presented by Carr, relating to the commoditisation of information technology makes a valid point, and there is much which can be carried over to the broader field of information systems, of which information technology is a component, but there are some elements which are not explained by Carr's argument. The relationship between information systems and strategic decision making in organisations is not satisfactorily explained by Carr. Exploring this relationship further should play a part in uncovering the reasons for the continuing interest shown by researchers relating to the decision to outsource. What remains to be seen is whether or not this rapidly developing body of literature will take on the same character as the Information Systems field, and if it will be facing the same challenges.

⁵ Most agree that the literature is less than four decades old (Vessey, Ramesh & Glass, 2002: 130)

1.3.2 The link between Information System Outsourcing and strategic decision making

Information Systems have increasingly become essential to organisations, with a stream of research being dedicated solely to understanding the relationship between information systems and company strategy (Chan & Huff, 1992). Checkland and Holwell describe the relationship between organisational activity and Information Systems as the core concern, saying that; “[n]owadays, we take the core concern of the [Information Systems] field to be the orderly provision of data and information within an organization using IT, that information being relevant to the ever-changing activity of the organisation and/or its members” (2005: 39). The relevance of the information for the activity of organisational actors means that decisions relating to the information systems in an organisation will be indirectly affecting the activities of its members.

In addition, another more practical and obvious reason for the interest in the relationship between information systems and organisational performance is the amount of resources which are typically invested in information systems (Petter, DeLone & McLean, 2008). An example of this is Martinsons, Davison & Tse’s application of Kaplan and Norton’s Balanced Scorecard method of measuring the impact of information systems on corporate performance (1998). The use of the balanced scorecard allows organisations to monitor the return that is received on their investment in information systems. If information systems are strategically important for organisations, what potential effects would outsourcing these information systems have on an organisation?

One way to explore how outsourcing information systems could impact on the strategy of an organisation is to make use of a model. Models can be useful tools for trying to understand a complex system, helping to explain the potential consequences of a given action or set of actions (Pidd, 1999). One such model is Stafford Beer’s Viable System Model (Beer, 1979, 1981, 1985). The Viable System Model has been used by researchers “to diagnose organisational structure and communications so that the necessary and sufficient conditions for viability can be met” (Leonard, 2000: 711). The intention is to identify the structural and especially communications which are affected by outsourcing an information system,

essentially attempting to uncover the potential consequences of outsourcing an organisation's information systems.

Viable System Model:

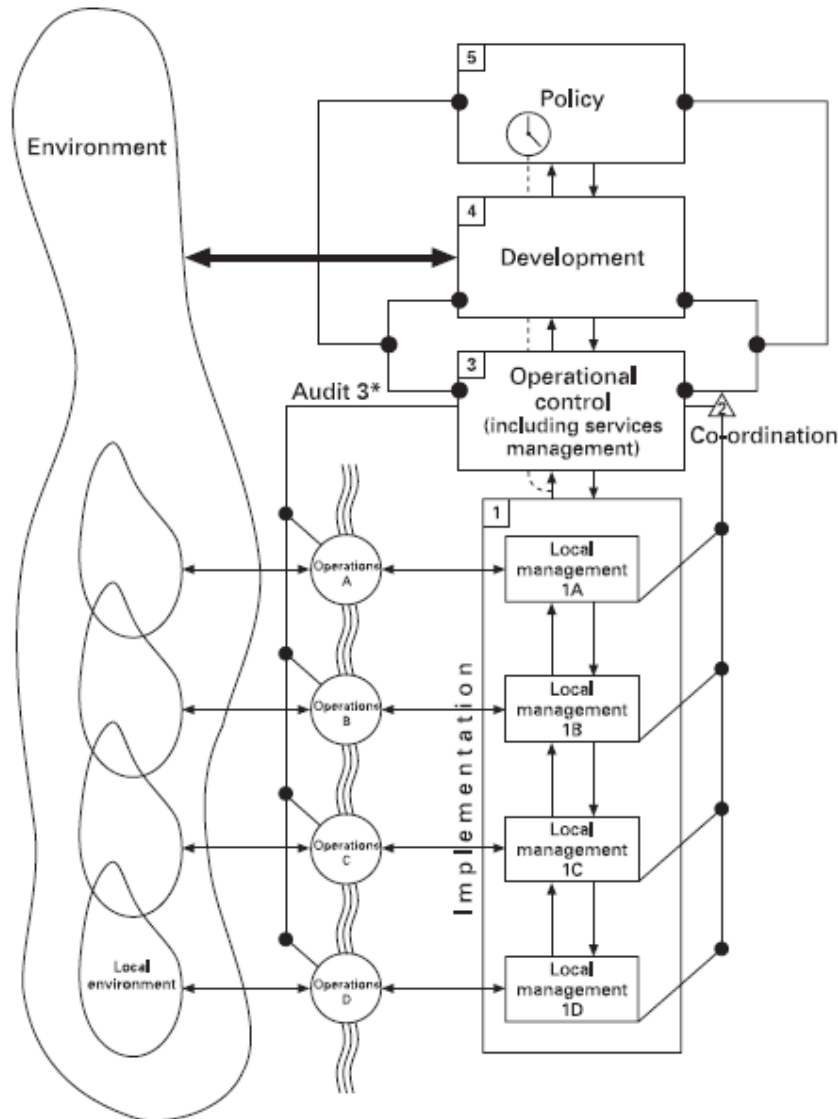


Figure 1.3 (Jackson, 2003: 92)

The reason that the Viable System Model (shown in figure 1.3) is helpful is because it neatly explains the relationship between the strategic decision making which occurs in System Five in the diagram and Systems One. The idea behind the Viable System Model is to reveal how a system/organisation can be viable in its environment. Key to this survival is the relationship between the Systems One and System Five. If there is no communication between the two

levels then the organisation will eventually cease to be viable as the organisation can no longer keep up with the changes in the environment. System Five is responsible for using the environmental information gathered by System Four and making decisions which will ensure that the organisation is able to maintain its identity. These decisions are made and are communicated to the operational level (Systems One) through System Two and Three. Once the operational level has received its instructions, it must begin to carry out these instructions, monitored by the System Three Audit. If there is a break in this communication flow, the organisation will not effectively implement the changes required to remain viable in its environment. This is where the link between outsourcing and strategic decision making can be found in terms of the Viable System Model; outsourcing information systems could act to interfere with the flow of communication between the different systems in the organisation. To explain this, the concept of recursion is required. According to Beer, the principle of recursion states that; “every viable system contains and is contained in a viable system” (Beer, 1984: 8). In other words, each of the operational elements making up Systems One can be expanded on and each can be explained as its own Viable System Model with the five systems. In this sense, the original Viable System Model diagram for the whole organisation is referred to as recursion level 1. The Viable System Model of the Systems One element would be recursion level 2. This is shown in figure 1.4 below.

Levels of recursion in the Viable Systems Model:

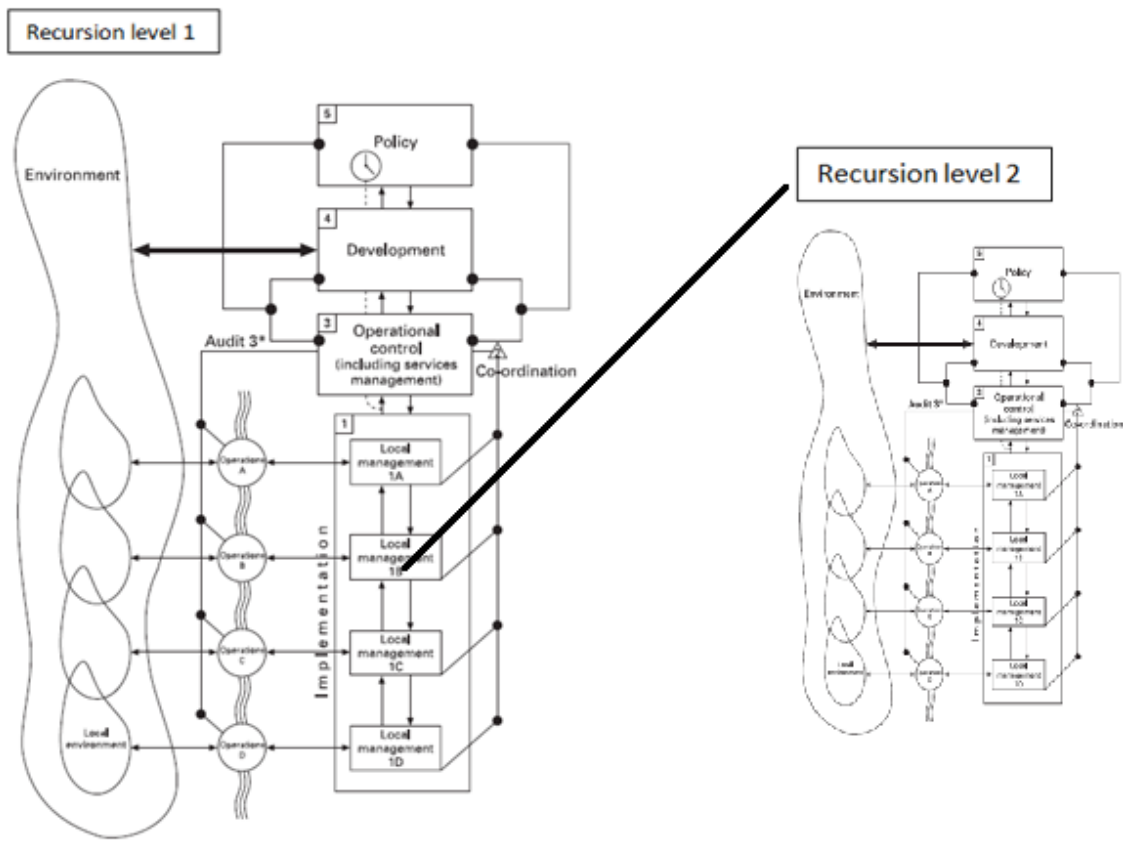


Figure 1.4

An example will help to clarify the connection between operational information system outsourcing and strategic decision making. Assume that the organisation represented by recursion level 1 in figure 1.4 decides that it needs to improve on the efficiency of its operations by introducing a new information system ⁶which will free up the employee's attention to focus on operations and not administration. Assume that the new IS has been implemented in all the Systems One units/departments and it has been decided that the system will be provided by an external vendor specialising in providing such systems. What would happen if the System Five decided that, due to developments in the environment, the organisation needs to make some adjustments to the way that it operates, perhaps a new government regulation regarding health and safety requires a change in the operating

⁶ There could be numerous reasons for the adoption of a new IS at the operational level, the transaction cost economics literature covers this topic extensively.

procedures of the organisation. This decision made by the System Five of recursion level one will have consequences for the Systems One elements. This means that at recursion level 2, the System Five will have to make some decisions about the manner in which the employees (Systems One) perform their tasks. A problem could arise if it is discovered that although the System Five at recursion level two has made the changes required by the changes instituted by System Five at recursion level 1, these changes at level 2 cannot be carried out immediately because of the outsourced information system which needs to be modified in order to accommodate the altered working patterns of the employees. This delay filters back to the Level Five at recursion level 1 and can have a significant impact on the ability of the organisation to implement the decision made by System Five in order to remain viable in the organisations environment. This hypothetical situation is not intended to be used as an argument against the outsourcing of information systems, rather it is intended to demonstrate that the relationship between the information systems and strategic decision making in an organisation is one which is both very real and significant for the performance and ultimately the survival of the organisation. Information systems in an organisation are intended to store and transfer information across the organisation; outsourcing them has the potential to disrupt this function in extraordinary circumstances.

1.4 Conclusion

In the previous section it was shown that the relationship between strategic decision making and Information System Outsourcing is one of great import for organisations, before that the background and history of the Information Systems field and Information Systems Outsourcing theme within this field were explained. These three points combined lead to the following statement: Information Systems Outsourcing is strategically important to large organisations and the state of the Information Systems literature should reveal the extent to which this important relationship is understood. In the introduction to this chapter it was stated that, amongst other things, this thesis would explain the need for a review of decision making in the Information Systems Outsourcing literature. This has been the aim of this chapter, to explore the roots of the Information Systems Outsourcing literature and the consequences of a poorly developed body of theory. The relationship between ideas developed theoretically and actions taken in the real word was explored, and it follows that a

poorly developed body of knowledge that is broad but shallow will have an impact on the ability of actors in the real world of organisations to successfully outsource information systems. The relationship between Information Systems and the strategic decision making of an organisation was also explored using Stafford Beer's Viable System Model in order to examine the role that Information Systems play in communication between different parts of an organisation. All this can be summarised as follows. Premise one; successful strategic decision making in large organisations requires Information Systems to facilitate communication between different parts of an organisation. Premise two; the practice of outsourcing Information Systems is influenced by the theoretical argument developed by researchers, as demonstrated by Checkland and Holwell's model of how theory and practice interact. From the first two premises, it follows that; a poorly developed understanding of decision making in the Information Systems Outsourcing literature will have a negative impact on the success of strategic decision making on organisations. In the next chapter, a literature review of the Information Systems Outsourcing literature will be presented which will explore the state of the Information Systems Outsourcing literature. This will determine, in the light of the history of the Information Systems Outsourcing literature and its location within the Information Systems Theory literature in general, how developed strategic decision making is in the literature.

2. Evaluating the Information System Outsourcing reference literature

2.1 Introduction

In the previous chapter, a brief history of the Information Systems field was provided and the state of the field was discussed in terms of the debate surrounding the legitimacy of the field. The lack of first principles and a unifying research tradition were shown to be major obstacles to the field and the “mile-wide, inch-deep” syndrome was discussed. The focus was narrowed to the Information Systems Outsourcing literature within the larger Information Systems field and its relation to strategic decision making was conceptualised. The question was posed; given the impact of well-developed theory on the practice of Information System Outsourcing; is there a danger that the Information System Outsourcing literature is in danger of being broad and shallow, what has become known as the mile-wide, inch-deep syndrome? There are two dimensions to this question, firstly there is the width of the research, and secondly the depth which has been achieved with the research conducted on the subject of Information System Outsourcing. This chapter will primarily address the first dimension, evaluating the breadth of the Information System Outsourcing literature by examining the reference disciplines which have been adopted by the Information System Outsourcing literature. The intention of the examination is to see how the decision making component of the Information System Outsourcing process has been understood.

Dibbern *et al* provide a breakdown of the Information Systems Outsourcing literature where they identify ten theoretical foundational elements which have shaped the literature on Information System Outsourcing. It is these ten bodies of theory which have acted as reference disciplines, informing and shaping how researchers have approached the topic of Information System Outsourcing. Many of these theories comprise an extensive literature in their own right before being applied to Information System Outsourcing. In order to simplify this large number of theoretical perspectives Dibbern *et al* make use of a categorising approach used by Lee and Kim who in turn adopted this approach from Cheon, Gorver and Teng (Dibbern *et al*, 2004: 16). This approach categorises the ten different foundational

theories into three categories. The categories are “strategic, economic, and social/organizational” (Dibbern *et al*, 2004: 16). Each of these categories and the manner in which the theories associated with each category have been adopted by the Information System Outsourcing literature will be explored, providing an overview of how decision making has been conceptualised in the Information System Outsourcing literature. In addition, the research tradition of each of the three categories in which Dibbern *et al*. placed the different reference disciplines will be summarised briefly, providing an overview of the research paradigm and research methods typical of each category.

2.2 Economic theory

“Economic theories focus on the coordination and governance of economic agents regarding their transactions with one another” (Dibbern *et al*, 2004: 17). Decision making in economic theories is conceptualised as the process of choosing between two or more options in order to obtain the most efficient outcome. Agency theory and Transaction cost theory are the two theories which are placed in the economic category by Dibbern *et al*. Economic theories are in general positivist. Positivism holds that the task of philosophy is “to analyze knowledge statements with the aim of making them clear and unambiguous” (Caldwell, 1980: 54). The intention of economic theories, as indicated by Dibbern in the quote above, is to understand the transactions which take place between economic agents and to do this from a positivist research outlook leads to research which generates knowledge statements in the form of hypotheses and then proceeds to test their validity through empirical observation. Typical economic research involves the construction of theoretical models designed to predict the behaviour of economic agents in pursuit of efficient outcomes. These models are tested against reality in order to determine the generalizability of the assumptions and predictions of the model.

2.2.1 Agency theory

Agency theory seeks to understand the relationship between the principal and the agent with the agent being employed to perform a service on behalf of the principal. Dibbern *et al*

identify Jensen and Meckling as key authors and refer specifically to an article written in 1976 titled “Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure.” Jensen and Meckling note that in the economic literature there was no satisfactory theory of the firm stating that “the material generally subsumed under that heading is not actually a theory of the firm but rather a theory of markets in which firms are important actors” (1976: 3). As a result of this lack of understanding about the nature of the firm, the firm was seen to be a black box and there was little understanding about how “conflicting objectives of the individual participants are brought into equilibrium” (Jensen and Meckling, 1976: 3), more simply put; the theory offered no explanation about the internal mechanics/dynamics within firms through which they achieve the goal of maximisation of profit. As a solution to this black box understanding of the firm, Jensen and Meckling propose that agency theory offers a means of understanding how the individuals within firms interact with one another and how these interactions impact upon the achievement of the goals of the firm.

Jensen and Meckling define an agency relationship as “a contract under which one or more persons (the principal(s)) engage another person (the agent) to perform some service on their behalf which involves delegating some decision making authority to the agent” (Jensen and Meckling, 1976: 5). The mechanics of the relationship hinges on the assumption of utility maximisation on the part of the individuals, if both the principal(s) and the agent seek to maximise their utility then it is proposed that the agent will act in a manner which does not suit the interests of the principal (Jensen and Meckling, 1976). Due to this divergence of interests, the principal must make an effort to provide incentives which will align the interests of the agent with that of the principal, in addition; monitoring is required in order to make sure that the agent is not acting deviantly. These efforts on the part of the principal are called agency costs and by understanding potential agency costs one can understand the actions of the individuals within a firm.

This theory, as described by Jensen and Meckling, was developed in the light of firms in general and so the problems to which it has been applied in most of the Agency Theory literature involves the dynamics within firms between the owners and the top managers of a firm. In the Information System Outsourcing literature the focus is slightly different, but the principles remain the same. In the case on IS outsourcing the focus is not solely on the relationship between the owners of a firm and the top management of the firm, but includes

the relationship between the owners of the firm, top management of the firm and the outsourcing vendor.

An example of an Information System Outsourcing study which has adopted the insights of agency theory is an article by Kern, Kreijger and Willcocks; “Exploring ASP as a sourcing strategy: theoretical perspectives, propositions for practice”. They use the theory to question how the agency costs associated in an Application Service Provider (ASP) offering leave the long term value of the ASP offering uncertain (Kern *et al*, 2002: 170).

Where agency theory has contributed to the Information System Outsourcing literature has been to provide some insight into the interaction between the top management and the vendor. Agency theory offers an explanation of the manner in which the agent acts according to his/her best interests and how the principal must act in order to ensure that the agent’s actions lead to maximum benefits for the principal are achieved. Agency theory removes the “black box” status from the companies by opening them up and providing a way of understanding how the actors within the organisations act.

2.2.2 Transaction cost theory

Transaction cost theory focuses on determining when certain economic tasks should be performed by firms and when they should be performed by the market. The key authors in transaction cost theory are Williamson and Coase, two economists who developed the theory. Williamson claims that understanding transactions and how to economize on transactions is central to understanding organisations (Williamson, 1981: 548). Coase sought to understand the nature of the firm; he wanted to understand why firms exist as opposed to a large collection of specialists operating independently in the market. The conclusion he reached was that using the market’s price mechanism carries negotiating costs. The benefit of forming a firm would be in relation to these costs, organising in such a way as to reduce them. Coase’s argument is that firms are able to reduce the negotiating costs of contracts because those who work together within a firm would not have to negotiate contracts with each other, but would only have to negotiate with those external to the firm (Coase, 1937: 390). These initial thoughts on when transactions ought to be performed within a firm or in the market in order to economise on transactions have provided valuable insights for Information System

Outsourcing. These principles have been applied to the decision to outsource or not and many other questions in Information System Outsourcing.

Some examples of transaction cost theory in the Information System Outsourcing literature include Lagheband, Rivard, Wu, and Goyette who conducted a study of the use of transaction cost theory in information technology outsourcing. They reviewed 25 papers published between 1995-2011 from 19 different journals (Lagheband *et al*, 2011: 132). Boonlert Watjatrakul wrote an article which compared transaction cost theory and the resource based view of the firm. He conducted interviews with 10 different companies involved in e-commerce, the three companies which were found to be best at email-marketing were then selected for the main study (Watjatrakul, 2005). His conclusion was that transaction cost theory was better able to account for the companies' sourcing decisions than the resource based view.

Transaction cost theory is perhaps the most commonly used theory in Information Systems Outsourcing research due to its ability to offer insights about when to outsource or not, the pivotal question faced by managers faced with the information systems outsourcing decision. It has proven to be useful both for predicting whether or not a company should outsource its Information Systems function as well as retrospectively explaining why organisations decided to outsource. There are also problems with the approach however, the theory is economic in essence and so there are areas which it does not address which some have felt are still important, this is part of the reason for the inclusion of the other two categories as described by Dibbern *et al* namely the Strategic Management and Social/Organisational categories.

2.2.3 Decision making in Economic theories:

In the Economic theories adopted by the Information System Outsourcing literature, decision making can be described as the process where different courses of action are evaluated in terms of their efficiency of outcome and the one which is selected is the one which offers the greatest reward in terms of efficiency. Although the theme of decision making is present in the economic theories, decision making is not the central focus of these theories.

2.3 Social/Organisational

In contrast to the economic and strategic management categories, the social/organisational category concentrates on the relationships between individuals, groups and organisations rather than the rational views of organisations held by the other categories. Another important characteristic of this category is that it does not focus narrowly on the decision about whether or not to outsource but includes the on-going relationships which develop once the decision has been made to outsource. Attention is paid to how individuals, groups and organisations act in these relationships, not just the reason for the relationships. Like the economic category, decision making as a theme is assumed rather than developed. Rather than evaluate decision making, the social/organisational category evaluates the implications of decisions for relationships in and across organisations.

The research tradition of the social/organisational category is different to that of the economic category. In the economic category, there is a relatively uniform research paradigm, in the social/organisational category however, there is little uniformity in the research paradigms used.

2.3.1 Social exchange theory

Richard Emerson, one of the key authors in the field of social exchange theory, states that, converse to convention, we ought not to think of it as a theory at all (Emerson, 1976: 336). According to Emerson, social exchange theory "...is a frame of reference within which many theories—some micro and some macro—can speak to one another, whether in argument or in mutual support" (Emerson, 1976: 336). The name *social exchange* theory reveals a great deal about how one should understand the theory. Firstly, it is all about exchange: according to Emerson; concepts like "...resource, reward, reinforcement, cost, utility, opportunity, profit, outcome, transaction, payoff etc." are the links which hold the field of social exchange theory together (1976: 337). Secondly, it is *social* exchanges which are studied, these concepts which hold the field are economic in nature and it is the context in which they are used which makes this a theory about *social* exchange. It is no coincidence that these concepts are economic terms and this is at the heart of social exchange theory, applying the same concepts

to areas which economics does not. In other words, social exchange theory looks at the exchange behaviour (which is essentially an economic behaviour) in situations outside of the market place as defined by economics. This has implications for what is exchanged, in economics this is usually some monetary medium either money or a good or service which is valued in terms of monetary value, in social exchange theory, what is exchanged or reciprocated are often things such as prestige or love (Emerson, 1976). It is therefore not so much the study of the decision to exchange something, but the nature of what is exchanged that is the focus of social exchange theory. Studying the social transactions rather than economic exchanges is the focus of decision making in social exchange theory.

Social exchange theory is listed by Dibbern *et al* as one of the theories which has been foundational for the study of information system outsourcing, but how has it contributed to and been used in the literature? Goo *et al* (2006) conducted a study in order to shed light on the factors which influence the duration of information technology outsourcing relationships. They make use of a combination of three streams of literature to answer this question economic literature, strategic literature and social literature, it appears that the adoption of these categories was influenced by Dibbern *et al*'s review of the literature, and social exchange theory is the theory which they adopt from the social literature. The result of their adoption of the social exchange literature is the conclusion that the duration of vendor-client relationships is based on the level of satisfaction of the relationships (Goo *et al*, 2006: 2109).

2.3.2 Innovation Theory

Innovation theories are those which “explain the adoption of new technologies, and organizational processes by firms” (Daft in Dibbern *et al*, 2004: 19). According to Dibbern *et al* there are two critical concepts in innovation theory, adoption and diffusion. Adoption refers to deciding to use an innovation, diffusion refers to the manner in which the innovation spreads into organisations, industries etc. (Dibbern *et al*, 2004: 19). This is important because one can get confused between the two, and by doing so confuse research streams. In a review of the Innovation theory literature, Wolfe identifies three main streams of research; Diffusion of Innovation (DI), Organisational Innovation (OI), and Process Theory Models (PT) (1994: 407). DI investigates the spread of innovations through the population of potential adopters

with the aim of predicting the speed and nature of patterns of adoption (Wolfe, 1994: 407). OI investigates the propensity of an organisation to innovate, understanding what it is about an organisation that allows it to innovate (Wolfe, 1994: 408). PT investigates “the nature of the innovation process; how and why innovations emerge, develop, grow, and (perhaps) terminate” (Wolfe, 1994: 409). Without a clear understanding of the difference between adoption and diffusion, the differences between DI research and PT research could easily be missed leaving a lot of the literature in a confused jumble.

Examples of Innovation Theory research are studies like the one undertaken by Richard Daft which examined “the role of administrators and technical employees in the processes leading to innovation adoption” (1978: 193). To use Wolfe’s terminology, this research by Daft would be categorised as PT research as it aimed to understand the processes leading to the adoption (not diffusion) of innovations. An example of innovation theory applied to information systems research is Mustonen-Ollila and Lyynten’s paper investigating the adoption of information system process innovations (ISPI’s) in three organizations. In their research they attempt to discover differences in the ways in which different computing generations have approached ISPI adoption (Mustonen-Ollila & Lyynten, 2004)⁷.

The difficulty in finding any innovation theory research directly linked to Information Systems Outsourcing begs the question; how has innovation theory been applied to Information System Outsourcing? One possible area of application could be the impact of a vendor company introducing innovations to the company which it provides service for. This would link up with and draw on the work done on the diffusion of innovation as well as providing a novel area for investigating the processes of adopting innovation in Information Systems vendors.

2.3.3 Power Politics Theory

One of the big names in power politics theory is Jeffrey Pfeffer referred to by Dibbern *et al* as one of the key authors in the field – with good reason. Power politics theory is well

⁷ Something worth noting is that the two articles mentioned above are not directly related to information systems outsourcing, the reason being that we were unable to find any such article

summarised by Pfeffer in the following statement; “Any new strategy worth implementing has some controversy surrounding it and someone with a counter agenda fighting it. When push comes to shove, you need more than logic to carry the day. You need power” (Pfeffer, 2010: 87). As Pfeffer explains in this article in the Harvard Business Review, there is a negative connotation around the terms “politics” and “power”, often there is talk about the politics in the office or people who are power hungry and other things along those lines. These negative connotations might have been born from unpleasant experiences, but as Pfeffer makes clear, regardless of the connotations attached to power, we *need* power in order to carry out our strategic plans. Pfeffer describes power as “simply put, the ability to have things your way” (Pfeffer, 2010: 87). Pfeffer clearly has an unabashed view that power is something which ought to be used and he offers eleven tips to do this effectively; using resources to leverage power, use rewards and punishments to shape behaviour, advance on multiple fronts, make the first move, co-opt antagonists, remove rivals (nicely where possible), avoid unnecessary fire by fighting for things which are not critical, use the personal touch, persist, focus on the important relationships no matter what, make your vision compelling (Pfeffer, 2010). Power Politics Theory, when viewed in terms of decision making, relates to the manner in which decisions are executed, especially when there is opposition to the decision which needs to be persuaded or overcome.

Pfeffer makes an important observation when he says that “getting things done in a less-hierarchical system actually requires more influence” (Pfeffer, 2010: 87). This is especially true when strategic plans need to be implemented not only across organisations with flat hierarchies but across organisations as well. The ability to harness power and “get your way” is critical in outsourcing relationships where there by nature conflicting interests between the two sides of the outsourcing relationship. This is demonstrated by the tension involved with the pricing of the outsourcing arrangement, on the one hand the vendor wants to price to be high in order to get high profit levels, and on the other hand the outsourcing company wants exactly the opposite. This is nothing new to anyone familiar with even the basics of economic theory, what makes things interesting is the continued nature of the relationship between the vendor and the outsourcing organisation. It is not a once off purchase and so the relationship needs to be worked on, and there will inevitably be a struggle between the management of the different organisations who are trying to get things to work out in such a way that they achieve the best possible result for their company, in many cases this is a zero-sum game.

Research making use of power politics theory in the Information Systems Outsourcing literature are typically case studies with the aim of understanding how power relationships have impacted on the success and ease of execution of Information System Outsourcing decisions. One example is a study done on the challenges faced by higher education institutions (HEI's) when outsourcing information and communication technology (ICT), Allen, Kern and Mattison (2002) conducted research at HEI's in the United Kingdom by conducting interviews at three universities. One of their major conclusions from the study was the severity of the implications of introducing market driven practices to a university unused to this sort of behaviour on a strategic level.

Dibbern and Heinzl (2008) made use of a multi-theoretical model to evaluate the outsourcing of information system functions in small and medium sized enterprises. One of their hypotheses is that "The greater the relative power of the IS department within the firm, the less likely it is that IS functions will be outsourced" (Dibbern & Heinzl, 2009: 104). Their results indicated that the power level of the Information Systems department had an impact on the final decision on whether or not to outsource.

2.3.4 Relationship theory

Relationship theory as a field is a relatively new field which has arisen from the need for a theory to answer the question faced by Information Systems practitioners, as Kern and Willcocks formulate it; "Once the decision to outsource has been made and contract negotiations have led to an agreement, the ensuing concern of IS practitioners is: 'how best to manage an outsourcing venture to achieve a win-win situation, that ensures savings, service levels, and other outsourcing objectives are attained as stipulated in the contract'" (2002: 322). The Information Systems Outsourcing literature is filled with comments on the manner in which the nature of the relationships between outsourcing company and vendor is becoming a close, long term partnership, the aim of relationship theory is to unpack this partnership and understand the dynamics at play. It is however, important to avoid calling everything involving information systems services being provided by an external vendor a "relationship" or a "partnership" as implied by relationship theory. Lacity and Willcocks make distinctions between three types of outsourcing contracts, namely: fee-for-service

contracts, strategic alliance/partnership contracts, and buy-in contracts (1998). Fee-for-service contracts are simple contracts where “[a] customer pays a fee to a supplier in exchange for the management and delivery of specialised IT products or services” (Lacity & Willcocks, 1998: 379). Strategic alliances/partnerships are “collaborative interorganizational relationships involving significant resources of two or more organisations to create, add to, or maximise their joint value” (Lacity & Willcocks, 1998: 379). Finally, buy-in contracts involve the customer buying in “vendor resources to supplement in-house capabilities, but the vendor resources are managed by in-house business and IT management” (Lacity & Willcocks, 1998: 379). While these categories explained by Lacity and Willcocks are helpful in delimiting what is studied in relationship theory, Sargent makes an equally valuable contribution in a review of the information systems outsourcing relationship theory literature with the assertion that “it should be clear that the outsourcing contract although a pre-cursor to the outsourcing relationship, it is not the sole determinant of the outsourcing relationship” (2006: 286). Without this distinction, researchers could find themselves spending a great deal of time detecting the types of contracts employed by companies involved in Information Systems Outsourcing and not get to the important task of finding ways to manage the relationships better, and thereby contribute to the practice of Information Systems Outsourcing .

There have been many different approaches adopted in relationship theory, most of which consist of attempts to adopt and combine insights from other bodies of theory and apply them to strategic alliance/partnership contracts. For example, McFarlan and Nolan identified four critical areas for the vendor/client relationship; “[t]he CIO Function, Performance Measurements, Mix and Coordination of Tasks, and Customer-Outsourcer Interface” (McFarlan & Nolan in Sargent, 2006: 281). Other authors have made contributions by advancing a framework with which to evaluate the relationship including Klepper & Jones, Lee & Kim, Kern & Willcocks, and Goles (Sargent, 2006). Sargent concludes his review of these authors’ work with the following: “Several characteristics that have been defined by the literature as processes and/or attributes of the outsourcing relationship (e.g. cultural compatibility, trust, communication) can be outlined in a contract, but ultimately this relationship is developed and nurtured by the individuals executing the outsourcing activities. It is as much the responsibility of the customer to manage their internal IT activities, as it is to maintain the relationship with the outsourcing vendor” (Sargent, 2006: 286).

In terms of decision making, relationship theory reveals the implications of thinking of a decision as a moment of choice rather than a process which continues beyond a single moment of choice. While not explicitly using these terms, Relationship theory alludes to the nature of decisions as being processes. The focus is not on the criteria of a decision, or an explanation of how decisions are or should be made, but rather on what can happen if relationships are neglected and how relationships should be a key factor in the decision making process of outsourcing an Information System.

2.4 Strategic theory

Strategic theory attempts to understand how organisations develop and carry out plans of action in order to achieve some performance goal (Dibbern *et al*, 2004: 17). Included under this category are Game Theory, the Resource-Based View of the firm, Resource Dependence Theory, and Strategic Management theory.

The research tradition of Strategic theory is much like that of Social/Organisational theory with no one research tradition or methodology being held by Strategic theory researchers. Godfrey and Hill (1995) address this characteristic of Strategic theory in an article titled *The Problem of Unobservable in Strategic Management Research*. Godfrey and Hill state that; “unobservable constructs lie at the core of a number of influential theories used in the strategic management literature-including agency theory, transaction cost theory, and the resource-based view of the firm” (1995: 519). These unobservable constructs do not fit in with the positivist research paradigm as they cannot be observed in order to be verified. As a reaction to the failure of positivism to account for the unobservable constructs, some strategic management research has adopted what Godfrey and Hill call a realist research paradigm. Realism “...is a belief that theories of science give us knowledge about the unobservable, and that under certain circumstances we may have good reason for believing statements about unobservable entities to be true” (Godfrey & Hill, 1995: 525). These two different research approaches, with positivists emphasising empirical observation and realism which relaxes the requirement of empirical validation, lead researcher to make use of different research methodologies as well as leading to different research topics.

2.4.1 Game Theory

In the introductory chapter to their book *Games of Strategy*, Dixit, Skeath and Reily describe game theory as “the science of rational behaviour in interactive situations” (2009: 5). Another, more detailed definition is provided in an introductory microeconomics book: “[g]ame theory is the study of how people behave in strategic situations. By ‘strategic’ we mean a situation in which each person, when deciding what actions to take, must consider how others might respond to that action” (Mankiw and Taylor, 2006: 329). The aim of Game Theory is to determine which course of action will lead to the optimum outcome for the player, in other words “[t]he optimal strategy for a player is the one that maximises her expected payoff” (Pindyck and Rubinfeld, 2005: 474).

A search for articles conducted in Google Scholar using “Game theory AND information systems outsourcing” yielded surprisingly few relevant results. The first page of results contained just three relevant articles, two of which were reviews of the literature and were therefore not themselves articles on applying game theoretic knowledge to Information Systems Outsourcing problems. While this is hardly a rigorous test, it does show that while the literature contains game theory, it is rather difficult to determine where exactly this game theory is to be found in the literature. The two reviews of the literature were the article by Dibbern *et al* and one by Gonzalez, Gasco, and Llopis. In the Gasco *et al* review, the only reference to game theory is an article by Elitzur and Wensley, and this article is the only other relevant result in the search. So far the search appears sparse in terms of results. In the Dibbern *et al* review, there is reference to the Elitzur and Wensley article, but this is the only Game theory article which contains Information Systems Outsourcing. The other articles do not contain any reference to Information Systems Outsourcing and are used solely to explain what game theory is without being related to information systems.

The difficulty of finding instances of game theory used in Information Systems Outsourcing research aside, what exactly does game theory offer to the literature that merits its inclusion in the strategic theory category? Game theory is used to determine a set of rules for how a player might behave in order to win in a strategic situation; these rules can be thought of as a strategy. A simple example, much quoted, will help to demonstrate this. The most common

game which is used to explain the basic principles of game theory is the prisoner’s dilemma. In the game, there are two criminals who have been caught by the police and are being interrogated separately. The prisoners have two options, they can remain quiet and refuse to tell the police anything, or they can confess and implicate their partner at the same time. If they confess they will get off without going to jail and their partner will get 10 years, if they both confess then they will both go to jail for 5 years, and if they both say nothing then they will both get a sentence of 1 year. Both prisoners are aware of the fact that they both have these options. These conditions can be demonstrated in a table as shown in figure 2.1:

Prisoners Dilemma

		Prisoner A	
		Confess	Keep Quiet
Prisoner B	Confess	Both go to jail for 5 years	Prisoner B goes to jail for 10 years, Prisoner A goes free
	Keep Quiet	Prisoner A goes to jail for 10 years, Prisoner B goes free	Both Go to jail for 1 year

Figure 2.1

From the perspective of prisoner A, what should be done; confess or keep quiet? Because the game is strategic, as defined by Mankiw and Taylor above, prisoner not only has to consider which of his/her choices will produce the best outcome, but has to do this bearing in mind that prisoner B is doing the same thing and that prisoner B’s choice will impact on the outcome of prisoner A. The goal of game theory is to find a rule for what the prisoner should do in order to achieve the best result, in other words; develop a strategy for maximising a performance goal. In order to provide this strategy, game theory introduces some frames for thinking about the problem which are useful. Firstly game theory requires that all the alternative courses of action which are available to the actors be determined, then the consequences are determined and these consequences are translated into preferences in terms of the utility of the actors. This brings to light questions about the availability of information, for example regarding the different choices which are available to the actors.

Elitzur and Wensley (1997: 46-50) provide 7 lessons which game theory can teach us when studying information system outsourcing. These lessons cover firstly the structure of the

alternatives and payoffs in the game, second; identifying dominant strategies, third; the importance of information regarding the other player's beliefs, fourth; looking at the game through the eyes of your opponent, fifth; understanding the information structure of the game, sixth; being aware of information asymmetry, and lastly being aware of the relative power difference between you and your opponent.

The insights derived from Game theory can be compiled into three categories, action possibilities, information availability and use, and power dynamics. Each of these categories can be related to Information Systems Outsourcing in order to determine where game theory has contributed to the Information Systems Outsourcing literature. The action possibilities category refers to the understanding of which alternative courses of action are available to the players in a game including those available to the opponents. This includes the payoffs for the different outcomes which arise as a result of these actions. This relates to Information Systems Outsourcing at the point where the decision makers are identifying what needs to get outsourced (if anything) as well as potential outsourcing vendors as opposed to performing the task internally. The understanding of potential courses of action is an essential step in decision making, especially if a rational view of decision making is assumed. The information availability category refers to the amount of information which the players in a game have regarding alternatives, outcomes and the likely actions of the opposition players. This includes information asymmetry which could be advantageous to an organisation but only if that organisation is aware of the nature of the asymmetry, otherwise it could prove to be a handicap. The power dynamics category refers to the relative difference in the ability of players in a game to affect changes in the game, in terms of Information Systems Outsourcing this would include things like bargaining power during contract negotiations. If an organisation is cognisant of these power dynamics then they will be in a position to try and increase their power prior to engaging in the game (Elitzur and Wensley, 1997). These three categories can be understood in decision making terms, showing the value of being aware of potential courses of action available to decision makers, the importance of having information in order to make better decisions and finally having the power to be able to ensure that the desired outcome of a decision transpires.

2.4.2 Resource-Based View

Dibbern *et al* refer to resource theories in the strategic theory category, but make the distinction between the resource-based view and the resource dependence theory. The two theories are similar in many respects but differ on one important point, the Resource-Based View focuses on the resources and capabilities within a firm while the resource dependence theory focuses on the resources external to the firm in the environment (Dibbern *et al*, 2004). The Resource-Based View seeks to discover which resources within an organisation provide it with a competitive advantage over competition and makes recommendations about how the organisation can try to protect this competitive advantage to ensure that it is not merely a short term thing.

In an article reviewing the ten years of development of the Resource-Based View of the firm, Barney, Wright and Ketchen provide a definition of the Resource-Based View: “Ten years ago, Jay Barney edited a special forum in this journal on the Resource-Based View of the Firm (Barney, 1991). In his article in the special issue, Barney argued that sustained competitive advantage derives from the resources and capabilities a firm controls that are valuable, rare, imperfectly imitable, and not substitutable. These resources and capabilities can be viewed as bundles of tangible and intangible assets, including a firm’s management skills, its organizational processes and routines, and the information and knowledge it controls” (2001: 625).

In another review in the *Management Information Systems Quarterly* examining the research carried out with the Resource-Based View, this time in Information Systems research specifically, Wade and Hullund explain the relevance of the Resource-Based View for Information Systems research. Wade and Hullund claim that the Resource-Based View of the firm offers a framework with which to understand the strategic value of information system resources (2004: 109). The manner in which the Resource-Based View sheds light on the strategic importance of information systems is to determine whether or not they meet the criteria as explained by Barney *et al*. In other words, the strategic value of information systems can be determined by assessing their rarity, how easy they are to imitate, and their substitutability. This is important for the practice of information system outsourcing because when considering whether or not to outsource an information system function, you need to understand the strategic value of the function. This means understanding whether or not you

will lose any competitive advantage by outsourcing it, or conversely if you could gain a competitive advantage by entering into an outsourcing partnership. These insights would inform not only what should be outsourced but also how it should be outsourced (short term contracts, partnerships etc.).

One example of how the Resource-Based View has been used in the literature is an article by Benoit and Vital titled “A Resource-Based Analysis of IT Sourcing.” The matrix in figure 2.2 contains the general framework of their argument; there are two things which are important when considering whether or not to outsource something and how it should be outsourced, namely strategic value and the presence of strategic resources (Benoit & Vital, 2002: 32).

General Framework:

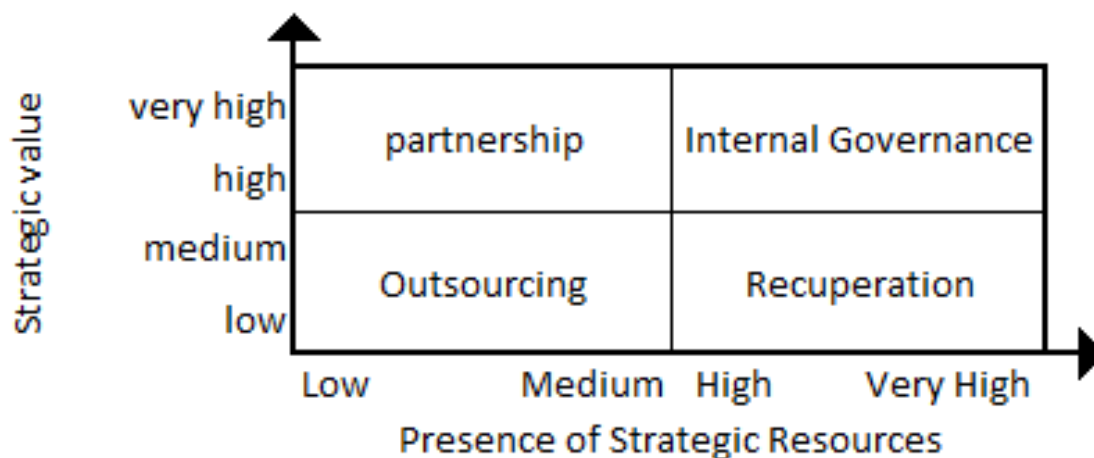


Figure 2.2 (Benoit & Vital, 2002: 32)

The Resource-Based View offers insight firstly in the decision about whether or not to outsource. If there are resources in the Information Systems function which provide long term competitive advantage then these things should probably not get outsourced. On the other hand, if the Information Systems function has no competitive advantage resources it can be viewed as a cost saving to outsource it. Secondly, if there are resources which the vendor has which could be used to gain competitive advantage and in the long term through a partnership, these can be used to develop a long run competitive advantage.

The Resource-Based View sets out the conditions under which an Information System Outsourcing decision would be considered to be successful; if they offer strategic value as formulated by the theory. This indicates the end to which the decision to outsource should aim, maximising strategic value through internal resources.

2.4.3 Resource Dependence theory

In a definition of Resource Dependence Theory provided by Collins *et al* they state that it “characterises the corporation as an open system, dependent on contingencies in the environment” (Pfeffer & Salanick quoted in Collins, Hillman & Withers, 2009: 1404). Whilst the Resource-Based View focuses on the resources within a firm and what should be done to leverage them in order to improve performance, Resource Dependence Theory has a different focus, that of the movement of resources between organisations. This is captured in the definition above by the notion of an open system being dependent on the environment. Open systems are, in contrast to mechanical closed systems, dependent on inputs from their environments in order to function. The border between the organisation and its environment comes under the spotlight and the processes whereby the resources move from the environment to the organisation are the centre of study. The success of the organisation can now be understood to relate to the ability of the organisation to get hold of these resources from the environment and bring them into the organisation.

One of the pioneers of Resource Dependence Theory summed up the logic of the argument in five statements; “1) the fundamental units for understanding intercorporate relations and society are organizations; 2) these organizations are not autonomous, but rather are constrained by a network of interdependencies with other organizations; 3) interdependence, when coupled with uncertainty about what the actions will be of those with which the organizations interdependent, leads to a situation in which survival and continued success are uncertain; therefore 4) organizations take actions to manage external interdependencies, although such actions are inevitably never completely successful and produce new patterns of dependence and interdependence; and 5) these patterns of dependence produce interorganizational as well as intraorganizational power, where such power has some effect on organizational behaviour” (Pfeffer quoted in Collins *et al*, 2009: 14041045).

The contribution of this theory to the Information System Outsourcing literature is the introduction of a perspective which evaluates the power dimension behind the interorganisational events which take place during outsourcing. This introduces the vendor organisation as an actor with power with which an outsourcing company must interact. The importance of this is that, untypically, the theory considers the interests of the vendor in addition to the benefits and costs to the outsourcing company. This move away from a black box view of the vendor is essential in order to understand the relationship between the outsourcing company and the vendor after a contract has been signed. Resource Dependence Theory also acknowledges the impact of the uncertainty of the consequences of an organisation's actions. Understanding the outsourcing decision in terms of both the outsourcing organisation as well as the vendor demonstrates that making a decision does not occur in a vacuum, the environment in which a decision is made is important to the success of the decision.

An example of research conducted using Resource Dependence Theory can be seen in an article by Kern *et al* (2002) in which they propose an interdisciplinary contingency approach to studying Application Service Providers (ASP). Key propositions are developed by drawing on resource dependence theory, the resource-based view of the firm, transaction cost economics and agency cost theory (155). Kern *et al* explain that transaction cost economics has been widely used in information system outsourcing research but that there are limitations to what can be learned from this due to the financial reasoning inherent in the theory (Kern & Willcocks referred to in Kern *et al*, 2002: 165). This is applicable to all the theories used in Information System Outsourcing research; they will necessarily exclude certain things. The argument for a contingency model as described by Kern *et al* is that the combination of the different theories allows for a framework which is more comprehensive. In this case, as Kern *et al* point out, the inclusion of the four theories mentioned above leads to analysis of both the economic and strategic dimensions of information system outsourcing (Kern *et al*, 2002).

2.4.4 Strategic Management theory

Dibbern *et al* include in the strategic theory category, Game Theory; Resource Dependence Theory; the Resource-Based View of the firm; and then strategic management theory as the fourth foundational body of theory in the category. At first glance this could be confusing, surely the other three theories are also strategic management theories, hence their inclusion in the strategic theory category. The cause of this confusion is easily removed when one unpacks what is meant by strategic management theory. What Dibbern *et al* mean by strategic management theory is what is sometimes referred to as the classical authors on strategy. In his book *Strategy and Organization: realizing strategic management*, Loizos Heracleous gives an historical overview of the strategic management field, starting with what he calls the classical authors on strategy (2003:4). It is within this category of Heracleous that reference is made to the same authors that Dibbern *et al* include in their list of key authors in the strategic management theory, examples being Chandler, Porter, and Quinn.

It is important to note that, although both Dibbern *et al* and Heracleous make reference to a single theory called “strategic management theory” this can be misleading. Certainly there is a body of literature which is rightly referred to as the strategic management literature, but unlike game theory, resource dependence theory, and the resource-based view; the strategic management literature is a comparatively heterogeneous one with many competing voices within the literature. Where in the other three theories the core principles of the theory are stable and largely taken as a given, in the strategic management theory there are great differences of opinion about what constitutes management, how one should go about strategic management etc. While the other three theories hold in common the principles of the theory and apply them to a great deal of scenarios, the strategic management literature holds in common the context of the theories (the firm and its environment) and proposes a variety of different perspectives about how to act within this context.

De Wit and Meyer state the problem differently; they pose the question “Why is it that theorists cannot agree on how to solve strategic problems?” (2005, 13). They offer three potential positions one could take in order to answer the question. Firstly it could be that some of the theories are simply wrong while others are right, a position they dismiss as unlikely given the continuation of lively debate. Surely if one side of the debate was indeed simply wrong then they would abandon the position once it was proved that they were wrong

(De Wit & Meyer, 2005). Secondly it could be that each theorist has only understood one facet of a multi-faceted problem and so each gives a different angle on the same problem. Once again De Wit and Meyer dismiss this as unlikely as this would imply that one should find the different theorists to be complimentary and this is clearly not the case in the literature (De Wit & Meyer, 2005). The third position is that theorists “start from divergent assumptions about the nature of each strategic issue and therefore logically arrive at a different perspective on how to solve strategic problems (De Wit & Meyer, 2005: 13).

Bearing in mind the diversity of opinion about the best way to conduct strategic management, this section will outline the prominent theorists (not in any particular order) who have made a significant impact on both the theory and practice of strategic management, and then assess the impact on strategic management theory on the information system outsourcing literature.

Miles and Snow are two names with which any management theorist will be familiar. Their primary work was the development of a framework aimed at understanding the different ways in which organisations define their strategy and how they construct mechanisms to pursue these strategies (Coleman, Meyer, Miles & Snow, 1978: 546). The framework they developed characterises organisations into one of four types of organisation, Prospectors, Defenders, Analyzers, and Reactors (Coleman *et al*, 1978: 550).

Companies in the Prospector category are recognised by their innovative nature. They are the type of organisation where a great deal of time and resources are spent on ensuring that new products and market opportunities are found and exploited (Coleman *et al*, 1978: 551). In order to adopt this Prospector approach the organisation needs to have arranged its technological and administrative systems to match its strategy of product development and market opportunity exploitation appropriately.

The Defender type organisations are the opposite to the Prospector type in that they seek to develop a stable pattern of production/service delivery in which the organisation actively attempts to prevent other organisations from competing with them, hence the name “Defender”. As Coleman *et al* put it; “[s]tability is chiefly achieved by the Defender’s definition of, and solution to, its entrepreneurial problem. Defenders define their entrepreneurial problem as how to seal off a portion of the total market in order to create a stable domain, and they do so by producing only a limited set of products directed at a narrow segment of the total potential market” (Coleman *et al*, 1978: 550). As with the Prospector, the

organisation must ensure that its technological and administrative system are appropriate to the strategy of the Defender.

The third type of organisation in the framework is the Analyzer. The Analyzer is a cross between the Defender and the Prospector type, sharing their strengths but also their potential weaknesses. “A true Analyzer is an organisation that attempts to minimize risk while maximising opportunity for profit” (Coleman, 1978: 554). The Analyzer type must “be able to respond quickly when following the lead of key Prospectors while at the same time maintaining operating efficiency in its stable product and market areas” (Coleman, 1978: 555).

The fourth type of organisation; Reactors, are essentially companies which have failed to successfully adopt any of the other three types. Reactors are left adapting to their environment without an appropriate response mechanism and are inconsistent and unstable. Reactors are unable to respond appropriately to changes in the environment, unlike the Prospector, and then they are also unable to maintain any efficiency unlike the Defender (Coleman, 1978: 557).

This framework developed by Miles and Snow (1978) breaks the problem of strategic management up into two parts, the ability to recognize the appropriate strategy based on the environment and the capabilities of the organisations, and then the ability to ensure that the administrative and production systems are suitable for the chosen strategy. In terms of decision making, Miles and Snow have identified what constitutes “good” strategic decision making. A strategic decision is a successful one if it aligns appropriately with the environment of the organisation given its capabilities.

Michael Porter is best known for his “five forces” framework as well as the value chain. The “five forces” (see figure 2.3 below) model was an attempt to understand the different forces which act upon an organisation which should be remembered when deciding on a strategy for acting within that industry. The five forces model is used to understand the nature of the industry in terms of how attractive it will be to operate in based on external factors as well as internal competition in the industry. In Heracleous’s words “Porter’s model was an advance over existing understandings of the market in that it emphasized extended competition rather than simply current competitors, in the form of threat from substitute products, as well as offering a memorable, structured framework which that could be easily applied” (Heracleous,

2003: 10). Compared to Miles and Snow's framework, Porter's five forces framework has a narrower scope as it looks only at the initial decision about which strategy is appropriate within a given industry, the model says nothing directly about the consequences for the structure and management of the organisation.

Porter's Five Forces:

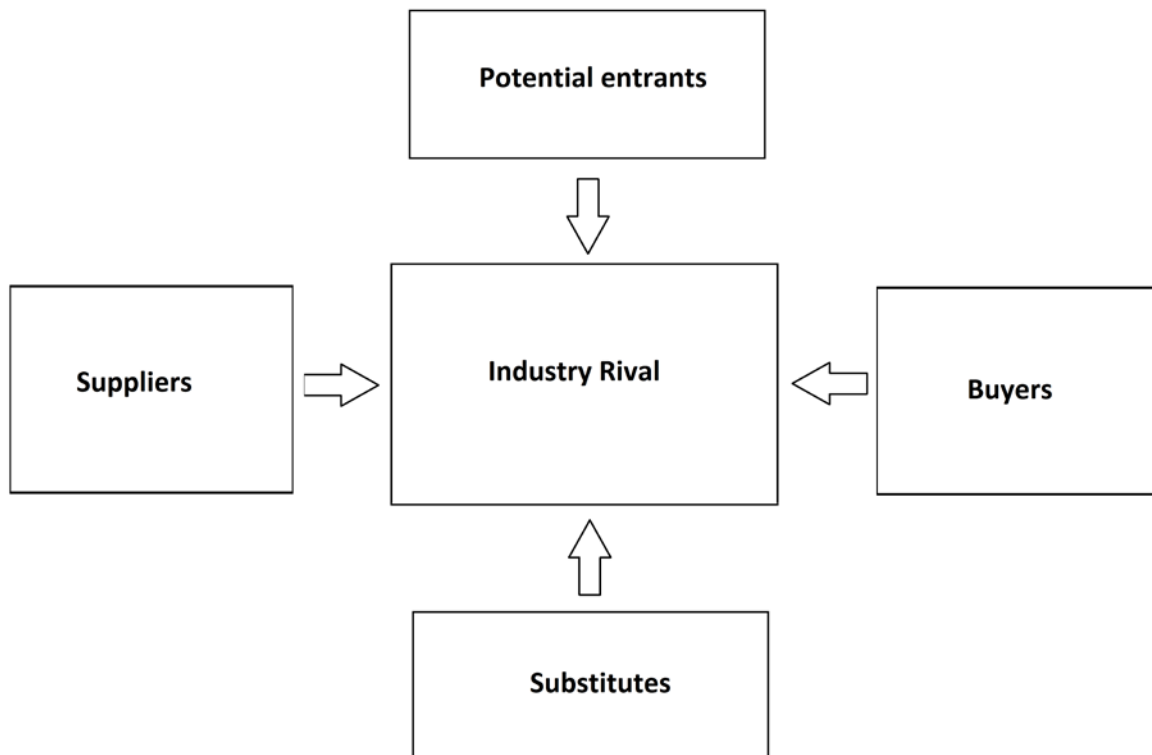


Figure 2.3

Porter's value chain depicts the flow of activities resulting in a product or service of value to the customer (Heracleous, 2003: 11). Perhaps Porter's biggest contribution to the field of strategic management was his notion of how a company should try to be competitive; "[a] company can outperform rivals only if it can establish a difference that it can preserve" (Porter, 1996: 62), or phrased differently; "[t]he essence of strategy is choosing to perform activities differently than rivals do" (Porter, 1996: 64). There are two ways to do this according to Porter, either you must adopt a Low Cost approach or you have to Specialize. "But the essence of strategy is in the activities – choosing to perform activities differently or to perform different activities to rivals" (Porter, 1996: 64). Choosing to perform activities

differently is what Porter is referring to with the low cost approach, the aim being to find ways of performing the same activities more efficiently than rivals and so gain an advantage through cost benefits. Choosing to perform different activities to rivals is what Porter refers to in the specialization approach where the unique way of performing the activities allows for the use of technology and innovation in finding better ways of producing the same products/services as rivals but which are able to add value to the product/service which rivals are not able to replicate.

Alfred Chandler is another well-known name in the strategic management literature. He is best known for his work which culminated in the claim that, for successful organisations; structure follows strategy (Chandler in Hall & Saias, 1980: 150). The essence of this statement is that, in order for an organisations strategy to be successful, the structure of the company must be adapted to the requirements of the strategy. This means that management should not strategise within the bounds of the current organisational structure, rather organisations should develop the strategy and then set about adapting the structure to fit the requirements of the strategy.

Last among the names listed by Dibern *et al* is that of James Quinn. Quinn had a large impact on the strategic management field when he introduced “logical incrementalism” as an alternative to what he referred to as the “formal systems planning” approach adopted by the strategic management field until that point. Quinn had noticed that if one took a close look at organisations and their strategies, they only partially resembled the strategic processes expounded by the strategic management literature. Rather than the rational-analytic process detailed in theories, “[t]he full strategy is rarely written down in any one place. The processes used to arrive at the total strategy are typically fragmented, evolutionary, and largely intuitive” (Quinn, 1978: 7). From the perspective of previous, rational-analytical theory, this is an anathema, Quinn however noted that this fragmented behaviour was not limited to unsuccessful organizations, instead he found in an investigation carried out among 10 major companies that these companies also adopted this fragmented approach in practice and that it was an important factor in explaining their success (Quinn, 1978: 8). Quinn argues that rather than trying to develop one grand plan which encompasses all details of a strategy, and then rigorously executing the strategy; “[s]uccessful strategies tend to emerge from a series of “strategic subsystems,” each of which attacks a specific class of strategic issue ... in a disciplined way, but which is blended incrementally and opportunistically into a cohesive

pattern that becomes the company's strategy" (Quinn, 1978: 8). This style of incremental, decentralized strategy formulation and execution is what Quinn calls Logical Incrementalism, and it proved to be a radical move away from the status quo.

2.5 Conclusion

In the first chapter, the status of the Information Systems Theory literature was discussed and challenges to the legitimacy of the field were identified. These include; "the lack of first principles, the lack of a clear research agenda, the vast breadth of the area, the lack of a cumulative research tradition, reference indiscipline, and a trend toward divergent research" (Adam & Fitzgerald, 2000: 2).

Having reviewed the literature, some conclusions and interesting points arise. The first of these is the large number of theoretical fields represented in the Information System Outsourcing literature, simply the fact that ten different bodies of theory from three different categories are represented is significant, providing a wide range of perspective from which decision making can be conceptualised. Based on the number of reference disciplines which have been adopted by the Information System Outsourcing literature, bringing a large number of research areas to the Information System Outsourcing literature, the Information System Outsourcing literature can be described as being broad with research covering a wide range of topics relating to Information System Outsourcing. The different reference disciplines all offer researchers frameworks with which to study decision making in Information System Outsourcing, and in addition to this, they focus the attention of researchers to specific areas. Examples of this are the differences between the different research focus of studies adopting Agency Theory compared to that of strategic management theories. The Agency Theories lead researchers to study the relationship between actors within an outsourcing organisation and the outsourcing vendor, while strategic management theories focus on strategy formulation within an organisation.

In the introductory chapter, the history of Information Systems Theory was outlined and one of the defining characteristics of the Information Systems research literature is the manner in which it developed extremely quickly but in a dispersed, shallow manner. It appears that, like

the Information Systems research literature, the Information System Outsourcing literature is following a pattern of rapid development with little sustained focus on any one area of research. These conclusions on the state of the Information System Outsourcing literature point to a hypothesis that the Information System Outsourcing literature, like its parent literature of Information Systems Theory, can be characterised as being broad but shallow. In this case, there has been a wide range of perspectives on decision making adopted, both explicitly and implicitly. There appears to be a large and divergent range of understanding of decision making and the question which remains to be answered is whether or not the Information System Outsourcing literature has continued on to investigate decision making in detail. The breadth of the literature's conceptualisations of decision making has been demonstrated through the examination of the reference disciplines which have been adopted by researchers of Information System Outsourcing as identified by Dibbern *et al.* The breadth of the literature was determined by adopting Dibbern *et al.*'s categorisation of the reference disciplines and an evaluation of the reference disciplines. In order to evaluate the depth of the literature, a different approach will be required. The next chapter will develop the manner in which the depth of the Information System Outsourcing literature will be evaluated by developing the concept of Loose Coupling as a lens with which to examine Information System Outsourcing research.

3. Developing Loose Coupling as a lens

3.1 Introduction

This chapter will provide an introduction to Loose Coupling, starting by locating Loose Coupling in organisational theory and providing some background to the development and emergence of the theory. Next, the core principles of Loose Coupling will be presented and some examples of the way that Loose Coupling has been used will be discussed. Finally the strengths and criticisms of Loose Coupling will be explored and the manner in which Loose Coupling will be used in this thesis will be elaborated upon. The first two chapters have defined the purpose of the thesis; an evaluation of the Information System Outsourcing literature, as well as taking the first step in achieving this purpose. As a sub-literature of the broader Information Systems literature, it was speculated that the Information System Outsourcing literature could be in danger of following the Information System Theory in becoming a broad and shallow literature with regards to decision making. The previous chapter evaluated the impact of the large number of reference disciplines which have been adopted by the Information System Outsourcing literature, giving the literature a broad research focus, the first half of the danger faced by Information System Outsourcing research. The hypothesis which was raised in light of this evaluation of the breadth of the Information System Outsourcing literature was that, not only is the Information System Outsourcing literature broad, it is shallow in terms of its research into decision making in the process of outsourcing an information system. This chapter will begin the process of testing this hypothesis.

3.2 Organisational Theory

As the context around which this thesis is written is strategic decision making in organisations, it is important to understand the relationship between decision making theory and organisation theory. The two fields are closely related and there is an overlap between the content and areas of interest between the two fields. Decision theory, whilst primarily

studying the decision making of individuals, is usually applied in the context of organisations, and organisation theory, while interested in the design and functions of organisations, must be cognisant of the individual actors who make up organisations.

The field of decision theory contains several themes which have developed over the course of the field's history. Early decision theory focused primarily on normative studies ascribing how decision makers ought to act in a rational manner (Brunsson, 1982). This idea of rationality has been one of the core areas of debate in the field and decision-making is often described in terms of whether it measure up to the standards of rationality. Simon notes that “[s]ometimes the term rational (or logical) is applied to decision making that is consciously analytic, the term nonrational to decision making that is intuitive and judgemental, and the term irrational to decision making and behaviour that responds to the emotions or that deviates from action chosen “rationally”” (Simon, 1987: 57). Different positions concerning how rationality should be understood, and the level to which decision makers are capable to exhibiting rational behaviour, have come to define much of the decision theory field.

The original notion that decision makers make decisions based on rational processes came under severe criticism. There simply appeared to be no evidence to suggest that decision makers followed such rational decision processes. In response, theorists began exploring the notion of rationality, starting with bounded rationality which was introduced by Herbert Simon (Edwards, 1992) which states that “not all alternatives are known, that not all consequences are considered, and that not all preferences are evoked at the same time. Instead of considering all alternatives, decision makers typically appear to consider only a few and look at them sequentially rather than simultaneously” (March, 1994: 8-9). From this rejection of pure rationality in decision making, the idea that we use heuristics in decision making emerged. Heuristics are “short cuts that can produce efficient decisions” (Gigerenzer, 1991: 15). Other themes which have emerged in decision theory include theories of attention and search, and risk taking (March, 1994).

All of these themes from decision theory emerged as a result of investigating decision making in individuals, but these themes were also carried into the context of organisations. Theories about decision making in teams as well as the restriction that organisations place on decision makers are the result of considering the implications of our limited rationality in the context of organisations. Decision making in teams addresses the issues of interpersonal

inconsistencies in terms of preferences and identities (March, 1994). An example of the limitations of the environment in which decision making takes place in organisations is the garbage can model of decision making. In the model, the organisational activities that occupy decision makers impose temporal constraints on their decision making. The model describes decision making “[i]n an environment characterised by complex interactions among actors, solutions, problems, and choice opportunities” (March, 1994: 198). Decision theory is grounded in an understanding of how individuals make decisions, but decision making cannot be understood in isolation of the context in which the decisions are made, in this case in an organisational setting.

Organisation theory as a field investigates organisations; the manner in which they are structured by the interactions between the individuals in the organisation and the way they structure the actions of the individuals within them. Some of the chief interests of organisation theorists are questions relating to how individuals make sense of their work tasks in organisations, how organisational goals are set and by whom (Tsoukas & Knudsen, 2005). Organisation theory, whilst focussing on the corporate level of organisations, cannot be separated from an understanding of how the individuals in the organisation interact with each other and with the organisation.

This can be seen in Astley and Van de Ven’s classification of organisation theory (1983). Astley and Van de Ven classify organisation theory into four schools of thought, “system-structural, strategic choice, natural selection, and collective-action views of organisation” (1983: 245). In the strategic choice view of organisations, the design of organisations is seen to be a strategic decision which actors in an organisation can fashion according to a set of goals (Astley & Van de Ven, 1938; Child, 1997). This view of organisation focuses on the action of shaping the organisations structure by actors within the organisation and borrows from decision theory. According to Astley and Van de Ven; “the strategic choice view draws attention to individuals, their interactions, social constructions, autonomy, and choices...” (1983: 249).

Loose Coupling emerged from the field of organisational theory as a way of explaining what organisations are, and how and why they operate. The topic under investigation in organisational theory is, simply put; organising. How people come together and act in an organised way, most often thought of in terms of a business organisation. The *Oxford*

Handbook of Organization Theory is a meta-theoretical overview of the field of organisation theory, written in order to provide “a leading forum for leading scholars in organisation theory to engage in meta-theoretical reflection on the historical development, present state, and future prospects of Organisation Theory” (Tsoukas & Knudsen, 2005: 1). In the introduction to the book, a very brief history of organisation theory is provided, outlining the evolution of the field’s assumptions and topics of investigation over time. The changes occurred as a series of changes from rigid and limited assumptions to more realistic and complex assumptions (Tsoukas & Knudsen, 2005). These changing assumptions reflect a greater trend in the social sciences where a series of epistemological debates (Tsoukas & Knudsen, 2005: 4) changed the character of research in the social sciences, determining what should be counted as legitimate knowledge and how it should be developed. Clegg, Hardy & Lawrence also discuss these changes in organisation theory in the *Handbook of Organization Studies*, describing the changes as a shift from a functionalist approach to a more interpretive approach (2006).

The epistemological debates lead to different ideas of what organisations are and practices of organising. In the book *Images of Organisation*, Gareth Morgan uses eight metaphors to describe organisations in an effort to demonstrate the variety of organisational dynamics (Morgan, 2006). Each metaphor describes organisations in a certain way, identifying and describing characteristics of organisations. Examples include the metaphors of an organisation as an organism and organisations as brains. While the aim of the book is not to provide a timeline of the developments in organisation theory, Morgan’s metaphors do make it easier to follow the changes which occurred in organisation theory. Morgan places these metaphors in a roughly chronological order which parallels the epistemological debate in the social sciences and the impact that the debate has had on the theories in the social sciences. In this case, the metaphors reflect the development in the theory of organisations. The metaphors demonstrate approximately the trend where the assumptions about organisations relaxed and became more complex. The first three metaphors, the machine, organism and brain metaphors, are easy to separate from each other chronologically but the other five are not as easy to clearly distinguish with many overlaps and interdependencies between them, but the trend is discernible nevertheless. In the early metaphors, the assumptions about organisations are simpler than the later metaphors, being less complex and more general and abstract as the assumptions about organisations behind the metaphors are relaxed. Loose

Coupling can be placed within organisation theory in terms of these metaphors, helping to understand where Loose Coupling came from and differentiate it from the other organisational theories.

Decision theory and organisation theory are closely linked by fundamental issues which affect organisations and the interactions between individuals in organisations. Thinking about decision making solely in terms of individual decision makers denies the importance of the interaction of individuals, interactions which shape their identity and influence the manner in which they make decisions. Similarly, thinking about organisations without considering the individuals which comprise them ignores the impact of the social interactions that, over time, shape and define the organisation.

3.3 Loose Coupling

Loose Coupling is a notion within organisational theory, and this chapter will be using the insights of Loose Coupling within the domain of decision theory. More specifically, the location of Loose Coupling theory within the epistemological debates in the organisation theory field will be discussed as well as the nature in which Loose Coupling relates to strategic decision making as defined above.

3.3.1 Background

Loose Coupling, as part of organisation theory, is located within an epistemological debate, and arose primarily as a response to the manner in which organisations were understood by organisational theorists in the 1950's and 1960's. The view that Loose Coupling was reacting against was the understanding of organisations which followed from the work of Herbert Simon.

In terms of Morgan's metaphors, organisations were likened to brains which fragment, routinize, and bound the decision making process to make it manageable (Morgan, 2006). In Morgan's words "every aspect of organizational functioning depends on information

processing” (2006: 76). This view of organisations is known as the Information Processing view. The core ideas behind this view are that, in organisations; “[i]n order to interpret the external environment, coordinate activities, and handle problems that arise, participants attend meetings, send and receive reports, obtain knowledge of events relevant to performance, read printouts, make technical and administrative decisions, and perhaps disseminate instructions - all of which involve information processing in some form” (Daft & Macintosh, 1981: 207).

Loose Coupling is part of a different view of organisations, where, instead of the organisation impacting and shaping the actions of the individuals in the organisation; the individuals shape and create the organisation through their interactions. Morgan describes this view as the culture metaphor where “we must attempt to understand culture as an ongoing, proactive process of reality construction” (Morgan, 2006: 136). This view is known as the enactment view of organisations and was pioneered primarily by Karl Weick, who was not satisfied with the rational information processing approach which he felt did not resemble reality satisfactorily.

The first people to start writing about Loose Coupling were March and Olsen, (Weick, 1976), Glassman, Thompson, and Karl Weick (Orton & Weick, 1990). The first person to use the term Loose Coupling related to organisations was Karl Weick in his article “Educational Organisations as Loosely Coupled Systems” (1976). In this article, Weick described how educational organisations were loosely coupled and that elements in organisations were not “coupled through dense, tight linkages” (Weick 1976). This new theory of what an organisation is explained organisations in terms of the connections between elements, where before the focus lay on the elements themselves now the connections became salient. Weick wanted to solve the mystery behind the classic rational explanation of how people manage organisations. According to Weick “[t]he only problem with that portrait is that it is rare in nature. People in organizations, including educational organizations, find themselves hard pressed either to find actual instances of those rational practices or to find rationalized practices whose outcomes have been as beneficent as predicted, or to feel that those rational occasions explain much of what goes on within the organization. Parts of some organizations are heavily rationalized but many parts also prove intractable to analysis through rational assumptions” (Weick, 1976: 1).

This shift on focus to the connections between elements and their looseness was an important shift in thinking from what came before in organisation theory. Even the name ‘organisation theory’ leads one to understand that the theory is about how groups or elements are organised, how they are connected and structured and ordered, and not how they are detached and separated. Loose Coupling introduced these concepts to the organisation theory vocabulary as important principles in understanding how organisations are organised.

3.3.2 Core principles

Having seen the background from which Loose Coupling emerged in the previous section, this section will explain what exactly Loose Coupling is. Weick explains loosely coupled events as being responsive while each event preserves its own identity and a physical/logical separateness (Weick, 1976). Within this explanation can be found the essence of Loose Coupling which is comprised of two parts; coupling and looseness.

The events are coupled because they are responsive, changes in one lead to changes in the other. They are loose because the degree of the changes which occur due to the coupling is uncertain as is the mechanism whereby the changes in one event impact upon the other event. This dialectic approach is key to Loose Coupling, combining the thesis of “coupling” with its antithesis “looseness”, but it can be misleading. Surely to say that something is coupled means that it is connected, we must surely have some knowledge about these connections. On the other hand, if they are connected how can we say that they are loose and that the relationship is ambiguous? This is the tension which emerges from the core concepts of Loose Coupling and the question which arises is whether or not it presents a contradiction. If the term looseness means total disconnection then there is indeed a troubling paradox inherent in Loose Coupling. Looseness however does not mean total disconnection; it does not signify the absence of a connection but rather comments on the nature of the connection. A “loose” connection is much like a reflection in a pond which has ripples on its surface, there is a relationship between the reflection and that which it reflects, but the image is distorted. It is not immediately clear which parts of the reflection are connected to the original and which parts have been changed by the moving water. The movements in the

reflection do not necessarily portray actual movements by the original, and movements made by the original are not smoothly represented in the reflections movements.

The other side of the potential paradox arises from the meaning of the term “coupling”. If the term is understood to mean a connection in the same fashion as the connection between two gears in a mechanical device which interact in a precise, repeated and predictable manner, then it makes no sense to talk of “loose” coupling. This assumption of a tight, regular connection where causation is easy to trace and effects are easy to predict is not, however, an essential requirement for the concept of coupling. It is conceivable that there are relationships which are coupled even though the exact nature of the coupling is not clear. One example of this is the weather. There are many variables which determine the weather which are related to each other, but we do not understand the exact nature of these relationships, and it would not be possible to understand them precisely. Coupling then is not necessarily tight and this means that it could be loose, hence the term “Loose Coupling”. The tightness or looseness of the coupling relationship can be understood to be a range, from tight to loose and Loose Coupling theory can be applied to relationships all along this range.

The definition of Loose Coupling offered above has been deliberately abstract and ambiguous. This follows the original intent of Karl Weick in using the concept of Loose Coupling as what Beekun and Glick call a literary metaphor (Beekun & Glick, 2001). Left intentionally ambiguous in order that it can be applied to a large range of scenarios and generate rich, context specific insights. Another approach is that taken by Beekun and Glick who argue that “[t]he resultant paradoxical nature of “loosely coupled” organizations makes imperative the development of novel, yet less ambiguous definitions of loose coupling” (Beekun & Glick, 2001: 228). Their intention is to develop a multidimensional model of Loose Coupling and use network analysis to mathematically apply the theory in order to gather empirical results. They claim that “a more formal explication of loose coupling based on the mathematical foundation of network analysis will facilitate the advancement of this concept beyond a literary metaphor” (Beekun and Glick, 2001: 228).

Constitutive and operational definitions for a multidimensional framework of Loose Coupling:

Coupling Components	Constitutive Definition	Operational Definition Based on Network Analysis
Coupling elements	"Anythings that may be tied together" (Weick, 1976, p. 5).	Any actor, <i>i</i> , who sends or initiates a relationship, <i>z</i> , to another actor, <i>j</i> . This relationship is then symbolized as the relation, z_{ij} .
Coupling domains	The content area of the relationship between coupling elements, e.g., communication, workflow, resource exchange, etc.	The content of network relations such as communication and authority. A network contains at least one content, but may contain any number of defined contents.
Coupling dimensions:	The quality of the interaction among coupling elements.	
• Strength	Characterized by several subdimensions that capture a different subdimension of coupling uniquely, e.g., frequency and intensity of interaction.	Each relationship is characterized by the relative strength of the network linkage. Thus, z_{ijk} can represent the frequency with which person <i>i</i> seeks technical advice (<i>k</i>) from person <i>j</i> .
• Directness	The number of linkages between any two actors.	Assesses the minimum of steps between actor <i>i</i> and actor <i>j</i> in domain <i>k</i> .
• Consistency	The diversity of the reactions of coupling elements to similar external stimuli. The more consistently two actors interact, the more tightly coupled they are.	Consistency is high when relationships in any domain, <i>k</i> , are not substitutable for, or confused with, relationships with any other domain, <i>h</i> .
• Dependence	The relative magnitude of an exchange and the lack of substitutes for the exchange among coupling elements (Pfeffer & Salancik, 1978)	Overall dependence is a multiplicative function of the relative magnitude of an exchange (as a proportion of inputs and outputs in the exchange), and of the degree to which actor <i>i</i> lacks substitutes for actor <i>j</i> 's inputs and/or outputs.
Coupling mechanisms:	The practices or processes that enable elements to function together.	
• Differentiation	The heterogeneity of actors' positions in the workflow and task-related communication patterns.	Similarity of patterns of interaction between organizational members and external constituencies.
• Integration	The process of coordinating the efforts of organizational actors towards a unified goal.	The degree to which organizational members are directly coupled to each other through strong ties in multiple domains.

Figure 3.1 (Beekun & Glick, 2001)

The dimensions which Beekun and Glick identify as being components of Loose Coupling are the elements which are coupled, the domain in which they are coupled, the dimensions of the coupling relationship, and the mechanisms through which elements are able to function together (Beekun & Glick, 2001).

Figure 3.1 is the framework developed by Beekun and Glick where Loose Coupling is broken down into components which can be measured empirically. This is a helpful framework which makes it easier to understand how Loose Coupling could be applied in an organisation by breaking it down into its components. There is however a downside to this approach, which is the restrictive impact of the components identified by Beekun and Glick which will frame what researchers are able to observe in an organisation. There is thus a trade-off between ease of empirical investigation and richness of the results of the investigation, formalising the theory into a mathematical model leads to more generalizable results but maintaining a more qualitative approach leads to richer understanding of specific contexts. This trade-off mirrors the epistemological debate which is present in organisation theory as discussed above, and demonstrates one reaction to the debate. In this case, the theory which was originally devised as a reaction against quantitative, empirical research has been adapted and used in a manner different to the intentions of the original theorists.

Whether it is used in qualitative or mathematical quantitative research, the core principle of investigating the nature of the relationship between elements remains fundamental to Loose Coupling.

3.3.3 Past Applications of Loose Coupling

Loose Coupling is a theory which has been used in a variety of different research areas, and has often been poorly understood and applied inappropriately. Part of the reason for this stems from the manner in which Loose Coupling was explained by those who developed the theory. As mentioned above, the original theorists who developed Loose Coupling left descriptions of it to be vague, leaving those who would use the theory to try and understand how it ought to be applied to their research area. Unfortunately, not all the researchers were able to continue the development of the core aspects of the theory and there have been few works which have offered ideas as to how this could be done. There have been some

documents written which approximate reviews of the Loose Coupling literature but, as Weick points out, as “few of these works are widely available, organizational researchers have had to construct idiosyncratic interpretations of the concept, its general propositions, and its operationalizations” (Orton & Weick, 1990: 205).

The implication of this is that Loose Coupling has often been conceptualised somewhat simplistically and studies of organisations using Loose Coupling appear extremely similar in the way that Loose Coupling is used. In most studies which use Loose Coupling theory, the structure of an organisation is the focus. Using Loose Coupling to understand how the relationship between different structures or units within or across organisations appears to be the primary use to which Loose Coupling has been put.

One area of research which has made extensive use of Loose Coupling theory is in the field of education (Weick, 1976, 1982; Young, 2006; Lutz, 1982; Rowan, 2002; Boyd & Crowson, 2002). The vast majority of this research in education has focused on the manner on which different elements in the education sector interact with each other, in a loose or tight manner, and what the effects of this are for the performance of the education system. While this research has not necessarily made inappropriate use of Loose Coupling theory, there is a far greater range of ways that Loose Coupling theory can be used beyond examining the structural characteristics of organisations.

There are different elements whose relationships can be examined, beyond the different organisational units, Orton and Weick identify eight different levels or types of Loose Coupling, only some of which relate to components of an organisations structure. These types are; individuals, subunits, organisations, hierarchical levels, organisations and environments, activities, ideas, and intentions and actions (Orton & Weick, 1990). Of these types; activities, ideas, and intentions and actions do not relate to organisational structure, they represent the location of relationships which could lie within single individuals or across groups. This is not to say that there is no use of these three types, but their use has been far less and has decreased in time.

3.3.4 Strengths and criticisms

Loose Coupling has relaxed the organisational and decision-making theory assumptions about actors and organisations, away from the older, pure rationality models. This means that the theory has moved closer to reality in terms of its ability to explain things. The theory is more complex and is therefore more closely represents reality. Provided that this complexity is not lost through poor interpretations of the theory when applied to specific contexts, Loose Coupling offers a realistic, rich frame with which to study organisations. By focusing on the nature of the relationships between elements without making normative propositions about them, Loose Coupling allows for a range of relationships to be studied, from more to less loosely coupled elements. This allows for relationships to be studied and described without limiting the investigation to searching for what is right or wrong about the relationship. What this means is that, when studying organisations; the study is more likely to be descriptive and represent reality more closely instead of describing what the reality ought to resemble. In addition, the large number of relational types which Loose Coupling explains provides a flexible theory which can offer insights for many different research contexts.

3.3.5 Intended Application of Loose Coupling

The intention for this chapter has been to explain the manner in which Loose Coupling will be used to evaluate the Information System Outsourcing research. The development of Loose Coupling from organisation theory has been discussed and its core principles and uses have been outlined. This section will discuss how Loose Coupling is visible in common issues seen in the strategy literature and then narrow this down to the specific instance of Information System Outsourcing.

3.3.5.1 Loose Coupling as a strategic issue

Within the strategic management literature, there are some key themes which have shaped the development of the field. One of these is the ongoing debate about the nature of strategic planning and strategy formulation (de Wit & Meyer, 1999). The debate has focussed around

two poles of opinion, which Mintzberg and Waters (1985) name deliberate and emergent strategy respectively. To those who hold the deliberate strategy view, a strategy is a set of intentions which are held by all actors in an organisation which are realized exactly as they were intended to be (Mintzberg & Walters 1985). In other words, a plan of action, which is affirmed by everyone in an organisation, is carried out exactly as planned. Conversely, the emergent strategy view holds that “an organisation may suffer from such a high rate of change of events and unpredictability and problems that it may not be helpful to have elaborately developed goals and processes” (Eden & Ackerman, 2004: 7). The difference between the two different views of strategy lies in the gap between the intended strategy of an organisation and its realised strategy. This can be seen visually in figure 3.2 below.

Types of Strategies

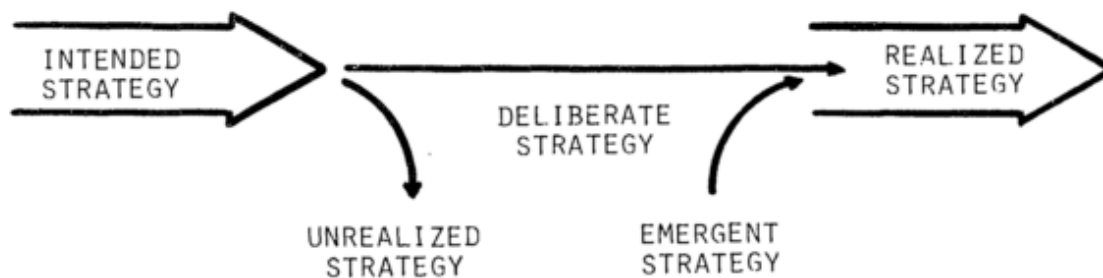


Figure 3.2 (Mintzberg & Walters, 1985: 258)

This debate can be viewed through a Loose Coupling lens. Adopting the core principles discussed above, figure 3.2 can be redrawn as shown in figure 3.3 below. What figure 3.3 represents is the coupled relationship between the intended strategy of an organisation and its realised strategy. According to the principles of Loose Coupling, this coupled relationship could be more or less tightly coupled. A more tightly coupled relationship would resemble the deliberate strategy while a more loosely coupled relationship would resemble the emergent strategy perspective more closely.

The strategy literature has identified increasing rates of change as a reason for increased looseness in the relationship between the intended strategy and the realised strategy (Boisot, 2003; Eden & Ackerman, 2004). Boisot argues that the greater the impact of increasing rates of change, strategists have four basic types of response; strategic planning, emergent strategy, intrapreneurship, and strategic intent (2003: 38). These responses represent a series ranging from more to less tightly coupled views of strategy.

Loosely Coupled Strategy

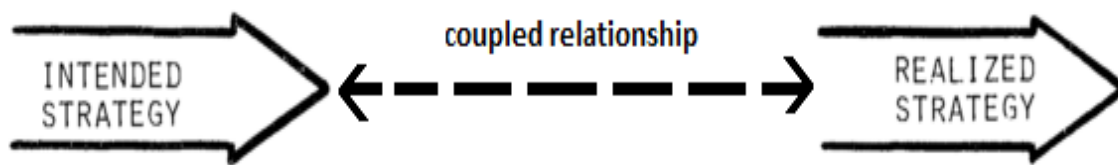


Figure 3.3

In addition to its ability to line up with the existing issues in the strategic literature, Loose Coupling has the potential to expand upon them and open them up with greater detail and nuance. In figure 3.3, Loose Coupling was used to describe the potential effects of an increasing rate of change for organisational strategy, ranging from looser to more tightly coupled strategy approaches in very general terms. This can be narrowed down to specific instances of strategic decisions, in the context of this thesis, the instance of a decision to outsource an information system. The intended plan for the outsourcing of the information system and the realised strategy could potentially be loosely coupled due to changes both within and external to an organisation.

These changes, both internal and external, can also be further explained using Loose Coupling as a lens. The different types of Loose Coupling proposed by Orton and Weick (1990) are different locations in which change could take place. These locations are; individuals, subunits, organisations, hierarchical levels, organisations and environments, activities, ideas, and intentions and actions (Orton & Weick, 1990). These different levels serve to unpack the changes, opening up the possibility of a deeper understanding of the

sources of Loose Coupling between intended strategy and the realised strategy organisations experience, providing a set of criteria which can be tested.

3.4 Conclusion

In the first chapter, it was argued that Information System Outsourcing is an important strategic decision, with consequences for the success of an organisation. Information systems have become pervasive in organisations and are necessary for many critical organisational processes. Some argue that the widespread adoption of information systems provides little competitive advantage (Carr 2003) but information systems are undeniably a necessary part of organisations in the knowledge economy. For this reason, the outsourcing of such an important part of an organisation can be understood to be a strategic issue for organisations due to the consequences of both success and failure to outsource an information system.

It was also argued that, for various reasons including the youth of the research and the heavy reliance on reference disciplines, the existing research relating to the strategic decision of Information System Outsourcing faces the danger of developing into a broad, but shallow body of literature.

The second chapter evaluated the reference disciplines adopted by the Information System Outsourcing researchers in order to determine the breadth of their research into the decision making elements of the outsourcing process. It was found that the large number of reference disciplines provides the Information System Outsourcing research body with a broad area of study, with a large variety of research traditions and methodological influences. The criticism that the Information System Outsourcing research is broad and shallow was answered in part; the large number of reference disciplines implying a greatly varied understanding of decision making processes. This left the second part of the criticism regarding the depth of the research to be investigated.

In this chapter it has been shown that Loose Coupling can be used as a lens, helping to understand why there is often a difference between what is desired from a strategy, and what actually results in reality. This difference lies in the changes which occur in organisations and Loose Coupling offers a set of locations in which change occurs and where relationships can

become loosely coupled. In the next chapter, the Loose Coupling lens will be applied to the Information System Outsourcing literature by developing a framework. This framework will be used to test the claim that Information System Outsourcing research, in addition to being broad, is shallow in its understanding of decision making in the Information System Outsourcing process.

4. Building the Framework

4.1 Introduction

In the second chapter the reference disciplines adopted by the Information System Outsourcing literature were investigated. It was hypothesised that, similarly to the Information Systems literature in general, the Information System Outsourcing literature is a multidisciplinary yet largely shallow body of literature, more specifically in relation to the topic of decision making in Information System Outsourcing. In the third chapter, the theory of Loose Coupling was introduced and explained in some detail. This chapter seeks to bring the issues identified in the second chapter and the insights offered by the theory of Loose Coupling together in the context of strategic decision making about Information System Outsourcing. In the introduction to the thesis it was stated that a decision making perspective would be adopted and the Information System Outsourcing literature would be analysed as a strategic decision. A model of Information System Outsourcing as a strategic decision will be developed and after this; the types of loose coupling discussed in the previous chapter will be introduced to the model to develop it into a tool with which to analyse a selection of the Information System Outsourcing literature. The outcome of such an analysis will be a better understanding of the depth of understanding of decision making in the Information System Outsourcing literature.

4.2 Information System Outsourcing as Strategic Decision

4.2.1 Introducing a decision-making perspective

If the intention is to use loose coupling theory to assess the Information Systems Outsourcing literature, where does strategic decision making fit in? How do loose coupling, a part of organisation theory, and strategic decision making relate to one another and how will they

interact in the rest of this thesis? In the introduction to the thesis it was stated that the context in which Information Systems Outsourcing would be studied is as a strategic decision making process, but what is the difference between decision-making and strategic decision-making?

Strategic Decision Making has been defined as a specific commitment to action which has consequences for an organisation (Mintzberg *et al* in Pinfield, 1986). This definition is a helpful starting point to understanding the distinction between decision making and strategic decision making, however it is important to recognise that it is located within a certain epistemological era within decision theory.

Defining a decision as a specific commitment to action reflects the epistemological stance taken by Mintzberg *et al*, one which can be placed in context of the epistemological debates which have taken place in Organisation Theory and Decision Theory. The implication of this is that it is not necessarily a definition of what constitutes a decision which would be accepted by decision theorists today. Despite this, the definition does contain something which is helpful despite the epistemological underpinning of the definition; the idea that a decision, whatever that means, which impacts the organisation as a whole, can be considered to be a strategic decision. It could be argued that, most if not every decision made in an organisation has some consequence for the organisation, does this imply then that all decisions in organisations are strategic decisions? The answer is surely, no. A better definition for a strategic decision could be a decision which in itself has significant consequences for the performance of the organisation.

The changes included in the definition the points that the decision must have consequences for the organisation which will have a significant impact on the performance of the organisation, excluding instances where a large number of decisions together have consequences for organisations with no single decision standing out as being more consequential than the rest. Mintzberg *et al* simply refer to a 'strategic' decision as one which is "important, in terms of the actions taken, the resources committed, or the precedents set" (1976: 246). This view is expanded upon by Nutt who takes 'strategic' decisions to be "crucial but infrequent decisions made by top managers to select a core business that offers competitive advantage" (2008: 429).

The aim for this section is to introduce a decision-making perspective to Information Systems Outsourcing. This thesis has the overarching theme of strategic decision-making in mind,

relating this to Information Systems Outsourcing in order to improve the current understanding about the influence of Information Systems Outsourcing on strategic decision-making in large organisations. In order to do this, the Information Systems Outsourcing process will be viewed as being a decision. What this means is that the Information Systems Outsourcing phenomenon will be viewed as a decision process consisting of five stages, the decision process model being based on that developed by Herbert Simon.

Dibbern *et al* modified Simon’s original decision model in order to “develop a framework that parallels the decision making process that an organisation supposedly goes through when evaluating its sourcing options and subsequent outcomes” (2004: 15). Dibbern *et al*’s modified framework is shown in figure 4.1. The five stages of the framework shown in figure 4.1 will be used to understand Information Systems Outsourcing in terms of a decision process.

Stage Model of Information System Outsourcing:

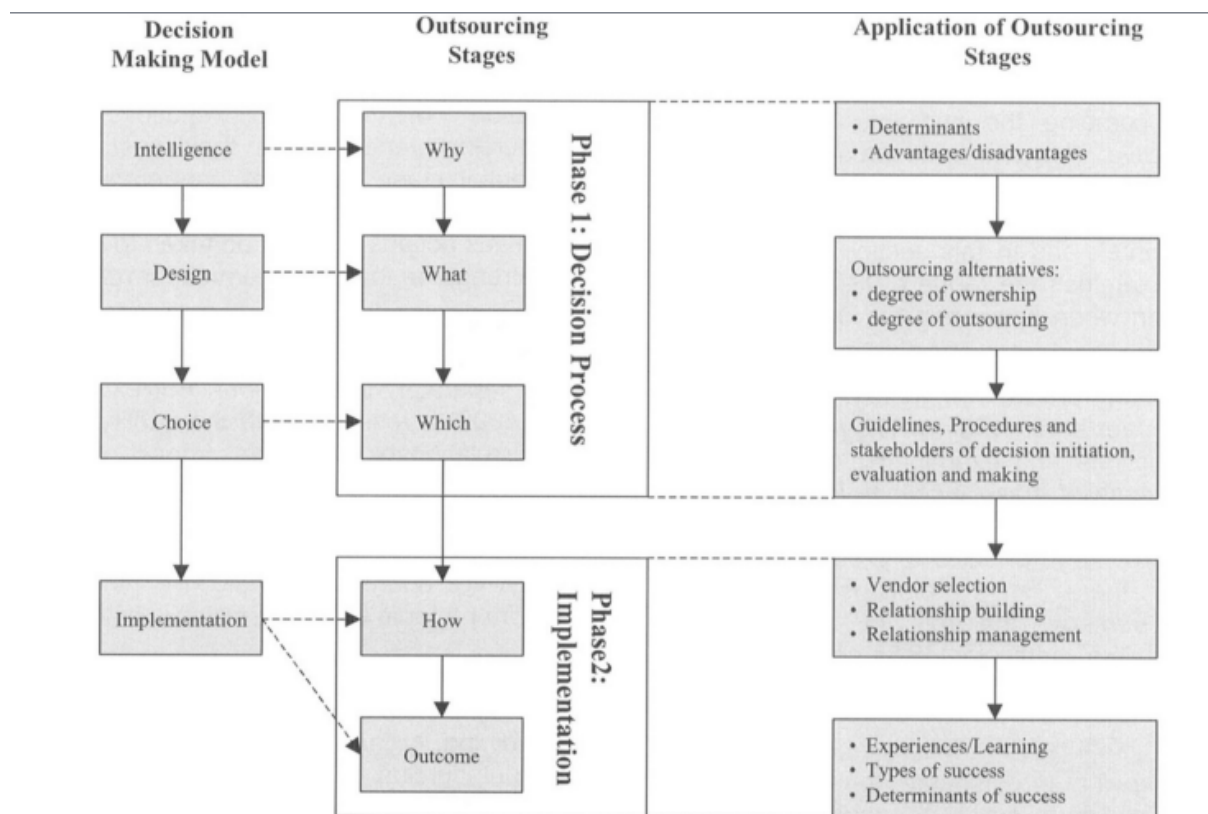


Figure 1. Stage model of IS outsourcing

Figure 4.1 (Dibbern *et al*, 2004)

In order to demonstrate how the decision process framework can be applied to Information Systems Outsourcing, the idea behind figure 4.1 will be portrayed somewhat differently starting with figure 4.2. The type of diagram takes a systems theory approach to representing a system, in this case the Information Systems Outsourcing research, by distinguishing its boundaries. Information Systems Outsourcing research is a large and still growing body of knowledge, figure 4.2 represents this visually.

The relationship between Information System Outsourcing and Information System Theory

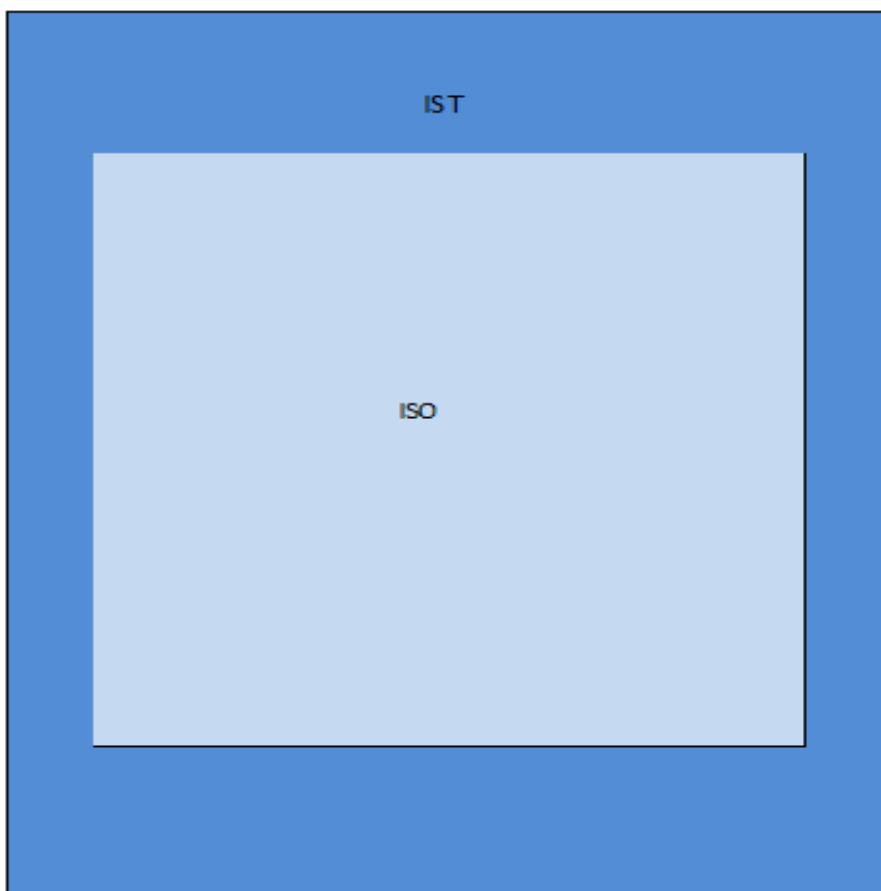


Figure 4.2

Information Systems Outsourcing, as shown in figure 4.2, is a single entity with little to no delineation other than the separation from the larger Information Systems Theory field. Shifting the focus from the boundaries which define the Information Systems Outsourcing

research to the stages of the decision process model taken from Dibbern *et al* leads to the addition of the columns in figure 4.3. This represents the Information Systems Outsourcing research in terms of a decision-making perspective where the outsourcing of an information system is conceptualised as a decision which is understood to consist of five different stages.

Decision Stages:

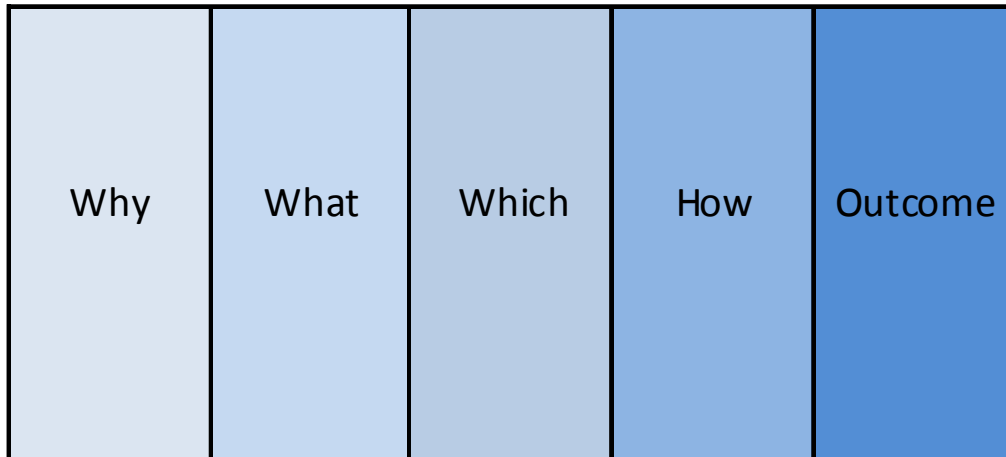


Figure 4.3

At this point it is worth discussing the different stages represented in Figure 4.3. Dibben *et al*'s modification of Simon's decision model makes a few changes to the original, shown in figure 4.1. At first glance it appears a complete reworking of the ideas of Simon. Upon closer inspection, however, it is apparent that the core of the model has remained. The primary changes which have been made are the addition of an extra step in the process as well as the separation of the model into two stages, the decision process stage and the implementation stage. The model is presented as a set of questions which a decision maker might ask during the decision process of outsourcing IS functions.

The first step in figure 4.3 is the question of "why?" What this refers to is the reasons an organisation considers outsourcing its Information Systems functions, what conditions led the organisation to consider it and what were the pro's and cons'? The second question is what Information Systems function/s to outsource, which assumes that there must be more than one option. The third question is which choice to make from the different options for what could be outsourced. The fourth question considers implementation issues in order to execute

the choice made in the previous step. The fifth question evaluates the result of the outsourcing choice.

So far, the Stage Model of Decision Making in Information System Outsourcing has been briefly explained and applied to the Information System Outsourcing literature, but it is worth asking, how do Dibbern *et al* connect the process of outsourcing an Information System to the stage model of decision making? It is worth exploring this connection for two reasons, firstly to expand upon the scope of decision making in Information System Outsourcing as well as explore in some more detail the manner in which organisations shifted from developing Information Systems internally to outsourcing their development and maintenance to other organisations. In order to develop a better understanding of the scope of decision making in Information System Outsourcing and to explore the movement of large organisations from internal development to outsourcing, this section will trace the chronological developments from Information System development to Information System Outsourcing as well as the decision making elements of both development and outsourcing.

The Waterfall Model of Information System Development:

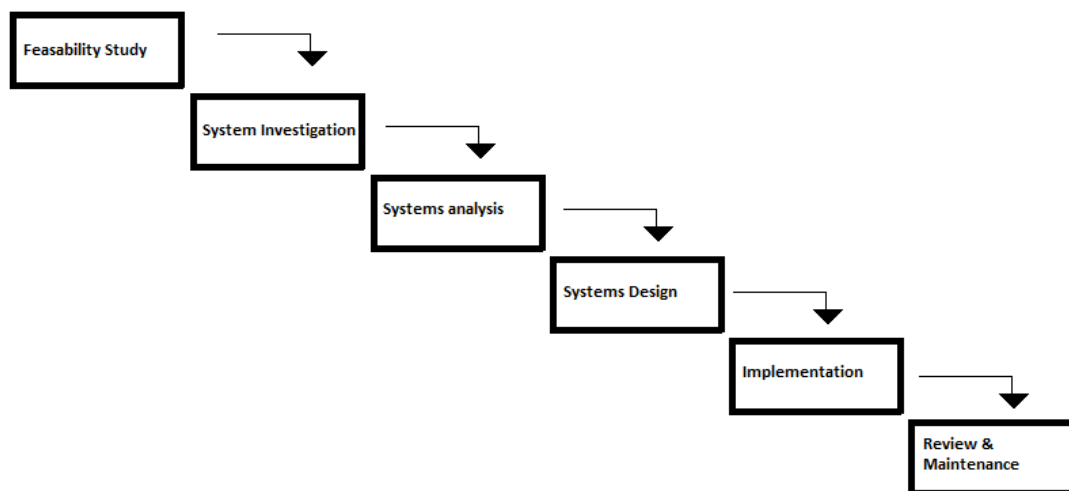


Figure 4.4

Starting with Information System development, figure 4.4 shows the Waterfall model of Information System development. Sawyer defines the System Development Life Cycle (SDLC) or Waterfall model as “a stage model outlining the steps in software development” (2001:98). In figure 4.4 above, these stages are shown in a series of cascading steps each step

flowing into the next in a linear way. This linear series of cascading steps is why the SDLC is often referred to as the Waterfall model. Sawyer identifies two important implicit assumptions which underlie the model; firstly that the development of the Information System takes place within one organisation and secondly that it is focussed on building and not buying the software (2001: 99). If these conditions are satisfied then the development of an Information System can take place in the series of steps shown in figure 4.4. Avison and Fitzgerald provide a neat summary of the six steps in the SDLC. The steps in order are; a feasibility study, system investigation, systems analysis, systems design, implementation, and review and maintenance (Avison & Fitzgerald, 2008: 31).

Avison and Fitzgerald explain that the first step, the feasibility study “looks at the present system, the requirements that it was intended to meet, the problems in meeting these requirements, new requirements that have come to light since it was first implemented, and briefly investigates alternative solutions” (2008: 31). The second step is a systems investigation; a “detailed fact finding phase” where a “thorough investigation of the application area” is carried out (2008: 32). Once the facts have been obtained regarding the requirements and constraints of the system have been gathered, the third step is to “understand all aspects of the present system and why it developed as it did, and eventually indicate how things might be improved by any new system” in order to develop an idea of what the design for a new system would entail (2008: 33). These first three stages primarily involve analysis in order to understand the old system (if indeed there was already a system in place) as well as what the new system would be required to do based on the organisation’s needs. The next two steps move away from analysis to beginning the work of actually developing the system.

The fourth step, systems design, is the “design of both the computer and manual parts of the system” (Avison & Fitzgerald, 2008: 33). The result of this step is documentation which specifies data inputs, system outputs, processes which convert the inputs into outputs, the structure of the computer and manual files, security and backup plans, and testing and implementation plans (2008: 33). The next step, implementation, involves the creation of the system as specified in the systems design step. This involves writing computer programs, purchasing and installing any new hardware, testing the new system, training the systems users and finally going live with the system (2008: 34). The end result of the fifth step should be an operational system. The sixth and final step returns once again to analysis. In the

review and maintenance step there will be a review “to ensure that it does conform to the requirements set out at the feasibility study stage” (2008: 34). Where errors or inadequacies are found, these will be corrected. In addition, regular maintenance forms part of this phase.

The Waterfall model and Simon’s Stage Model of Decision Making:

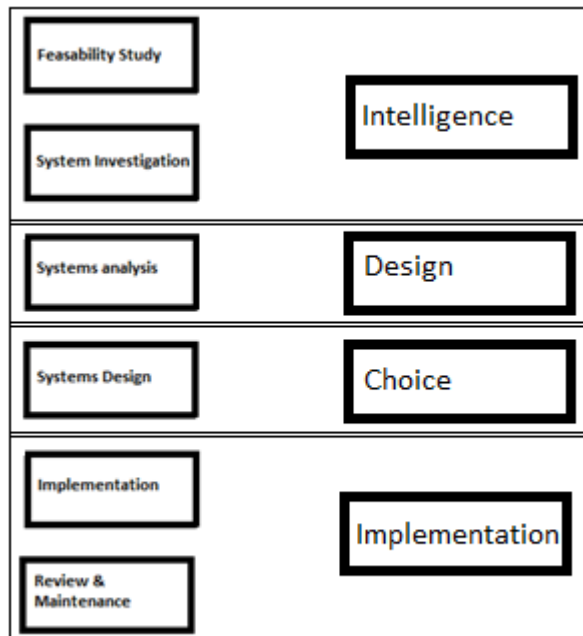


Figure 4.5

The six steps in the Waterfall model can be viewed from a decision making perspective in order to understand the scope of decision making in the development of an Information System. The decisions which are made in the different steps shadow the steps of the stage decision model. Figure 4.5 shows the steps in the Waterfall model alongside the four stages of Simon’s stage model of decision making. The feasibility study and the system investigation could be grouped in the Intelligence stage of decision making; in this case asking if there is need for a new Information System, initially with a feasibility study and then in more detail with the systems investigation. The systems analysis corresponds to the Design stage, making suggestions about what could be done to remedy the needs identified in the Intelligence stage through the development of a new Information System. The system design step corresponds to the Choice stage, where a selection is made about what will be done from among the options developed in the Design stage. The Implementation, and review and maintenance steps relate to the Implementation stage, where the design which was

selected in the previous step is executed and the results of the execution are evaluated and necessary amendments are made.

So far, decision making in Information System development has been explored and the Waterfall model has been compared to the Stage Model of decision making developed by Simon. At each step in the development of an Information System, there is an element of decision making. However, there came a point in the history of Information System development, that another option became feasible in the second step where potential solutions are sought to meet the needs of an organisation when its current (or non-existent) Information System proves to be inadequate. In addition to considering building a new Information System, the possibility that another organisation could develop the system and then implement it became viable in large organisations. Initially, large organisations developed their own Information Systems in a similar approach to the Waterfall method, if not always following the model especially closely. The Waterfall model's approach to Information System development is not without its drawbacks however, it "works reasonably well in stable problem domains where product development consists mainly of adding incremental changes to an existing core of functionality" (Cusumano & Smith, 1997: 2) but it "is not a good framework to control the development process for products that have so much new content or so many uncertainties to resolve that changes in the design are inevitable and often desirable" (Cusumano & Smith, 1997: 3). This has two implications for Information System development; firstly the strict linear steps in the Waterfall model were re-evaluated and adapted to be more flexible, and secondly a process of specialisation started where "increasing specialization of software producers (developers and vendors) as distinct from software consuming organisations" led organisations to reduce the development which was conducted in-house and located the development in these specialised organisations (Sawyer, 2001: 97).

In the first chapter, the conditions in which Information System Outsourcing became viable were outlined by drawing on the work of Castells and Friedman. The existence of these conditions which enabled the outsourcing of Information Systems also led to the Waterfall model of Information System development becoming decreasingly suitable in large organisations. The rapid change which takes place in organisations does not allow for the linear nature internal Information System development, and the Waterfall model saw decreasing use. Despite this, the development of Information Systems continues. The

difference is that the location of the development of an organisation's Information System can be situated outside of the organisation in a specialised organisation. This raises the question, what happens now to the nature of the decision processes involved with the acquisition (rather than internal development) of a new Information System? This relationship is what is shown visually in figure 4.1.

The Waterfall Model, Simon's Decision Stage Model and Dibbern *et al*'s Decision Stage Model of Information System Outsourcing:

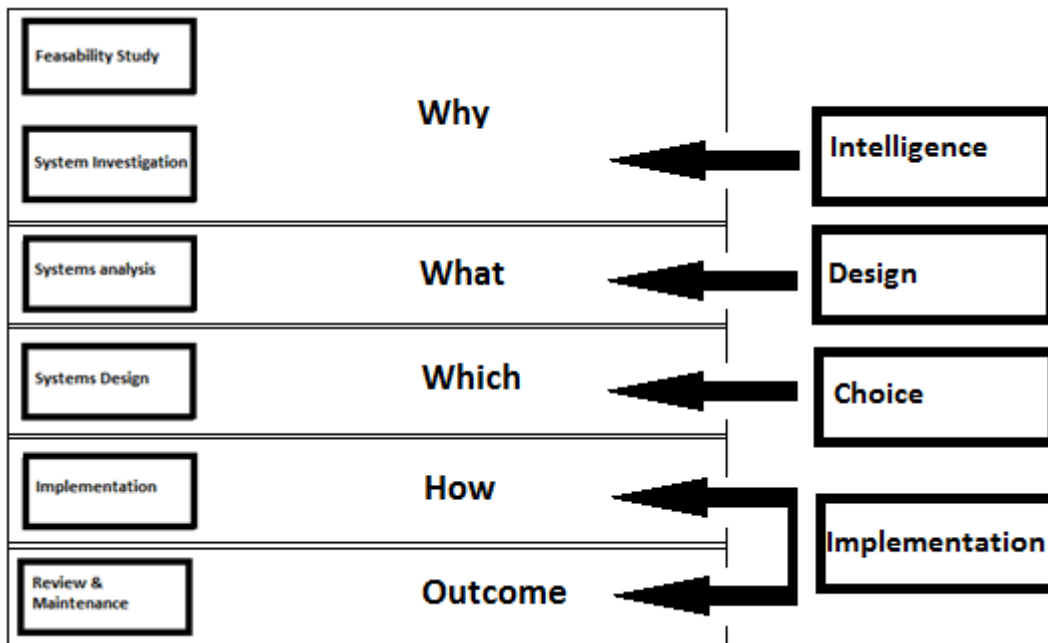


Figure 4.6

Figure 4.6 brings together the Information System development process of the Waterfall model, Simon's stage model of decision making, and Dibbern *et al*'s stage model of decision making in Information System Outsourcing. What can be seen in figure 4.6 is the overlap between the decision elements in the development of an Information System and when an Information System is outsourced for developed. The scope in which decision making occurs extends from the process of determining whether or not an Information System should be built or purchased right through to the issues surrounding maintenance post implementation. The Waterfall model is helpful in understanding what needs to be done when building an Information System, the different steps do not cease to exist when the Information System is bought or outsourced rather than developed internally. Rather, some or all of the steps are moved beyond the borders of the organisation. This spreads the decision making process to

beyond the boundary of one organisation, between the outsourcing organisation and the vendors and consultants that carry out some of the steps in the development of the Information System. This spread of decision making to various decision makers inside and outside the outsourcing organisation across the different steps of the development of an Information System is represented visually in figure 4.7 below. The six by two matrix demonstrates the different locations of decision making organisationally as well as indicating what the subject of the decision based on the steps of the Waterfall model.

Locating Decision Making in Information System Outsourcing

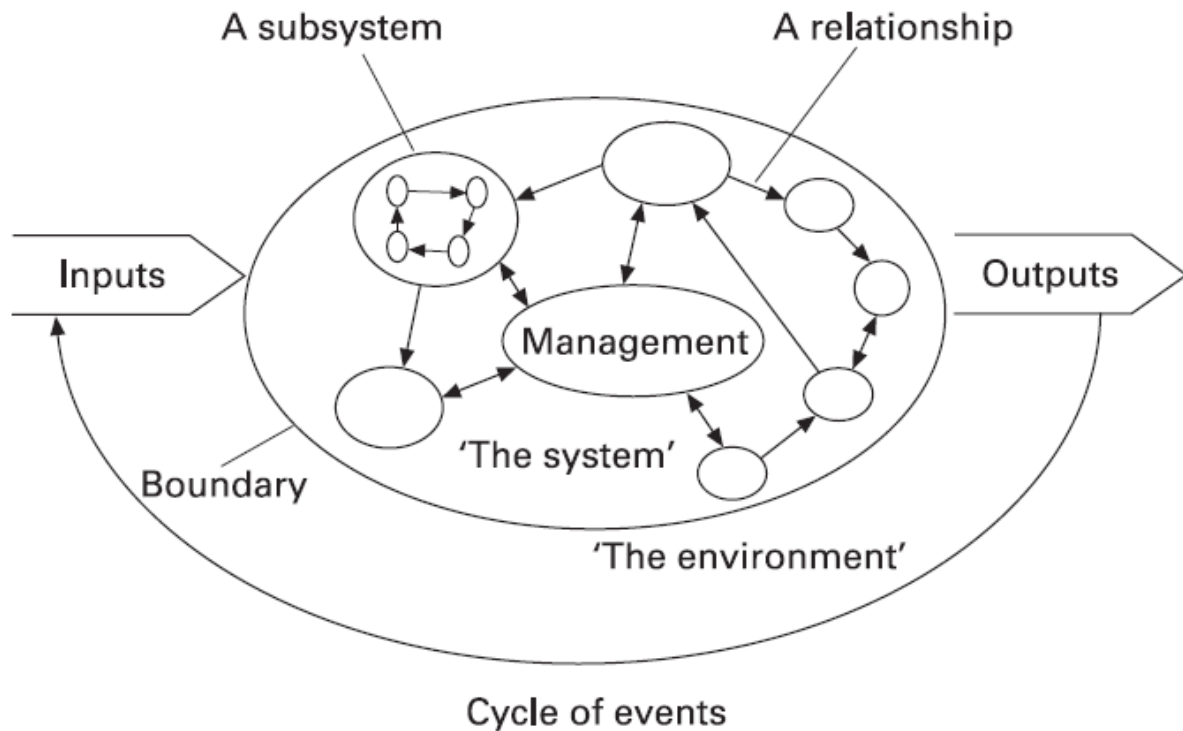
	Internal Decision maker	External Decision Maker
Feasability study		
System investigation		
Systems analysis		
System design		
Implementation		
Review & Maintenance		

Figure 4.7

So far Simon's decision process model, as adopted and modified by Dibbern *et al* has been used to represent the Information System Outsourcing literature as a decision process. This was further explored by showing the connection between the different stages of decision making in Information System development and outsourcing. In addition to the stage model of decision making, a systems theory perspective was also adopted in order to help explain the different stages in within an Information System Outsourcing decision. This has entailed the assumptions that, firstly; it is useful to make use of a system's theory perspective to represent an Information System Outsourcing decision, and secondly; that the decision process model is a helpful lens through which to view an Information System Outsourcing decision. These assumptions require some support and need to be explored and unpacked further.

4.2.2 Insights from Systems Thinking

Systems thinking has been around since the classical Greek philosophers such as Plato and Aristotle's holistic ideas about the body and the state (Jackson: 2003). Aristotle's notion of "the whole being more than its parts" (Von Bertalanffy, 1972: 410) is the origin of what has come to be known as holism. Aristotle's idea of a holistic approach to studying organisms was abandoned during what came to be known as the enlightenment, and was replaced by reductionist thinking (Von Bertalanffy, 1972). Reductionism formed the basis of modern science; "to resolve and reduce complex phenomena into elementary parts and processes (Von Bertalanffy, 1972, 409). These philosophic ideas were carried across into scientific study, most noticeably in the field of biology. The study of organisms did not escape the enlightenment principles of scientific study and the study of organisms was conducted in a reductionist fashion until the re-introduction of holistic thinking in the twentieth century (Von Bertalanffy, 1972). Von Bertalanffy, a practicing biologist, sought to better understand the manner in which organisms as wholes or systems interact with an environment comprised of other systems, from this interaction Von Bertalanffy developed open systems theory as a general systems theory (Jackson, 2003). In figure 4.8 (Jackson, 2003: 6) below, some of the key ideas of open systems theory are illustrated such as boundaries, relationships between subsystems and between systems.

The Biological System model:**Figure 4.8 (Jackson, 2003: 6)**

From its roots in philosophy and the study of organisms, systems thinking spread into other disciplines in the twentieth century. During the First and Second World War's; systems thinking was used in the automation of firing systems on battleships, and after the Second World War, "a systems approach to solving complex problems and managing complex systems came into vogue among engineers, scientists and managers" (Hughes & Hughes, 2000: 1). The principles of systems thinking were being adopted from biology into other field of study, the management of organisations as a good example. Reconceptualising organisations as organisms instead of as machines led managers to a whole new understanding of what managing an organisation entails.

According to Gareth Morgan; "...this way of thinking [systems thinking] has helped us recognize how everything depends on everything else and find ways of managing critical subsystems and the environment" (Morgan, 2006: 39). To relate this to figure 4.2, the value of the system thinking approach lies in the way that it points to the relationship between

Information Systems Theory (environment) and Information System Outsourcing research (subsystem) and the dependencies which are to be found within this relationship. Making explicit the relationship that exists between the Information Systems Theory literature and the Information System Outsourcing literature by identifying the boundary between them points out that the two literatures influences each other in the same way that a subsystem is influenced by its external environment and vice versa. In figure 4.2, the system's thinking practice of identifying boundaries around a system is adopted from the biological system model in figure 4.8 in order to delineate the Information System Outsourcing research from that of Information Systems Theory. Von Bertalanffy's open system theory was an attempt at finding a better way to study complex wholes in place of the reductionist approach which was then in use and which he found inadequate (Jackson, 2009; Morgan, 2006).

4.2.3 Criticisms of the decision process framework:

The second assumption which was made in the construction of figure 4.3 was the adoption of the decision process model based on Simon's work. There have been a number of criticisms levelled against Simon's work. For the most part this criticism has been based on the claim that Simon's model, despite being an improvement on the rational models of decision making which prevailed before Simon's model, still failed to offer a realistic description of decision making in organisations. This issue was discussed in the previous chapter when the question was raised whether or not the decision theory which has been adopted by the Information System Outsourcing research has reflected the developments in the decision theory field. It will be shown that this has not been the case and that the decision theory which was used initially has remained unchanged and fails to reflect the advancements in decision theory in a number of ways. These criticisms are neatly summarized by Langley *et al* (1997). They identified two major areas in which the decision process model, the decision theory which has been adopted by Information System Outsourcing researchers, has failed to keep pace with decision theory. The first area is the way in which "decision" is understood, it is argued that it is an artificial construct which has many ambiguities, something which decision theory has embraced but which is not always recognised by researchers in the Information System Outsourcing literature. The second area is the role of *human* actors in decision processes,

essentially a critique of Simon's "administrative man" who, they claim, is more life-size than previous conceptions of decision makers, but not more life-like (Langley *et al*, 1995: 267).

4.2.3.1 'Decision' as a construct

Langley *et al* (1997) argue that there was a tendency for the field of decision science to see decisions inappropriately and advocate the view that decisions should be seen as being an artificial construct which is often the creation of the researchers seeking to understand organisational decision making. There are three components to the criticism, or rather, three ways of thinking which Langley *et al* find unhelpful for decision making theory. These are the reification, dehumanisation, and isolation of decisions.

Reification refers to the manner in which researchers have tended to assume some "moment of choice" when there has been little evidence for such moments; decisions are difficult to identify (Langley, 1995: 264). Dehumanisation refers to the assumptions about the sequential assumptions about how individuals make decisions. Langley *et al* argue that the *arational* forces of individual differences and human emotion and imagination have been neglected (Langley *et al*, 1995: 264). In essence the human element has been lost in the analysis of how human agents make decisions. The last criticism is the manner in which researchers have assumed that it is possible to study decisions as if they stood in isolation of other decisions and organisational realities (Langley *et al*, 1995: 264), when they are in fact enmeshed with other decisions and embedded in an organisational reality which shifts and changes in a process of embedment.

In a similar vein, Niklas Luhman was unsatisfied with the definitions of 'Decision' that he encountered in the literature where decisions were defined as 'Choice'. The problem, he felt, was that this merely replaces decision with "a synonym that is equally unclear" (Becker & Seidl, 2006: 25), in this case with choice. Luhman offers an alternative understanding of decision based on two principles he adopted and modified in his general theory; distinction and autopoiesis (Becker & Seidl, 2006: 11). The first principle is explained as follows: "observation can be conceptualized as distinction and indication: every observation draws a distinction in the world...and indicates the side it wants to observe" (Becker & Seidl, 2006:

13). The second principle, autopoiesis, states that “the object of observation produces itself” (Becker & Seidl, 2006: 14).

This notion of autopoiesis was originally developed by Maturana as an explanation of what it means for a biological system to be alive; living systems reproduce themselves through the interaction between their internal goals and their self-reflective interpretation of and interaction with the environment (Becker & Seidl, 2006: 14), and is closely related to the open system’s theory which was developed by von Bertalanffy (Jackson, 2009). The difference between the notion of autopoiesis and von Bertalanffy’s ideas is that von Bertalanffy focussed on the need for systems to adapt to their environments while autopoiesis emphasises how systems maintain their identity (Morgan, 2006). There exists a tension, where on the one hand, according to open system theory, systems are open to be changed by their environment, and on the other hand, autopoiesis maintains that systems reproduce themselves in order to maintain their identities.

Luhman argues that systems are both open and closed. He (1995) differentiates between organic and neurophysiological systems and meaning systems, where meaning systems are “constituted by the production and processing of meaning” (1995: 37). Specifically referring to meaning systems (like organisations), Luhman states that “meaning systems are completely closed to the extent that only meaning can refer to meaning and that only meaning can change meaning” and that “unlike nervous systems, structures and processes that employ meaning can include system boundaries and environments...” (1995: 37). Here Luhman deals with the fact that system are closed in the sense that they maintain their identities. This means that, organisations are self-referential in their decision-making, and unable to review or concieve the decisions from some external point of view. The self-referential nature of decision-making makes the reification of decision an inaccurate reflection of the nature of decision making in reality. As decisions are part of meaning systems, it is impossible for us as members of the meaning systems to step out of the meaning system and objectively view something which is within, such as a decision.

Luhman combines the two principles of distinction and autopoiesis and explained organisations as being systems which produce themselves by distinguishing themselves from their environments – but always by the self-referential process of meaning making. According to Luhman: “[s]ocial systems use communications as their particular mode of

autopoietic reproduction” (Luhman in Becker & Seidl, 2006: 18). More specifically, organisations use decision communications to reproduce themselves. Decisions, then, are not seen as a mental operation which is performed and then communicated, they are communications (Becker & Seidl, 2006: 26). According to Luhman then, decision is a type of communication of which organisation is constructed through the act of distinction, not an event or choice.

4.2.3.2 The role of human actors in decision-making

In addition to the issues surrounding the manner in which the notion of a decision is understood, there are problems with the manner in which the decision maker is understood. In the decision process model pioneered by Simon, the decision maker was described as a reaction to the “economic/rational man” found in economic theories of decision making and was dubbed “administrative man” (Langley, 1995: 266).

The notion of the administrative man was an improvement upon that of the economic man, but still had little resemblance to the real flesh and blood decision makers found in organisations. Langley *et al* describe three ways in which administrative man fails to accurately portray real decision makers by using three ways of understanding decision makers which Simon failed to incorporate in his model.

The first is seeing a decision maker as a creator. It was assumed that decision makers were passive in the decision making process, not acting until a problem or opportunity confronted them. This however, fails to recognise that humans have insight, when a decision maker “can see beyond given facts to understand the deeper meaning of an issue” (Langley, 1995: 268). These insights lead a decision maker to take action without necessarily being faced by an existing decision problem in need of solving, instead creating opportunities for action by seeing beyond what is right in front of them. The second is seeing a decision maker as an actor capable of being inspired to action, and inspiring others by his/her actions. This is closely linked to decision makers as creators; the insight allows decision makers to see past the things right in front of them and the inspiration is what happened when they act upon what was (insightfully) seen. The third is the implication of seeing a decision maker as a carrier of an organisational history (Langley, 1995). The events which a decision maker

experiences in an organisation are remembered by the decision maker, these events will to some degree shape the way that the decision maker interprets and acts on future events. There is no room for such memory in the administrative man, where information pertaining only to the current decision is considered and acted upon.

These issues impact upon whether or not the decision process framework is applicable to Information System Outsourcing as a means of understanding Information System Outsourcing from a decision-making perspective. If the decision making elements which have been used in Information System Outsourcing are not updated to reflect these criticisms, as has been done in the decision theory field in general, what can be learned from the decision theory will be limited and less likely to accurately portray the organisational strategic decision making reality faced by practitioners of Information System Outsourcing. Clearly it would be nonsensical to adopt a framework, with the aim of understanding how organisations make decisions, when the framework itself does not remotely resemble organisational reality. Unfortunately, Dibbern *et al* adopted the decision process model from Simon and made some alterations, but did not acknowledge or address the criticisms. Dibbern adopt the decision process model saying; “[w]hilst Simon’s model is a general model of decision-making, we feel it is appropriate when considering outsourcing because outsourcing is a major decision that an organisation makes” (Dibbern *et al*, 2004: 15).

4.2.4 Addressing the criticisms

Having explored the criticisms which have been made regarding the decision process approach to understanding decision making, this section will address these criticisms, showing that the framework is still a useful representation of the Information System Outsourcing phenomenon from a decision-making perspective, provided the decision theory used in the Information System Outsourcing context is amended to include the changes made to the decision field.

4.2.4.1 Addressing the nature of the decision maker

The manner in which Simon's decision process framework depicts decision makers has come under much criticism, as was pointed out and discussed above. Langley *et al* point out how the "administrative man" fails to accurately represent human decision makers, failing to acknowledge decision makers as being Creators, Actors, and Carriers. If the framework developed in this chapter is to be accepted, these criticisms need to be addressed and overcome. This can either be done by rubbishing the criticisms themselves, or by accepting them and accommodating their suggestions in the framework; this section will do the latter.

In the same way that Simon's "administrative man" arose from dissatisfaction with the then popular "economic man", there has been a reconceptualization of the decision maker based on the dissatisfaction with the administrative man. It is perhaps better to think of it as the continuation of the refinement of our understanding of the cognitive capability of man. Loose Coupling emerged from the interpretivist paradigm, and this paradigm developed the understanding of how decision makers act further than the administrative man mould. The assumptions about how human agents make decisions in the interpretivist paradigm align with the criticisms identified by Langley *et al*.

Karl Weick was one of the first researchers to use Loose Coupling in an organisational context. Weick is also known as a strong proponent of the interpretive school of thought, his theory of sensemaking taking a strong interpretivist approach to explaining organisational reality. In his own words: "[t]o talk about sensemaking is to talk about reality as an ongoing accomplishment that takes form when people make retrospective sense of the situation in which they find themselves and their creations" (Weick, 1995: 15).

Within this interpretivist paradigm, organisational actors are characterised, in Langley *et al*'s words as being the creators, actors and carriers in decision making. As shown in the quote by Weick, organisational reality is something which is an accomplishment or creation which arises from the retrospective act of understanding events; the decision makers are the creators and actors of the decisions through their sensemaking. The notion of a decision maker as being a carrier is also present in Weick's sensemaking in the assertion that individuals are a parliament of selves. Weick claims that our identity is not only a product of what we think about ourselves, but also of what we think other people think about ourselves (Weick, 1995).

Put differently, "...people simultaneously try to shape and react to the environment they face" and so for a decision maker "[w]hat [a] situation means is defined by who I become while dealing with it..." (Weick, 1995: 24).

The environment which a decision maker faces then, is partly created by the decision maker and the decision maker's identity is subject to the influences from the environment. The environment impacts upon the identity of the decision maker, both in terms of the manner in which other people are thought to see the decision maker, as well as the manner in which events and the actions of others impact on the identity of the decision maker. These factors affect the future actions taken by decision makers, they form part of the identity which, because of the needs of self-enhancement, self-efficacy, and for self-consistency, lead the decision maker to seek a course of action which will preserve his/her identity based on past experiences and norms which he/she knows will satisfy the three needs. More simply put; the decision maker will act in such a way as to maintain an identity which fulfils the three needs by shaping action according to the expectations of others and based on past experiences.

Simon's dissatisfaction with "economic man" led to his development of "administrative man" who was a significant improvement, and it was dissatisfaction with "administrative man" which led to the development of what could perhaps be called "sensemaking man." Each new brand of "man" might have emerged from dissatisfaction of previous theories, but that is not to say that only the most recent portrait of decision makers holds any value. This is the reason for not discarding Simon's decision process model entirely; "administrative man" might have been far removed from the actual ability of human actors in organisations, but the insight into the logical steps which decision makers make when making a decision are valuable still. The contention with the decision process model presented in this section is not *what* occurs when a decision is made, but rather *how* it is occurs. The implication of this is that the decision process model is retained in terms of the 5 stages which occur in a decision process, but the assumptions about the manner in which the stages are carried out are swapped for those of loose coupling theory.

4.2.4.2 Addressing the “Decision” construct

The previous section’s focus lay with the manner in which decision makers make decisions, this section will focus on the question of what a decision actually is. Simon’s decision process model makes certain assumptions about the nature of a decision which Dibbern *et al* unpacked to be represented by the five stages which are shown in the framework in figure 4.3. The three issues which Langley identified in the literature regarding the manner in which “decision” was understood will be addressed in this section, and the resulting consequences for the visual representation of the model will be discussed.

The first of the issues is the reification of “decision.” There has been a tendency in the decision literature to assume that there is a moment when a decision is made, as if it is one single moment of choice which can be singled out and studied, but there is little evidence to support this view. Identifying when a decision was actually made is problematic because, as Langley *et al* point out, a decision is better thought of as a construct. The interpretivist view of organisational reality answers this by rejecting the “moment of choice” type understanding of decision and unpacking how a decision is a constructed interaction between individuals engaged in sensemaking. A decision is something which is not “made” by one decision maker, it consists “of locating, articulating, and ratifying [an] earlier choice, bringing it forward to the present, and claiming it as the decision that has just been made” (Weick, 1995: 185). Weick talks here about bringing forward an earlier choice that was made, but it is better presented as being an earlier action which was taken. The idea is that the decision is actually a retrospective interpretation of a past action, not a choice about which action to take. This interpretation of the organisational reality is why the decision is better viewed as a construction because the retrospective interpretation of the action was undertaken by a sensemaking individual who is a creator, actor and carrier.

The second issue which was identified was the dehumanisation of “decision.” Decisions were separated from the human actors who made the decisions and the impact of human emotion and imagination. The previous section relating the nature of the decision maker addresses this criticism, emphasising the importance of the decision maker in making decisions as they are constructed by and therefore cannot be separated from the decision maker. By retaining the human decision maker in the decision making process, rather than seeing only a cost-benefit or utility maximising choice, the effects of human emotion and imagination are incorporated

into the understanding about how decisions are made. The human emotions and imagination are an intrinsic part of the parliament of selves which comprises the decision maker who retrospectively interprets actions in the construction of a decision.

The final issue with the way that “decision” is understood is the assumption that it is possible and positive to understand decisions in isolation of other decisions and organisational realities. This is problematic because, if decisions are constructed by individuals and the decisions are influenced by the identity of the individual, then different decisions made by the same individual will be connected and related because the individual will seek to be self-enhancing, self-efficient, and consistent. In addition, the environment in which the decision maker constructs the decision will be impacted by the effects of the decisions, and future decisions will be impacted by the environment. This can also be demonstrated through the insights of general systems theory’s assertions that a subsystem (the decision maker) is open to influences from its environment, as well as influences its environment.

The salient criticisms against Simon’s decision process framework have been addressed in this section, and have been answered. The adoption of the interpretivist paradigm along with the incorporation of loose coupling and a systems thinking approach into the model allows for many of the criticisms to be met. These inclusions and alterations can be represented visually, further developing the framework from figure 4.3. Before these modifications are made, there is one more addition which does not emerge directly from the criticisms of Simon’s decision process model; the addition of feedback loops into the decision process. These feedback loops are representative of potential learning processes which could arise in the process.

4.2.4.3 Feedback loops in the decision process

Chris Argyris coined the term “double loop” learning in order to explain how true learning in an organisation takes place. Double loop learning is a reflective, critical evaluation of a decision maker’s behaviour, especially with regards to how problems are defined and solved (Argyris, 1991). The notion of reflection is especially important because it is common practice to learn about new ways to solve a certain problem; this is what Argyris terms single loop learning, but what is required is that an individual learns about how they went about

learning and adopting new problem solving skills. In terms of decision making, this would entail an evaluation, not just of the results of a decision, but also of the manner in which the decision was made.

4.3 Introducing changes to the Framework

Now that the decision making perspective has been developed the next step is to introduce the changes which accompany the criticisms and the responses to them. The first change is the addition of Loose Coupling theory to the framework as seen in figure 4.9 below.

Loose Coupling Framework

	why	what	which	how	outcome
individuals					
subunits					
organisations					
hierarchical levels					
organisations and environments					
Activities					
Ideas					
Intentions and Actions					

Figure 4.9

Figure 4.9 shows the addition of the Loose Coupling theory to the framework. This is not an exhaustive list of the components of Loose Coupling theory, what has been lifted from the Loose Coupling theory is the different levels between which Loose Coupling can occur. In figure 4.9, the concept of loose coupled it connected to the processes of making a decision, specifically in the different levels at which loose coupling occurs in the different stages of the decision process. The different levels reveal the different locations in which elements of a decision can be found.

According to loose coupling theory, within each of these levels, different events could be loosely coupled. For example; at the Activities level in the Outcome stage, there could be a series of activities which are involved in the reflective process of evaluating the outcomes of an Information System Outsourcing decision, and these activities could be only loosely

coupled. The different levels in figure 4.9 range from interorganistional interactions to the interaction between ideas. This, combined with the stages of the decision process model, allows for a very rich picture of an Information System Outsourcing to be painted by penetrating beyond the level of organisational and interorganisational studies. It is these different levels of analysis which allows for the assessment of how much the literature has been able to dig down into the phenomenon of Information System Outsourcing. Ideally, the literature would be shown to be represented at most or all of the levels and across the decision process.

So far, the framework has been taken from Simon’s decision process model and the loose coupling levels of analysis have been added to demonstrate the loose coupling within each stage (organisational decision-making, not just individuals), but there is another dimension of loose coupling; that of loose coupling between the decision stages. An example would be the loose coupling between ideas between the different stages of a decision where ideas about the Information System Outsourcing project are susceptible to change across the different stages of a decision. The idea about what a successful Information System Outsourcing project would entail in the Why stage could be only very loosely coupled to the idea of what constitutes a successful Information System Outsourcing project in the outcome stage. In addition to the inclusion of the loose coupling between stages, the feedback loops which indicate the possibility of a learning process have yet to be included in the framework.

Framework with feedback loops:



Figure 4.10

Figure 4.10 includes two additions to the framework, the addition of the perforated zones between the decision stages and feedback arrows which indicate the possibility of feedback loops. The perforated zones are a visual representation of the loose coupling between the different stages of the decision process. The arrows are representative of the learning process which takes place when decision makers reflect on the manner in which they made a decision, what Argyris calls double loop learning.

Figure 4.10 shows the different levels at which decisions occur as well as the different stages in a decision and the potential for learning. It also includes a more realistic understanding of the manner in which human's make decisions, often not completing each stage of the decision process fully before moving on to the next (insight) as well as returning to a previous stage in order to apply what was learned at a later stage. The loose coupling levels focus attention on the relationships between things, between individuals, between activities or ideas, and this allows for a deeper understanding of Information System Outsourcing decisions to be reached. Instead of looking at the higher, organisational level, or the individual level; the framework offers a broad range of levels at which elements of the decision can be found.

4.4 Introducing the Framework to the literature

In the second chapter of the thesis, a literature review was conducted of the Information System Outsourcing literature and it was speculated that there existed, similarly to the Information Systems Theory literature, a broad but shallow understanding of decision making in the Information System Outsourcing literature. In this chapter thus far, a framework was developed with which to test the speculative claim of the existence of a broad and shallow understanding of decision making in the Information System Outsourcing literature. In this section, the framework will be applied to the literature in order to test the hypothesis from the literature review in an empirical manner. While the intention for the framework is to evaluate the literature, it is not feasible within the scope of this thesis to engage with such a large body of literature in its entirety. What would be feasible would be to find a concentrated literature which is representative of the larger Information System Outsourcing literature, and to evaluate this with the framework. One example of such a literature is the collection of

academic journals which focus on information systems and organisations, and whilst there is no journal which focuses exclusively on the outsourcing of information systems, there is a journal which focuses on the strategic impact of information systems in organisations.

4.4.1 Selecting the literature

4.4.1.1 Using journal articles

While the aim of this thesis has been an analysis of the Information System Outsourcing literature, it is beyond the scope of the thesis to analyse the literature in its entirety. Instead, a deliberate and selective exploratory analysis will be conducted, using the framework developed in this chapter, to analyse the literature in a condensed format. Journal articles were identified as a good condensed source to act as a proxy for the larger Information System Outsourcing literature, as much of the research found in the journal articles is drawn from a larger pool of research conducted by the authors and is presented in a condensed format. In this regard, it is a compact sample of the existing ideas and research representing the larger Information System Outsourcing literature.

4.4.1.2 Selecting the articles

As a review of the entire Information System Outsourcing literature would be unfeasible, it was decided that a good proxy would be to use articles from one or more Information Systems journals instead. The first step in the process of selecting suitable journal articles was to identify a journal which contained a relatively large number of articles pertaining to Information System Outsourcing in order to obtain as representative a sample of the Information System Outsourcing literature as possible. With this in mind a search was conducted across many Information Systems journals, to ascertain the number of articles published by the journal which related to Information System Outsourcing. To determine whether or not the journal contained enough suitable articles, the journal's database was searched using the key words "Information System Outsourcing". If the journal contained

any articles with these key words, the articles were then scanned to confirm that the primary research focus of the article was Information System Outsourcing. The researcher's discretion was required in order to determine whether or not the article focussed on Information System Outsourcing or whether it merely mentioned it, for the vast majority of the articles this was relatively straightforward. For the majority of the journals which were searched, there were fewer than 10 articles relating to Information System Outsourcing.

This number was deemed to be too small a sample of the journal and the literature to be representative of the Information System Outsourcing literature. One journal, the *Journal of Strategic Information Systems* (JSIS), contained a comparatively large number of articles compared to the rest, having more than double the number of Information System Outsourcing articles compared to most other journals. The JSIS was selected because the initial search for Information System Outsourcing articles identified 32 potential articles, later reduced to sixteen, by assessing where the focus of the article lay with only those focussing on information system outsourcing being kept and discarding articles which did not meet this requirement. In order to ensure that the articles used from the JSIS met a satisfactory quality standard in terms of the academic quality of the research, the journal's AIS⁸ ranking was checked. The JSIS was ranked just slightly in the top half of the listed journals. This was encouraging but not entirely satisfactory and there were still concerns relating to the quality of the articles which would be used from the JSIS.

In order to check these concerns Information System Outsourcing articles from two of the other, top ranking IS journals were assessed in order to determine if there was any difference in the quality of the journal articles. Five articles were taken from the *Management Information System Quarterly* (MISQ) and the *Journal of Management Information Systems* (JMIS) respectively, both being top ranked journals. The specific articles selected were randomly selected from the articles which met the initial search criteria of a focus on information system outsourcing; they do not represent the 'top' articles from the MISQ and JMIS. The motivation behind the selection of these additional ten articles was to provide a means of determining if the sixteen articles from the JSIS had any biases. The addition of the articles from the MISQ and JMIS also strengthened the representativeness of the sample in terms of covering the same areas as the literature at large.

⁸ The AIS ranking refers to the Association for Information Systems website which can be found at <http://ais.affiniscape.com/displaycommon.cfm?an=1&subarticlenbr=432>

Having identified the JSIS as the primary journal as well as additional articles from the MISQ and JMIS, the 32 articles from the JSIS were further assessed in order to ensure that only articles focussed primarily on Information System Outsourcing were retained. This is because there were a significant number of articles which contained Information System Outsourcing but only as part of a wider topic with Information System Outsourcing only being mentioned briefly. Once these articles were cleared from the search, there were 16 remaining articles, the focus of which was Information System Outsourcing. The final number of articles used was 26. These articles represent all the Information System Outsourcing research from the Journal of Strategic Information Systems as well as five accompanying articles from the MISQ and JMIS respectively. The journals from which the articles were selected demonstrate both, in the case of the JSIS, a greater concentration of Information System Outsourcing research as demonstrated by the relatively large number of articles on Information System Outsourcing, as well as a means of ensuring that the research in the JSIS is on par with other top IS journals in terms of both what was studied and the manner in which it was studied.

Figure 4.11 below shows the complete list of the 26 selected articles with the names of the author/s, the date the articles were published, the focus of the study, the research methodology used in the study, and the journal that the articles came from. Of the articles selected, 23% were literature reviews, 3.8% were interviews, 15.4% were conceptual, 38.5% were case studies, and 19.23% were surveys. This makes the split between empirical and non-empirical 61.53% empirical to 38.46% non-empirical.

Selected Articles:

Author/s	Date published	Focus	Methodology	Journal
Alagheband, Rivard, Wu, & Goyette.	2011	Meta-theoretic	Literature review	The Journal of Strategic Information Systems
Cullen, Seddon, & Willcocks.	2005	Contract configuration	Literature review	The Journal of Strategic Information Systems
Dedrick, & Kraemer.	2010	Interorganisational Information Systems	Interviews	The Journal of Strategic Information Systems
Fink.	2010	Contract configuration	Conceptual	The Journal of Strategic Information Systems
Gwebu, Wang, & Wang.	2010	Impact on performance	Literature review	The Journal of Strategic Information Systems
Heiskanen, Newman, & Eklin.	2008	Control & Relationships	Case Study	The Journal of Strategic Information Systems
Kern.	2000	Relationships	Conceptual	The Journal of Strategic Information Systems
Kern.	2002	Sourcing decisions	Case Studies	The Journal of Strategic Information Systems
Lacity, Khan, & Willcocks.	2009	Literature review	Literature review	The Journal of Strategic Information Systems
Lacity, Willcocks, & Khan.	2011	Meta-theoretic	Literature review	The Journal of Strategic Information Systems
Qu, Oh, & Pinsonneault.	2010	Strategic Impact	Literature review	The Journal of Strategic Information Systems
Watjatrakul.	2005	Meta-theoretic	Case Study	The Journal of Strategic Information Systems
Whitten, & Wakefield.	2006	Switching costs	Survey	The Journal of Strategic Information Systems
Willcocks.	1993	Sourcing decisions	Case Study	The Journal of Strategic Information Systems
Willcocks.	1999	Risk mitigation	Case Studies	The Journal of Strategic Information Systems
Zviran.	2001	Relationships	Case Study	The Journal of Strategic Information Systems
Agerfalk & Fitzgerald.	2008	Opensourcing	Case Studies	Management Information Systems Quarterly
Ang & Straub.	1998	Meta-theoretic	Survey	Management Information Systems Quarterly
Gefen & Wyss.	2008	Risk mitigation	Case Study	Management Information Systems Quarterly
Lacity & Willcocks.	1998	Sourcing decisions	Case Studies	Management Information Systems Quarterly
Miranda & Kim.	2006	Institutional impacts	Survey	Management Information Systems Quarterly
Aron, Clemons, & Reddi. (2005).	2005	Risk mitigation	Conceptual	Journal of Management Information Systems
Chaudhury, Nam, & Rao.	1995	Sourcing strategies	Conceptual	Journal of Management Information Systems
Saarinen, & Vepsalainen.	1994	Sourcing decisions	Survey	Journal of Management Information Systems
Smith, Mitra, & Narasimhan.	1998	Sourcing decisions	Case Studies	Journal of Management Information Systems
Tiwana & Bush.	2007	Meta-theoretic	Survey	Journal of Management Information Systems

Figure 4.11

4.4.1.3 Coding the articles

Once the number of articles from the JSIS, MISQ and JMIS was reduced to the final sixteen, and five each respectively; each article was given a code⁹. The purpose of the code is to allow for all the different articles, some of which were written by the same author, to be sorted into the framework in an uncluttered and easy to read manner which still allows for each article to be identified with ease. Each article was given an uppercase letter corresponding to the first name of the author as seen in the articles bibliographic entry. For example; the article written by Alagheband, F. K., Rivard, S., Wu, S., & Goyette, S. was given the code “A.” In the instances where there were more than one article by the same author, the number was added to the uppercase letter in order to distinguish between the different articles.

4.4.2 Sorting the articles into the framework

4.4.2.1 Sorting the articles by decision stage

The first stage in using the framework to analyse the articles was to sort the articles according to the different stages of the decision process. This was done by evaluating the articles in terms of the primary focus of the article and which stage in the decision process this focus corresponded to. This was challenging due to the fact that the articles were not written with this sort of classification in mind and so it was not obviously or explicitly stated which stage in the decision process the articles belong to. Nevertheless, the articles were based on case studies and the case studies in each article were gathered with the intention of capturing the information system outsourcing process. It was for this purpose that the modification of the decision process to the specific context of Information System Outsourcing made by Dibbern *et al* was incorporated into the framework. It was thus possible to map the focus of the articles with regards to the Information System Outsourcing process onto the decision process stages, using Dibbern *et al*'s adoption of the decision process shown in figure 4.1. There were

⁹ Addendum A contains the complete list of article codes.

some cases where an article was placed in two stages when the article clearly contained more than one stage. Figure 4.11 shows the focus of the selected articles, some examples include Sourcing Strategies, Contract Configuration and Risk Mitigation among others, these focus areas helped to map the articles to the different stages of the decision process. For example; the articles which focussed on Sourcing Strategies referred to the What stage, where the different options for what could be outsourced are evaluated. Once again, the discretion of the researcher was required in order to determine where the articles should be placed in the decision stages. The lack of any prior categorising scheme resulted meant that this was a novel exercise but it was found that a careful examination of the article’s key words, as well as the conclusions discussed in the articles gave a good indication as to the research focus of the article. The results of this stage of the sorting can be seen in figure 4.12.

Articles according to decision stage:

	Decision process				
	Why	What	Which	How	Outcomes
individuals					
subunits					
organisations					
hierarchichal levels					
organisations and environments	A, L1, L2, W1, W3, Z, (MA2 JS2)	F, C (MA1, JC, JT)	K2, L1, W4, Z (MM JA)	H, K1, L1, Z (MG JS1)	D, G, L2, Q (ML)
Activities					
Ideas					
Intentions and Actions					

Figure 4.12

4.4.2.2 Sorting the articles by level of loose coupling

Once the articles were sorted into their respective stage of the decision process as detailed in the previous section, the articles were further sorted according to the level at which the study was focussed in terms of the levels of loose coupling introduced in 4.9. The results can be seen in figure 4.13.

Articles according to decision stage and level of loose coupling:

	Decision process				
	Why	What	Which	How	Outcomes
individuals					
subunits					
organisations	A, L1, L2, W1, W3, MA2	F, C, JC	K2, L1, W4,	MG	G, L2, Q
hierarchichal levels					
organisations and environments	Z	MA1	MM?, Z	H, K1, Z	D
Activities			JA		ML
Ideas					
Intentions and Actions	JS2	JT		JS1	

Figure 4.13

4.4.3 Discussion

The purpose of this chapter has been to determine whether the notion of decision making in the Information System Outsourcing literature, in addition to being broad, is shallow. The sorting of the articles into the different stages of the decision process and the different levels of analysis, helps to reveal some interesting characteristics of the Information System Outsourcing literature. The breadth of the literature’s coverage of decision making has been shown in the literature review, and the framework developed in this chapter is able to shed light on the depth of the research. The literature would be considered to have depth if it were found to be spread between the different levels on the vertical axis of the matrix. Firstly, the horizontal spread of the articles amongst the decision stages shows that there appears to be a fairly even spread; indicating that decision making in the different stages of the outsourcing decision process has been examined extensively. The vertical spread of the articles is less even, with half the levels unrepresented by the selected articles, and two of the four which are represented have only 3 or less articles. The articles from the JSIS were fairly condensed, especially vertically where they were all found in either the Organisation or Organisations and Environments levels. Similarly, the articles from the MISQ were mostly found on the Organisation or Organisations and Environments levels with one article on the level of Activities. The JMIS showed a similar trend with all of its articles fitting into two levels; the Activities and Intentions and Actions levels.

4.4.3.1 Vertical:

If the date at which the articles were published is considered, there is a trend which indicates the history of the Information System Outsourcing literature, showing where researchers appear to have focussed at different points in time. By using time interval of five year increments between 1990 and 2012, it is possible to see how the emphasis shifted in the research. Between 1990 and 1994 there were only two articles published from the journals selected, one on the Organisation level and one on the level of Intentions and Actions. Between 1995 and 1999, more articles were added to the two levels already represented by the two articles from the 1990-1994 period, in addition the Activities level was also represented by an article by Lacity and Willcocks. The first ten years represented by the articles selected shows the articles focussing primarily on decision making at the level of organisations with three articles, with intentions and actions getting two articles and one article for the Actions level.

The next ten years shows an increase in the number of Information System Outsourcing articles published, from seven in the first ten years from 1990-1999 to thirteen between 2000 and 2009. The period between 2000 and 2004 saw three articles added to the Information System Outsourcing literature, two of which were on the Organisations and Environments level, bringing the number of levels represented up to four. Between 2005 and 2009, no new levels were added and ten articles were added to the already represented levels.

The last period, between 2010 and 2012 saw six articles added to the literature. Again, there were no additions to the four levels represented by the sampled Information System Outsourcing literature, with five of the six articles from the 2010 to 2012 period occurring at the Organisation level with one on the Organisation and Environment level.

4.4.3.2 Horizontal

How have the different stages been represented? The stages get at least one article each fairly quickly over the first ten years. By 1999 the Why stage has three articles and the rest all have one article each. The ten years shows an increase in articles being written in the What, Which, and How stages. The period between 2010 and 2012 continues this trend with four of

the six articles published being located in the Outcomes stage. It appears that over time, the research conducted in Information System Outsourcing shifted its focus, starting at the first stages of the decision process and moving along to the end stages of the process.

4.5 Conclusions

The two trends in the selected articles which were identified using the framework are, Firstly; that over time between 1990 and 2012, the Information System Outsourcing articles published in the JSIS, MISQ and JMIS covered decision making across four levels of the framework, with the majority of the articles being located in the Organisations and Organisations and Environments levels. Secondly; that over time between 1990 and 2012 the articles shifted focus along the decision process stages, with studies initially getting a fairly even spread across the different stages between 1990 and 1999. Between 2000 and 2009, research appears to have focussed on the first three stages and between 2010 and 2012 there has been a flourish of articles in the final stage.

How do these trends compare with the hypothesis stated at the beginning of this section, which was developed in the light of the review of Information System Outsourcing's reference disciplines in the second chapter? It was hypothesised that, in light of the breadth of the reference disciplines adopted by Information System Outsourcing research and the heritage of the Information System Theory field, decision making in Information System Outsourcing research could be in danger of being broadly and shallowly represented. It appears that the hypothesis was partly correct. The limited spread of articles to only half of the possible levels of the framework indicates that researchers have explored decision making in Information System Outsourcing but that there are still areas in which research can be conducted. More attention could be paid, for example, to decision making on the level of Individuals and Subunits. In this sense, the hypothesis was proven to be correct; the Information System Outsourcing literature has a shallow understanding of the decision to outsource information systems.

There has been research and a greater understanding at the level of the organisation and its environment as well as on the level of Intentions and Intentions and Actions, but there has been

no attempt to understand Information System Outsourcing decisions on a more localised, micro level as between Individuals, Subunits, Hierarchical levels and Ideas. Despite this, there has also been a deepening understanding of the different stages of the decision process. The analysis indicates that over time, the research did deepen its understanding of the stages, all of which have seen some research.

All this seems to indicate that decision making in Information System Outsourcing research is not yet out danger of being labelled broad and shallow, but that it does appear to be moving away from the danger. On the one hand there was a deepening of the different levels but only to a point and this deepening stopped in the period between 2005 and 2009. On the other hand, the number of articles on each of the four levels increased during this period. It could be that the period between 2005 and 2009 represents a consolidation of the research, deepening its understanding. The danger for Information System Outsourcing research is that there has not since been a recommencement of exploration into other levels of research. Provided that researchers are able to penetrate deeper into the areas which have to date been unexplored, the danger of Information System Outsourcing facing an identity crisis in the same way that information system theory has, is small.

The final chapter will draw together what has been discussed in the thesis and draw some conclusions, firstly on what has been learned about the state of decision making as a theme in the Information System Outsourcing literature, as well as reflecting on insights about the study of Information System Outsourcing which have been identified.

5. Conclusions

5.1 Pulling everything together

This thesis was first conceived whilst pondering the potential applications of Loose Coupling as a theory. To this, the phenomenon of Information System Outsourcing was added and the question was asked; could Loose Coupling offer any insights for the Information System Outsourcing literature? Information System Outsourcing is a practice which has grown quickly in popularity and has important consequences for organisations. The number of organisations turning to outsourcing their information systems, including government institutions, makes the phenomenon especially salient as a successful outsourcing implementation is often critical for the ability of the organisation to carry out its primary tasks and be successful. The budgetary dimensions and organisational reorganisation that goes with Information System Outsourcing, makes this a major feature of large organisations all over the world. Furthermore, there appears to be no evidence of a slowdown in the number of information systems which are outsourced, indicating that this will remain an important issue for information system practitioners as well as researchers for some while yet.

In the first chapter of the thesis, the relationship between Information System Outsourcing as a sub-theme within Information System Theory was discussed in light of the identity crisis facing the Information System Theory field. The cause of this identity crisis was traced back to the history of the rapid development of Information System Theory and its heavy reliance on reference disciplines. The rapid growth of the Information Systems field resulted in an explosion of research as researchers attempted to keep pace with developments in the practice of Information System Outsourcing.

This research sought to better understand a wide variety of topics from a plethora of research traditions including economics, information technology, sociology, and management science to name a few. The youth of the field and subsequent lack of first principles and theory led early researchers to adopt these research traditions as reference disciplines. In time, the field of Information Systems saw continued growth, but the approach taken by researchers remained the adoption of reference disciplines. This led to a questioning of the identity of

Information Systems as a field, with the status of the field as containing a developed body of knowledge becoming a contentious issue. The Information System Outsourcing literature has followed a similar pattern of development. Information System Outsourcing experienced sustained growth in practice and researchers struggled to provide research at a pace that could match the development of the practice. In a similar way to the Information System field, researchers adopted a host of reference disciplines and their accompanying research traditions. While the amount of research on Information System Outsourcing increased, there was little done to develop a deeper body of knowledge with regards to the question of decision making in Information System Outsourcing. The status of decision making research in the Information System Outsourcing literature thus becomes questionable as it could be argued that Information Systems Outsourcing has failed to develop significantly.

The parallel between this development history and the development of the Information System Outsourcing literature led to the question being raised as to the potential for a similar identity crisis for Information System Outsourcing research. In addition, the importance of avoiding such an identity crisis was explained in terms of its impact both on the future of Information System Outsourcing research as well as the implications for those in the practice of Information System Outsourcing. The primary concern for Information System Outsourcing research can be summed up in the criticism of it being ‘a mile wide, and an inch-deep.’ This entails both the breadth of the research in terms of number of ways that decision making in Information System Outsourcing is studied as well as the depth to which each of these different ways of understanding Information System Outsourcing were able to penetrate.

The second chapter began to address this ‘mile-wide, inch-deep’ criticism by evaluating the breadth of the literature in order to determine whether or not Information System Outsourcing research can be described as being a ‘mile-wide’ where width refers to the plurality of research traditions and reference disciplines used to study decision making in Information System Outsourcing. The more reference disciplines that are adopted by a field, the greater the number of perspectives on decision making produced by the field will be. To determine the breadth of Information System Outsourcing research, the reference disciplines which were adopted were identified through the Information System Outsourcing literature review conducted by Dibbern *et al.* The intention was not a complete review of the reference disciplines, each of these being mature and large fields in themselves. Rather, the goal was to

evaluate the number as well as the different views of decision making of the reference disciplines that have been adopted by Information System Outsourcing. It was determined that, with three separate categories containing a total of ten individual and diverse reference theories, Information System Outsourcing research can be accurately described as being broad with regards to decision making. The ten different reference theories are; agency theory, transaction cost economics, social exchange theory, innovation theory, power politics theory, relationship theory, game theory, the resource-based view of the firm, resource dependence theory, and strategic management theory. These reference disciplines represent different research paradigms; positivist, constructivist, quantitative and qualitative.

Having confirmed that Information System Outsourcing research contains a broad number of perspectives on decision making, the depth of the research remained to be tested. The depth referring to the extent to which decision making in Information System Outsourcing has been explored by researchers. There are numerous different elements of the Information System Outsourcing process which could be studied, and there are numerous ways that they can be studied as a result of the various reference disciplines. While it was relatively straightforward to determine the breadth of the literature by identifying and assessing the reference disciplines, testing the depth of understanding and research on Information System Outsourcing required more work.

The third chapter introduced loose coupling as a lens which would be used in determining the depth of the Information System Outsourcing literature's exploration of decision making. The connection between organisation theory, the field from which loose coupling emerged, and decision theory, as the primary context in which Information System Outsourcing is understood, was outlined. The core principles of loose coupling were discussed and the manner in which loose coupling has been used by researchers as well as the manner in which it would be used in this thesis was developed.

Having conceptualised how loose coupling could serve as a lens which could be used to evaluate the depth of the Information System Outsourcing literature, the fourth chapter developed and then applied a framework based on two core principles. The first was the conceptualisation of Information System Outsourcing as a strategic decision. By conceptualising Information System Outsourcing as a strategic decision the importance of information systems, and the potential impact of outsourcing them on the strategy of an

organisation, was brought to the fore. Viewing Information System Outsourcing as a strategic decision also provides allows the process to be split into decision stages. The second was the different types, or locations, of loose coupling. These types of loose coupling describe different levels of relationships which could be loosely coupled.

These two principles were combined to form the framework as a five-by-eight matrix, including also the possibility of feedback loops representing the potential learning which occurs during decision processes. It was into this matrix that the articles from the primary journal, the JSIS, and the two secondary journals, the MISQ and JMIS, were sorted. The distribution of the articles in the matrix indicated the depth of the literature where representation of articles in all of the loose coupling levels indicated a deep level of research, whereas a limited spread of articles would indicate that the different topics which were researched were not explored on different levels.

It was found that the articles were represented in half of the possible levels, and that there was evidence of a long term trend of deepening research topics, expanding into different levels. However, it was found that this deepening had ceased in the period between 2005 and 2009. Despite this, during the period between 2005 and 2009, the levels which had already been researched received more attention, indicative of what could be speculated to be a period of consolidation. Based on this initial analysis, it seems that to call Information System Outsourcing research broad and shallow would not be entirely accurate. It was shown that the literature is indeed a broad one, but that the depth of the literature is not alarmingly shallow and that it has been showing a trend of deepening in terms of understanding the decision making elements of Information System Outsourcing. What is worrying is that this deepening trend appears to have stalled, and the question which will remain pertinent is whether or not the trend will continue or not.

Having brought together a kernel of theories into a framework, this framework was then used to evaluate the manner in which decision making has been explored in Information System Outsourcing research. The development of this artefact and its application to the field of Information System Outsourcing has both provided insight as well as opened the way for the framework to be tested more extensively and modified accordingly.

5.2 Reflection on the study

This study was the first attempt to use loose coupling as a lens to understand the Information System Outsourcing decision process. The novelty of the study introduces both strengths as well as areas which could be improved upon in the study.

Starting with an area in which the study could have been improved, it could be argued that the number of articles used in the analysis could have been greater. While an effort was made to ensure that the journals used were of a suitable quality and that the number of articles was as great as could be given the number of Information System Outsourcing articles published in the journals, the number of articles used was not especially high.

One way that this problem could be overcome would be to use the articles from a larger number of journals in order to increase the sample size of the journals that are used to represent the Information System Outsourcing literature. This could strengthen the finding of the analysis if the addition of further articles shows that the trends which were identified in the analysis are still present with the inclusion of the new articles.

The decision to use the smaller number of articles was not taken simply because there were not enough articles however. The articles used in the study cover the entire history of Information System Outsourcing and contain a wide range of research topics and research traditions. It is questionable whether or not the addition of more articles from different journals would have resulted in any significant difference in the results.

The inclusion of the *Management Information Systems Quarterly* and the *Journal of Management Information Systems* was made in order to address this very issue. The two journals are highly ranked among the Information Systems journals and the research submitted to the journals is of a high quality. In the analysis, the two additional journals did not simply follow the same pattern of the primary journal, the *Journal of Strategic Information Systems*, in terms of the stages of the decision process covered and especially the different levels of Loose Coupling. There was an overlap in the levels of loose coupling, where the different journals tended to have higher concentrations of articles in two primary levels. The *Journal of Strategic Information Systems* and the *Management Information Systems Quarterly* both concentrated on the ‘organisations’ and ‘organisations and

environments' stages while the *Journal of Management Information Systems* was more dispersed with three of its five articles in the 'intentions and actions' level and one on the 'activities' and 'organisations' levels respectively.

The fact that the Information Systems journals simply do not contain very many articles on Information System Outsourcing is itself revealing. The limited number of empirical studies on Information System Outsourcing could be the result of the youth of the body of research. The lack of a dedicated academic journal or any recognised or significant research conferences further points to the youth of the literature and calls into question whether it should be categorised a serious theme in Information Systems Theory at all.

The limitations of the study aside, the analysis and the insights which arose from it have merit for the study of Information System Outsourcing. The youth of the literature was one of the primary factors which encouraged the study in conjunction with the importance of the research for organisations in what is commonly described as the 'knowledge economy.' As a young, but important area of research, deeper, reflective understanding of Information System Outsourcing is a helpful contributor to the development of the literature.

The review of Information System Outsourcing done by Dibbern *et al* sought to "classify the research literature, noting not only what areas have been looked at but also those that have not" (Dibbern *et al*, 2004: 9). This study has provided such reflection on the literature of Information System Outsourcing, taking into account the history of the literature and the context in which it has developed and providing some insights into the advances which have been as well as identifying where further advancements can yet be made. By adopting the categorisation of the Information System Outsourcing literature from Dibbern *et al* as well as the use of the stage model of decision making, this thesis was able to build on the foundation of the original review, further developing especially the stage model of decision making.

5.3 Potential for future research

The novel application of loose coupling as a lens to analyse the relatively young body of research in terms of strategic decision making has opened up several doors for further investigation. These include, the use of decision theory in Information System Outsourcing

studies, further analysis of the Information System Outsourcing literature using the framework developed in this thesis, and the development and empirical testing of the framework into a model for Information System Outsourcing conceptualised as a strategic decision.

The first potential avenue for further research listed is the use of decision theory in Information System Outsourcing research. It was found that in the literature on Information System Outsourcing, the conception of decision making which was used is one which was adopted from decision theory during the infancy of Information System Outsourcing research, but which was never developed in line with the developments made in decision theory. Some work was done to update the concept of strategic decision making used in this thesis, but there is certainly room for a further development of the concept as applied in the context of information systems.

Another area which could see future research, as has been touched upon in the previous section, is the potential for further studies using the framework developed in this thesis. As mentioned above, the analysis which was conducted in this thesis used a limited number of articles, leaving open the possibility for using the framework in a more extensive and thorough analysis of Information System Outsourcing. Similarly, as the initial suspicions concerning the breadth and depth of the Information System Outsourcing literature arose due to its relation to the Information System Theory field, the framework could be used to test if the 'mile-wide, inch-deep' allegations are still valid in the case of Information System Theory.

Thirdly, the potential for the framework to be developed further into a model is also a potential area for further research. The framework developed in this thesis was intended to be used as a means of evaluating the depth of the Information System Outsourcing literature. It combined a modified strategic decision process model with the different types of loose coupling into a matrix. In future studies, this framework has the potential to be developed into a model for strategic decision making, combining the different stages of the decision process with the different locations at which loose coupling can occur in the decision process. This model could be a useful tool in understanding strategic decisions often do not turn out the way that the decision makers planned that they would. The model could offer a more nuanced

understanding of the myriad of ways that the outcomes from a decision can fail to resemble the initial goals behind the decision being taken.

Using this model, more empirical research could be conducted through the development of case studies and subsequent testing of the model using the case studies. Initial studies would be required in order to test the extent to which the model would be able to explain the organisational reality of outsourcing an information system. More specifically testing would be required to see whether the locations of loose coupling in the model correspond to practice and if Loose Coupling does occur in an Information System Outsourcing project at the different levels as claimed by the Model.

Research could also be carried out in order to test whether the model is generalizable across organisations and contexts. The model, as a descriptive theory of Information System Outsourcing, would be of greater value to researchers and practitioners alike if the description of information system outsourcing it offers can be applied to all organisation types as well as to different outsourcing arrangements. Studies to determine whether the model is an accurate description of Information System Outsourcing in its different forms could be done in order to determine whether, for example, the model would be able to explain Information System Outsourcing, both as 'regular' outsourcing and offshoring without requiring modifications to the model.

Finally, in addition to the value of a clearer picture of the character of the Information System Outsourcing literature, this thesis has taken a step toward more meta-theoretic reviews of the research. In the third chapter, it was argued that organisation theory was important in understanding Information System Outsourcing and in the fourth Information System Outsourcing was conceptualised as a strategic decision. By engaging with organisation theory and decision theory, the fundamental issues which affect Information System Outsourcing are better understood.

In this thesis Loose Coupling, as one of the themes in organisation and decision theory, was introduced to Information System Outsourcing research. There are still a number of other themes which would serve to deepen our understanding of fundamental issues in Information System Outsourcing. These include deepening our understanding of the social interactions between actors in an organisation and how these interactions shape the organisational reality in which Information System Outsourcing takes place. From a decision making perspective,

some important themes were discussed such as the rationality of decision makers as well as decision making as a core organisational activity. These, and other important themes such as the notion of ‘search,’ offer a deeper understanding of core organisational questions in information system outsourcing.

5.5 Conclusion

The power of loose coupling as a lens in understanding decision processes has the potential for further deepening our understanding of a process which is essential and fundamental to organisations. Not only from an academic perspective, but also on a very practical level, a deeper understanding of the decision process would be of great value to organisations and their strategic success. A better understanding of the strategic decision to outsource information systems will lead to improvements in the practice of Information System Outsourcing. Understanding the current state of the research on Information System Outsourcing is also an important issue. The result of such meta-theoretical reflection is the ability to find ways to improve the use of core concepts which lead to deeper insights generated by research. This thesis serves as a first step toward further development of both the practical understanding of Information System Outsourcing as well as the meta-theoretic understanding of how Information System Outsourcing should be researched.

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Addendum A

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A	Alagheband, F. K., Rivard, S., Wu, S., & Goyette, S. (2011). An assessment of the use of Transaction Cost Theory in information technology outsourcing. <i>The Journal of Strategic Information Systems</i> , 20(2), 125-138.
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